RECORD OF COMMENTS: ADVANCE NOTICE OF PROPOSED RULEMAKING: REVISION AND CLARIFICATION OF DEEMED EXPORT RELATED REGULATORY REQUIREMENTS

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22	Canadian Association of University Research Administrators	Daniel Lefebvre	May 10, 2005	4
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33	Associated Universities, Inc.	Miriam Satin, Ethan J. Schreier	May 17, 2005	4
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36	American Society for Microbiology	James M. Tiedje	May 19, 2005	7
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95	New York University	Robert V. Kohn	June 5, 2005	2
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99	National Oceanic and Atmospheric Administration	Anand Gnanadesikan	June 9, 2005	2
100	University of Iowa	Meredith Hay	June 10, 2005	4
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103	Philips International B.V.	Perter C.M. Dumoulin	June 15, 2005	3
104	3M	Doug Hennessee	June 15, 2005	3
105	Weadon & Associates	Donald A. Weadon	June 16, 2005	12
106	National Association of State Universities and Land-Grant Colleges (NASULGC)	C. Peter Magrath	June 16, 2005	7
107	Princeton University	Alexandre Telnov	June 16, 2005	2
108	National Association of State Universities and Land-Grant Colleges (NASULGC) (Revised Letter)	C. Peter Magrath	June 16, 2005	7
109	University of Maryland	Jianghong Meng	June 17, 2005	2
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118	University of Medical and Dentistry of New Jersey	C. James Scheirer	June 17, 2005	1
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121	University of Medical and Dentistry of New Jersey	Nancy Walworth	June 17, 2005	2
122	The National Academies	Bruce Alberts, Wm. A. Wulf, Harvey V. Fineberg	June 17, 2005	4
123	University of Medical and Dentistry of New Jersey	Emanuel Dicicco-Bloom	June 17, 2005	2
124	University of Medical and Dentistry of New Jersey	Michael Reiss	June 17, 2005	2
125	University of Alaska Fairbanks	Brenda Holladay	June 20, 2005	2
126	University of Alaska Fairbanks	Jonathan Rosenberg	June 20, 2005	2
127	University of Alaska Fairbanks	Katrin Iken	June 20, 2005	2
128	Iowa State University	James R. Bloedel	June 20, 2005	2
129	University of Kentucky	Steven L. Hoch	June 20, 2005	2
130	University of Alaska Fairbanks	Wanye Marr	June 20, 2005	2

131	University of Alaska Fairbanks	Kelly Hochstetler	June 20, 2005	2
132	University of Alaska Fairbanks	Larry Hinzman	June 20, 2005	2
133	University of Alaska Fairbanks	Marsha Sousa	June 20, 2005	2
134	University of Alaska Fairbanks	Molly Lee	June 20, 2005	2
135	University of Alaska Fairbanks	Phyllis Morrow	June 20, 2005	2
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148	Anil Nerode	Anil Nerode	June 21, 2005	1
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167	Pennsylvania State University	Akhlesh Lakhtakia	June 22, 2005	1
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174	Columbia University	Amiya Sen	June 23, 2005	1
175	Pennsylvania State University	Bernhard R. Tittmann	June 23, 2005	1
176	Pennsylvania State University	Christopher Muhlstein	June 23, 2005	1
177	Pennsylvania State University	Frank Ritter	June 23, 2005	1
178	Columbia University	G. M. Purdy	June 23, 2005	2
179	Pennsylvania State University	Lee Samuel Finn	June 23, 2005	1
180	Pennsylvania State University	Matthew Whim	June 23, 2005	1
181	Pennsylvania State University	Paul Tikalsky	June 23, 2005	1
182	Pennsylvania State University	H. Reginald Hardy, Jr.	June 23, 2005	1
183	Columbia University	Richard Osgood, Jr.	June 23, 2005	1
184	Pennsylvania State University	Russ Graham	June 23, 2005	1

185	Columbia University	Stephen A. Edwards	June 23, 2005	2
186	Pennsylvania State University	Susan L. Brantley	June 23, 2005	2
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204	Wakeforest University	William B. Applegate	June 24, 2005	4
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209	Yale University	Richard C. Levin	June 24, 2005	9
210	University of North Carolina at Chapel Hill	Robert N. Shelton	June 24, 2005	6
211	University of Illinois at Urbana-Champaign	Hesanmi Adesida	June 24, 2005	1
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214	The State University of New York, at Stony Brook	Gail S. Habicht	June 24, 2005	2
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226	Columbia University	Steven L. Goldstein	June 25, 2005	2
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251	Pennsylvania State University	Vincent H. Crespi	June 27, 2005	1
252	Global Personal Alliance c/o Paul, Hastings, Janofsky & Walker LLP	Bo Cooper	June 27, 2005	6
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273	Freescale Semiconductor, Inc	R.N. Fielding	June 27, 2005	4
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276	ConocoPhillips c/o Miller & Chevalier	F. Amanda DeBusk, Sylwia A. Lis	June 27, 2005	4
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278	Washington University	Theodore J. Cicero	June 27, 2005	5
279	American Council on International Personnel	Lynn F. Shotwell	June 27, 2005	4
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286	International Electronics Manufacturers and Consumers of America (IEMCA)	Richard R. Gill	June 27, 2005	4

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293	General Electric Company	Kathleen Lockard Palma	June 27, 2005	7
294	United States House of Representatives	Zoe Lofgren	June 27, 2005	4
295	Qualcomm Incorporated	Kathleen F. Gebeau	June 27, 2005	7
296	Customs and International Trade Bar Association	Melvin S. Schwechter, James R. Cannon, Jr.	June 28, 2005	5
297	Association of International Education Administrators (AIEA)	Thomas J. Linney	June 28, 2005	4
298	Panasonic Corporation of North America	Paul Liao	June 28, 2005	4
299	Columbia University	Robert D. Mawhinney	June 28, 2005	1
300	University of Colorado, Colorado Springs	Pam Shockley-Zalabak	June 28, 2005	1
301	Government Relations, LLC	Donald E. Ellison	June 30, 2005	3
302	Pennsylvania State University	Patryk Soika	June 30, 2005	1
303	Pennsylvania State University	Kultegin Aydin	June 30, 2005	1

304	Pierson & Ritterpusch. LLP	Keil J. Ritterpusch	July 1, 2005	15
305	Pennsylvania State University	Darryl Farber	July 5, 2005	2
306	National Science Foundation	Amy A. Northcutt	July 5, 2005	4
307	Federation of American Societies for Experimental Biology (FASEB)	Bruce Bistrian	July 6, 2005	5
308	Pennsylvania State University	Suzanne Mohney	July 7, 2005	1
309	University of Alaska Fairbanks	Stephen B. Jones	July 15, 2005	2
310	Center for Strategic & International Studies	Gerald L. Epstein, Ph.D.	June 9, 2005	25

environmental, and energy-related aspects of the proposal.

Communications should identify both docket numbers (FAA Docket No. FAA–2005–20616 and Airspace Docket No. 05–ANM–04) and be submitted in triplicate to the Docket Management System (*see* **ADDRESSES** section for address and phone number). You may also submit comments through the Internet at *http://dms.dot.gov*.

Commenters wishing the FAA to acknowledge receipt of their comments on this action must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to FAA Docket No. FAA–2005–20616 and Airspace Docket No. 05–ANM–04." The postcard will be date/time stamped and returned to the commenter.

All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this action may be changed in light of comments received. All comments submitted will be available for examination in the public docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of NPRM's

An electronic copy of this document may be downloaded through the Internet at *http://dms.dot.gov*. Recently published rulemaking documents can also be accessed through the FAA's Web page at *http://www.faa.gov* or the **Federal Register**'s Web page at *http://www.gpoaccess.gov/fr/index.html*.

You may review the public docket containing the proposal, any comments received, and any final disposition in person in the Dockets Office (*see* **ADDRESSES** section for address and phone number) between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. An informal docket may also be examined during normal business hours at the office of the Regional Air Traffic Division, Federal Aviation Administration, 1601 Lind Avenue, #14, SW., Renton, WA 98055.

Persons interested in being placed on a mailing list for future NPRM's should contact the FAA's Office of Rulemaking, (202) 267–9677, for a copy of Advisory Circular No. 11–2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

Background

The existing R–2211, at Blair Lakes, AK, extends from the surface up to 18,000 feet MSL. The USAF has proposed raising the ceiling of the area because the existing restricted airspace is too small to permit essential aircrew training in the tactics used in recent real-world engagements. The current 18,000-foot MSL upper limit of the area is not sufficient to satisfy high altitude weapons release training requirements.

The Proposal

The FAA is proposing to amend Title 14 Code of Federal Regulations (14 CFR) part 73 (part 73) to modify R–2211 by raising the ceiling from 18,000 feet MSL to FL 310. The current restricted airspace at Blair Lakes is too small to allow aircrew training in high altitude weapons delivery tactics. The purpose of the proposed expansion of R–2211 is to accommodate high altitude, high angle weapons delivery training to fulfill USAF training requirements.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. Therefore, this proposed regulation: (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under Department of Transportation (DOT) Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this proposed rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Environmental Review

This proposal will be subject to the appropriate environmental analysis in accordance with FAA Order 1050.1D, Policies and Procedures for Considering Environmental Impacts, prior to any FAA final regulatory action.

List of Subjects in 14 CFR Part 73

Airspace, Navigation (air).

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR part 73 as follows:

PART 73—SPECIAL USE AIRSPACE

1. The authority citation for part 73 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

§ 73.22 [Amended]

2. Section 73.22 is amended as follows:

* * * * *

R–2211 Blair Lakes, AK [Amended]

Boundaries. Beginning at lat. 64°29'58" N., long. 147°44'09" W., to lat. 64°19'58" N., long. 147°19'09" W.; to lat. 64°13'28" N., long. 147°32'08" W., to lat. 64°22'28" N., long. 147°58'09" W.; to the point of beginning.

Time of designation. 0800 to 1600, local Monday through Friday, other times by NOTAM.

Designated altitude. Surface to FL310.

Controlling agency. FAA, Fairbanks Approach Control.

Using agency. U.S. Air Force, 354th Fighter Wing, Eielson AFB, AK.

* * * * *

Issued in Washington, DC, March 22, 2005.

Edith V. Parish,

Acting Manager, Airspace and Rules.

[FR Doc. 05–5965 Filed 3–25–05; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

15 CFR Parts 734 and 772

[Docket No. 050316075–5075–01]

RIN 0694–AD29

Revision and Clarification of Deemed Export Related Regulatory Requirements

AGENCY: Bureau of Industry and Security, Commerce.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: The Bureau of Industry and Security (BIS) is reviewing the recommendations contained in the U.S. Department of Commerce Office of Inspector General Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE–16176–March 2004). Certain of these recommendations would require regulatory changes that would affect existing requirements and policies for deemed export licenses. BIS is seeking comments on how these revisions would affect industry, the academic community, and U.S. government agencies involved in research.

DATES: Comments must be received by May 27, 2005.

ADDRESSES: You may submit comments, identified by RIN 0694–AD29, by any of the following methods:

- Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.
- E-mail: *scook@bis.doc.gov*. Include "RIN 0694–AD29" in the subject line of the message.
- Fax: (202) 482–3355.
- Mail or Hand Delivery/Courier: U.S. Department of Commerce, Bureau of Industry and Security, Regulatory Policy Division, 14th & Pennsylvania Avenue, NW., Room 2705, Washington, DC 20230, ATTN: RIN 0694–AD29.

FOR FURTHER INFORMATION CONTACT: Alex Lopes, Director, Deemed Exports and Electronics Division, Bureau of Industry and Security, telephone: (202) 482–4875, or e-mail: *alopes@bis.doc.gov*. Copies of the referenced OIG Report are available at *http://www.oig.doc.gov/oig/reports/2004/BIS-IPE-16176-03-2004.pdf*.

SUPPLEMENTARY INFORMATION:

Background

In its report, the Office of Inspector General (OIG) concluded that existing BIS policies under the Export Administration Regulations (EAR) could enable foreign nationals from countries and entities of concern to access otherwise controlled technology. Adopting the OIG's recommendations to address these concerns would entail regulatory or other administrative action that would clarify the definition of "use" technology subject to the EAR, base the requirement for a deemed export license on a foreign national's country of birth, and modify regulatory guidance on licensing of technology to foreign nationals working with government-sponsored research and research conducted in universities.

Definition of "Use" Technology

The OIG stated that confusion existed over the definition and implementation of controls associated with the "use" of equipment by foreign nationals in the United States. In § 772.1 of the EAR, the term "use" is defined as: "Operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing." The OIG expressed concern about the presence of the word "and" in the definition being interpreted to mean that all of the activities enumerated in the definition must be present in order to constitute "use."

The OIG concluded that whereas, under the "use" definition, BIS grants approval for foreign entities to operate, install, maintain, repair, overhaul, and refurbish equipment exported from the United States in order to permit the end-user the full range of uses for an exported item, the same "use" definition did not seem to apply to deemed exports (*i.e.*, to foreign nationals "using" the equipment in the United States). The OIG concluded that it would be unlikely that one individual would have the responsibility or capability of accomplishing all of the enumerated tasks that together constitute "use" in most situations. In addition, the OIG also noted that two of the four multilateral control regimes defined the term "use" either with an "or," or without any conjunction (*i.e.*, a bullet point list of the activities).

The OIG further concluded that this difference in interpretation is critical in determining how to implement and enforce the deemed export provisions in the EAR. The OIG reported that U.S. academic and federal research institutions generally use the fundamental research exemption under the EAR for most of the research they conduct. However, when equipment is used by foreign nationals at a U.S. university or federal research facility, the OIG concluded that it is most likely accompanied by some transmittal of use or other information or instruction constituting "technology." According to the OIG, many of the academic and federal officials the OIG met with had not contemplated the transfer of technology associated with the "use" of equipment as a deemed export; others contended that the transfer of "use" technology related to equipment in furtherance of fundamental research is exempt under the regulations. The OIG suggested that BIS revise the definition of "use" in § 772.1 of the EAR to replace the word "and" with the word "or," as follows:

"Use". (All categories and General Technology Note)—Means all aspects of "use," such as: operation, installation (including on-site installation) maintenance (checking), repair, overhaul, or refurbishing.

Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

Current BIS deemed export license requirements are based on a foreign national's most recent citizenship or permanent residency. The OIG expressed concern that this policy allows foreign nationals originally from countries of concern to obtain access to controlled dual-use technology without scrutiny if they maintain current citizenship or permanent resident status in a country to which the export of the technology would not require a license. For example, transfer of technology to an Iranian who has established permanent residency or citizenship in Canada would be treated, for export licensing purposes under the existing guidelines, as a deemed export to a Canadian foreign national. This policy is described in the deemed export guidance provided on the BIS Web site at: *http://www.bis.doc.gov/DeemedExports/DeemedExportsFAQs.html*.

The OIG recommended that BIS amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign nationals and have access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

Clarification of Supplemental Questions and Answers on Government Sponsored Research and Fundamental Research

The OIG reviewed the questions and answers in Supplement No. 1 to part 734 of the EAR. OIG noted that whereas the questions and answers did not cover all scenarios, the intent was to help potential license applicants understand how BIS applies the EAR to specific facts. The OIG reported that it considered two of the answers provided may be inaccurate or unclear.

Answer to Question A(4)

Question A(4) from Supplement No. 1 to part 734, which falls under the "publication of technology" category, discusses whether "prepublication clearance" by a government sponsor (in this case the Department of Energy) would void the exemption in the EAR for material to be published and trigger the deemed export rule. *See* § 734.7, (Published Information and Software). The answer states, "no * * * the transaction is not subject to the EAR." The OIG stated that, according to § 734.11 of the EAR, if research is funded by the U.S. government and national security controls are in place to protect any resulting information, the research is subject to the EAR.

In its comments on the OIG report, BIS concurred with the OIG that the answer to Question A(4) requires clarification. BIS stated that it proposed to modify in the answer to Question A(4) to state, by reference to Question A(2) in this Supplement, that, if the government sponsor reviewer imposed restrictions on publication of the research, then the technology would continue to be subject to the EAR.

Answer to Question D(1)

Question D(1), which falls under the "research, correspondence, and informal scientific exchanges" category, discusses whether a license would be required for a foreign graduate student to "work" in a laboratory. The answer provided in the supplement states, "not if the research on which the foreign student is working qualifies as 'fundamental research' * * *" However, because allowing scientists, engineers, or students to work in a laboratory may necessitate their "use" of equipment, the OIG stated that this answer may lead a potential license applicant to assume that "use" of equipment is covered under the fundamental research exemption.

In its comments on the OIG report, BIS agreed that the answer to question D(1) requires clarification. BIS proposes to revise the answer for D(1) to qualify the statement that no license is required, by stating that, whereas no license is required for the transfer of technology to conduct "fundamental research," a license may be required if, in conducting fundamental research, the foreign graduate student needs access to technology to "use" equipment if the export of the equipment to the student would require a license under the EAR.

Request for Comments

The Department of Commerce is interested in evaluating the impact that the changes recommended by the OIG would have on U.S. industry, academic institutions, U.S. government agencies, and holders of export controlled technology.

To ensure public participation in the review process, BIS is soliciting comments for 60 days on this proposal. BIS is particularly interested in views on the impact the proposal will have on technology developers and manufacturers, academic institutions, and U.S. government research facilities. BIS is interested in receiving specific information regarding the impact of the regulations, e.g., data on the number of foreign nationals in the United States who will face licensing requirements if the OIG's recommendations were adopted, and impact of compliance with the new licensing requirements—cost, resources, procedures. BIS is also interested in receiving any alternative suggestions regarding the concerns raised by the OIG.

Parties submitting comments are asked to be as specific as possible. BIS encourages interested persons who wish to comment to do so at the earliest possible date.

The period for submission of comments will close May 27, 2005. BIS will consider all comments received before the close of the comment period in developing a final rule. Comments received after the end of the comment period will be considered if possible, but their consideration cannot be assured. BIS will not accept public comments accompanied by a request that a part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. BIS will return such comments and materials to the persons submitting the comments and will not consider them in the development of the final rule. All public comments on this proposed rule must be in writing (including fax or e-mail) and will be a matter of public record, available for public inspection and copying. The Office of Administration, Bureau of Industry and Security, U.S. Department of Commerce, displays these public comments on BIS's Freedom of Information Act (FOIA) Web site at *http://www.bis.doc.gov/foia*. This office does not maintain a separate public inspection facility. If you have technical difficulties accessing this Web site, please call BIS's Office of Administration at (202) 482–0637 for assistance.

List of Subjects

15 CFR Part 734

Administrative practice and procedure, Exports, Inventions and patents, Research, Science and technology.

15 CFR Part 772

Exports.

Dated: March 23, 2005.

Matthew S. Borman,

Deputy Assistant Secretary for Export Administration.

[FR Doc. 05–6057 Filed 3–25–05; 8:45 am]

BILLING CODE 3510–33–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 168

[USCG–2003–14734]

RIN 1625–AA65 (Formerly RIN 2115–AE10)

Escort Vessels for Certain Tankers—Crash Stop Criteria

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to make permanent the 1994 suspension of the crash stop requirements in our tanker escort rules.

DATES: Comments and related material must reach the Docket Management Facility on or before June 27, 2005.

ADDRESSES: You may submit comments identified by Coast Guard docket number USCG–2003–14734 to the Docket Management Facility at the U.S. Department of Transportation. To avoid duplication, please use only one of the following methods:

(1) Web Site: *http://dms.dot.gov*.

(2) Mail: Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590–0001.

(3) Fax: (202) 493–2251.

(4) Delivery: Room PL–401 on the Plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 366–9329.

(5) Federal eRulemaking Portal: *http://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: If you have questions on this proposed rule, call Lieutenant Sam Stevens, G–MSE–1, telephone (202) 267–0173, e-mail: *SStevens@comdt.uscg.mil*. If you have questions on viewing or submitting material to the docket, call Ms. Andrea M. Jenkins, Program Manager, Docket Operations, telephone (202) 366–0271.

SUPPLEMENTARY INFORMATION:

Public Participation and Request for Comments

We encourage you to participate in this rulemaking by submitting comments and related materials. All comments received will be posted, without change, to *http://dms.dot.gov* and will include any personal information you have provided. We have an agreement with the Department of Transportation (DOT) to use the Docket Management Facility. Please see DOT's "Privacy Act" paragraph below.

Submitting comments: If you submit a comment, please include your name and address, identify the docket number for this rulemaking (USCG–2003–14734), indicate the specific section of this document to which each comment applies, and give the reason for each comment. You may submit your comments and material by electronic means, mail, fax, or delivery to the Docket Management Facility at the address under **ADDRESSES**; but please submit your comments and material by only one means. If you submit them by mail or delivery, submit them in an unbound format, no larger than 8½ by 11 inches, suitable for copying and

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Amendment 39–13736 (69 FR 44925, July 28, 2004) and by adding a new airworthiness directive, to read as follows:

Rolls-Royce plc: Docket No. 2003–NE–38–AD.

Comments Due Date

(a) The Federal Aviation Administration (FAA) must receive comments on this airworthiness directive (AD) action by July 26, 2005.

Affected ADs

(b) This AD supersedes AD 2004–15–02, Amendment 39–13736.

Applicability

(c) This AD applies to Rolls-Royce plc (RR) models RB211 Trent 875–17, Trent 877–17, Trent 884–17, Trent 884B–17, Trent 892–17, Trent 892B–17, and Trent 895–17 turbofan engines, with low pressure (LP) compressor fan blades, part number FW18548 installed. These engines are installed on, but not limited to, Boeing 777 series airplanes.

Unsafe Condition

(d) This AD results from a number of new production LP compressor blades found with surfaces formed outside of design intent. We are issuing this AD to prevent possible multiple uncontained LP compressor fan blade failure, due to cracking in the blade root caused by increased stresses in the shear key slots.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Actions Required for LP Compressor Fan Blades

(f) Replace LP compressor fan blades with new or previously reworked LP compressor blades before accumulating the specified cycles-since-new (CSN) in the following Table 1, or rework the existing blades as specified in paragraph (g) of this AD.

TABLE 1.—LP COMPRESSOR FAN BLADE REPLACEMENT OR REWORK SCHEDULE

Boeing 777 series	Airplane maximum gross weight (times 1,000 pounds)	RB211 Trent engine model	Replace or rework LP compressor fan blades before accumulating
–300	660, 632.5	–884, –892, –884B	2,400 CSN.
–200	656	–892, –895	2,400 CSN.
–200	648	–892, –892B	3,200 CSN.
–200	632.5	–892B	3,200 CSN.
–200	632.5	–892	4,100 CSN.
–200	555	–884	4,100 CSN.
–200	545	–877	4,100 CSN.
–200	535	–875	4,100 CSN.
–200	506	–875	4,100 CSN.

(g) Rework LP compressor fan blades at or before accumulating the specified CSN in Table 1 of this AD. Follow paragraphs 3.B.(1) through 3.B.(22) of Accomplishment Instructions of RR service bulletin (SB) No. RB.211–72–E044, Revision 2, dated October 8, 2004, to do the blade rework.

(h) For engines moved between configurations, calculate the cycles remaining using either of the following:

(1) Subtract the total CSN from the most limiting configuration's limit from Table 1 of this AD, or

(2) Calculate the cycles remaining using the following equation:

$$X_r = L_c\left[1-\left(\frac{X_1}{L_1}+\frac{X_2}{L_2}+\frac{X_3}{L_3}+\ldots\right)\right]$$

Where:

Xr = Cycles remaining in current configuration.

Lc = Cyclic limit of current configuration from Table 1 of this AD.

Xn = Cycles accumulated in configuration n.

Ln = Cyclic limit in configuration n from Table 1 of this AD.

(i) Information on the source life of the cycle limits in Table 1 of this AD can be found in RR Alert SB No. RB.211–72–AE055, Revision 3, dated May 28, 2004.

Alternative Methods of Compliance

(j) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) CAA airworthiness directive G–2004–036, dated December 23, 2004, and RR Alert SB No. RB.211–72–AE055, Revision 4, dated December 9, 2004, pertain to the subject of this AD.

Issued in Burlington, Massachusetts, on May 23, 2005.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 05–10635 Filed 5–26–05; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

15 CFR Parts 734 and 772

[Docket No. 050316075–5133–02]

RIN: 0694–AD29

Revision and Clarification of Deemed Export Related Regulatory Requirements

AGENCY: Bureau of Industry and Security, Commerce.

ACTION: Advance notice of proposed rulemaking; extension of comment period.

SUMMARY: This notice extends the comment period on an advance notice of proposed rulemaking addressing potential regulatory and policy changes that would effect existing BIS deemed export licensing practices. BIS is continuing to seek comments on how these revisions would impact industry, the academic community, and U.S. government agencies involved in research. The new comment period deadline is June 27, 2005.

DATES: Comments must be received by June 27, 2005.

ADDRESSES: You may submit comments, identified by RIN 0694–AD29, by any of the following methods:

- Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.
- E-mail to *publiccomments@bis.doc.gov*. Include "RIN 0694–AD29" in the subject line of the message.
- Fax: 202–482–3355.
- Mail or Hand Delivery/Courier: U.S. Department of Commerce, Bureau of Industry and Security, Regulatory Policy Division, 14th & Pennsylvania Avenue, NW., Room 2705, Washington, DC 20230, ATTN: RIN 0694–AD29.

FOR FURTHER INFORMATION CONTACT: Alex Lopes, Director, Deemed Exports and Electronics Division, Bureau of Industry and Security, Telephone: (202) 482–4875, or e-mail: *alopes@bis.doc.gov*. Copies of the referenced OIG Report are available at *http://www.oig.doc.gov/oig/reports/2004/BIS-IPE-16176-03-2004.pdf*.

SUPPLEMENTARY INFORMATION: On March 28, 2005 the Bureau of Industry and Security published an advance notice of proposed rulemaking that addresses possible regulatory and policy changes would revise the Export Administration Regulations by adopting recommendations from a report by the Office of Inspector General (OIG). Adopting the OIG's recommendations would entail regulatory or other administrative action related to clarifying the definition of "use" technology subject to the EAR, evaluating a foreign national's successive citizenship or permanent residency, and modifying regulatory guidance on licensing technology to foreign nationals working with government-sponsored and university-based research.

The deadline for public comment was May 27, 2005 (70 FR 15607). The Bureau is now extending the comment period until June 27, 2005, to allow the public more time to comment on this proposed rule.

Dated: May 20, 2005.

Eileen Albanese,

Director, Office of Exporter Services.

[FR Doc. 05–10672 Filed 5–26–05; 8:45 am]

BILLING CODE 3510–33–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 100

[CGD05–05–020]

Special Local Regulations for Marine Events; Piankatank River, Gloucester County, VA

AGENCY: Coast Guard, DHS.

ACTION: Notice of meeting.

SUMMARY: The Coast Guard will hold a public meeting to provide a forum for citizens to provide oral comments relating to the "2005 Piankatank River Race", a marine event proposed to be held over the waters of the Piankatank River in Gloucester County, Virginia on July 23, 2005. The meeting will be open to the public.

DATES: This public meeting will be on Wednesday, June 29, 2005, from 10 a.m. to 2 p.m. The meeting may close early if all business is finished. Written material and requests to make oral presentations should reach the Coast Guard on or before June 24, 2005.

ADDRESSES: The Coast Guard public meeting will be held at the Gloucester County Library, 6920 Main Street, Gloucester, VA, 23061. Send written material and requests to make oral presentations to Dennis Sens, Commander (oax), U.S. Coast Guard Fifth District, 431 Crawford Street, Portsmouth, VA 23321.

FOR FURTHER INFORMATION CONTACT: Dennis Sens, Recreational Boating Safety Specialist, Fifth Coast Guard District, telephone 757–398–6204, Fax 757–398–6203.

SUPPLEMENTARY INFORMATION: This notice of meeting is in response to the notice of proposed rulemaking, (NPRM), published in the **Federal Register** on March 29, 2005, (Volume 70, pages 15788–15790). The purpose of this public meeting is to provide an opportunity for citizens to provide oral or written comments regarding a proposed marine event on the Piankatank River. The East Coast Boat Racing Club of New Jersey proposes to sponsor the "2005 Piankatank River Race" on July 23, 2005. The event would consist of approximately 20 New Jersey Speed Garveys and Jersey Speed Skiffs conducting high-speed competitive races along an oval racecourse in close proximity to the Thousand Trails Campground, over the waters of the Piankatank River, Gloucester, Virginia.

Agenda of Meeting

The agenda includes the following:
(1) Introduction of panel members.
(2) Overview of meeting format.
(3) Background on proposed marine event.
(4) Statements from citizens.
Statements may be delivered in written form at the public meeting and made part of the docket or delivered orally not to exceed 10 minutes.

Procedural

The meeting is open to the public. Please note that the meeting may close early if all business is finished. Members of the public may make oral presentations during the meeting. If you would like to make an oral presentation at the meeting, please notify the meeting coordinator at the address listed under **ADDRESSES** by June 24, 2005.

Information on Services for Individuals With Disabilities

For information on facilities or services for individuals with disabilities or to request special assistance at the meeting, contact the meeting coordinator as soon as possible.

Dated: May 6, 2005.

Lawrence J. Bowling,

Captain, U.S. Coast Guard, Commander, Fifth Coast Guard District Acting.

[FR Doc. 05–10363 Filed 5–26–05; 8:45 am]

BILLING CODE 4910–15–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[CGD01–05–044]

RIN 1625–AA00

Safety Zone; Yankee Homecoming Fireworks, Newburyport, MA

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes establishing a temporary safety zone for the Yankee Homecoming Fireworks in Newburyport, Massachusetts. The safety zone is necessary to protect the life and property of the maritime public from the potential hazards posed by a fireworks display. The safety zone would temporarily prohibit entry into or movement within this portion of the Merrimack River during its effective period.

DATES: Comments and related material must reach the Coast Guard on or before June 27, 2005.

April 4, 2005

Email to: BIS
From: Bill Root

Subject: Revision and Clarification of Deemed Export Related Regulatory Requirements, FR March 28, 2005, Request for Comments, RIN 0694-AD29

Use Technology

The proposal to change "and" to "or" in the part 772.1 definition of "use" probably accurately reflects original intent and would only correct sloppy drafting from long ago. However, it should nevertheless be dependent on first obtaining requisite multilateral agreements.[1] There is also a need for similar clarifications in the definitions in 772.1 of "development"and of "production."[2] But changes in these definitions should also be dependent upon first obtaining requisite multilateral agreements.[3]

Of more importance than tweaking these definitions is the much greater need to clarify their significance for license requirements, whether for deemed or regular exports or reexports. The OIG appears to believe that a license would (or should) be required in order to show a foreign national how to make any "use" of controlled equipment (including, as the *reductio absurdum*, how to turn on the power switch). That is far from the case. Most technology ECCNs based on the Wassenaar Dual-Use List do not control "use" technology at all.[4] In addition, technology ECCNs based on either the Wassenaar Dual-Use List or the Wassenaar Munitions List are qualified by the Wassenaar General Technology Note,[5] which limits coverage to "required" technology, in which "required" is defined as:

> only that portion of "technology" which is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions.

It is most unusual for any "use" technology to meet the definition of "required."

It is recommended that:

- Qs and As to assist exporters (and the OIG) to understand the above described limits on technology controls be added to 734 Supplement 1.
- The United States propose that Wassenaar apply the "required" definition to software as well as to technology and that MTCR, IAEA, and AG apply the Wassenaar "required" definition to both technology and software.[6]
- Unilateral software or technology controls be removed from ECCNs numbered to indicate multilateral coverage.[7]
- Software and technology ECCNs numbered to indicate unilateral coverage be modified by the Wassenaar "required" definition.[8]

Country of Birth

Requiring a deemed export license based on country of birth rather than on country of nationality would further weaken the statutory authority for these controls.[9]

Government Sponsored Research and Fundamental Research

Question A(4). The Federal Register includes a BIS proposed clarification that:

> if the government sponsor reviewer imposed restrictions on publication of the research, then the technology would continue to be subject to the EAR.

But 734.11(a), after providing that the "not subject to the EAR" provision does not permit export in violation of specific national security controls on U.S. Government-funded research, states:

> However, any export or reexport of information resulting from the research that is consistent with the specific controls may nonetheless be made under this provision.

Moreover, 734.11(b) gives as two different examples of "specific national security controls":

(1) prepublication review with right to withhold permission for publication; and
(2) restrictions on prepublication dissemination of information to non-U.S. citizens or other categories of persons.

Thus, the existing regulation permits a sponsoring agency to permit prepublication deemed or other export as being not subject to the EAR even if that agency specified a right to withhold permission for publication. The research desired by the Government might be dependent upon inputs from foreign nationals. Therefore, such a mix of controls and lack of controls could be in the best interests of both the Government and the research institution.

Question D(1). The Federal Register includes a BIS proposed clarification that:

> ... a license may be required if, in conducting fundamental research, the foreign graduate student needs access to technology to "use" equipment if the export of the equipment to the student would require a license under the EAR.

However, there is no license requirement for a deemed export of equipment. Moreover, a license requirement to transfer "use" technology would be dependent upon the conditions of the applicable technology ECCN and not upon the conditions of the ECCN governing the equipment export to the foreign national's home country. For example, there is no Wassenaar "use" technology license requirement for most Wassenaar-controlled commodities (see footnote 4 below) and, for the others, controls are limited by the definition of "required" (see above).

Footnotes:

[1] The Wassenaar definition uses "and." The IAEA uses "and" in both the Trigger List definition in InfCirc 254 Part 1 and the NSG definition in InfCirc 254 Part 2. The MTCR definition is unclear, because it uses neither "and" nor "or."

[2] In the definition of "development," the intent of:

> "Development" is related to all stages prior to serial production, such as : ... assembly and testing of prototypes, ... design, layouts.

was probably:

> "Development" means any stage prior to serial production, such as : ... assembly or testing of prototypes, ... design, or layouts.

In the definition of "production," the intent of:

Means all production stages, such as: ... testing, quality assurance.

was probably:

Means any production stage, such as: ... testing, or quality assurance

[3] The 772.1 definitions of "development" and "production" are identical to Wassenaar, MTCR, IAEA trigger list, and IAEA NSG definitions. The AG definition of "development" is the same except that it omits testing of prototypes and inserts "and" before "layouts." The AG definition of "production" is the same except that it inserts "and" before "quality assurance."

[4] ECCNs xE00x based on the Wassenaar Dual-Use List do not control "use" technology at all except in Categories 4 and 5. 1E001, 2E001, 2E002, 3E001, 6E001, 6E002, 7E001, 7E002, 8E001, 9E001, and 9E002 do not control "use" technology. The 5E001.a controls on "use" technology exclude operation.

[5] The inadvertent omission from 0E018 and 9E018 of "according to the General Technology Note" should be rectified.

[6] MTCR, IAEA, and AG technology controls omit the Wassenaar "required" limitation, using instead the undefined expression "directly associated." Neither Wassenaar nor the other multilateral regimes limit software controls to what is "required," using instead other undefined terms such as "specially designed " or "specially designed or modified." Over the years, consideration has been given to limiting deemed exports to those making a "material contribution," but that term does not now appear in the regulations. There is much uncertainty as to what "directly associated," "specially designed," "specially designed or modified," or "material contribution" means. Substitution of "required" would not resolve all problems; but it would at least concentrate the debate on what is necessary to achieve or exceed control list specifications.

[7] Unilateral controls in multilaterally numbered ECCNs include:

- Development or production software in the MT portions of 1D001, 2D001, and 2D018.
- Modified software in 1D201.
- All of 1E351.
- Omission from 3D101 of
  usable for testing "missiles" or "missile subsystems"
- Omission from 4D003 of the following Wassenaar Note:
  4D003.c does not control "software" when accompanying its user for the user's personal use.
- Omission from 5D101 of
  usable for "missiles"
- 5D002 three Notes describing unilateral encryption software controls. Conforming changes in parts 732.2(b), 734, 740.8, 740.17, and 742.15 would also be necessary.
- 6D002 MT controls of software for 6B008

[8] Most ECCNs xD9xx control software "specially designed" or "specially designed or modified" for "development, production, or use" (or just "development or production") of unilaterally

controlled commodity ECCNs; but 7D994, 9D990, and 9D991 omit "specially designed" or "specially designed or modified." Except for 2E983 and 3E980, the other 17 ECCNs xE9xx for non-specific technology controls omit "specially designed" or "specially designed or modified" and simply state that technology for "development, production, or use" (or, in a few cases, just "development or production" or just "use") is controlled. Formulations which omit "specially designed" or "specially designed or modified" are exceedingly broad and those which include "specially designed" or "specially designed or modified" are unacceptably vague, because of the lack of definitions of those terms.

[9] Section 16(5) of the Export Administration Act limits the definition of "export" to;

- a transfer out of the United States,
- a transfer within the United States to an embassy or affiliate of a controlled country, or
- a transfer within the United States with the knowledge or intent of a subsequent transfer to an unauthorized recipient.

House of Representatives Report No. 95-459, June 23, 1977, states:

> ... the grant of authorities (under the International Emergency Economic Powers Act) does not include ... the power to regulate purely domestic transactions.

Accordingly, the statutory basis for existing deemed export controls is questionable. To broaden these controls to country of birth would further weaken that basis. It would be particularly difficult to justify treating American citizens as foreign nationals just because they were born abroad. If such cases were carved out of the proposal, it would not be easy to avoid giving similar favorable treatment to those with citizenship in allied or other friendly countries. The country of birth proposal is also inconsistent with the existing exclusion for "protected individuals."

From: Ralph Whitesides <ralphw@ext.usu.edu>
To: <scook@bis.doc.gov>
Date: 4/6/2005 6:29:32 PM
Subject: RIN 0694-AD29

Dear Bureau of Industry and Security,

I have evaluated your recent document RIN 0694-AD29 regarding "Deemed Export License Requirements" and get the impression that the greatest impact to academic institutions might be on the work that graduate students, who are foreign nationals, are authorized to conduct in our labs. This has some far reaching significance for the research community and the chance they will have to train and work with foreign graduate students. In addition to the direct impact on graduate students and their ability to work in laboratories I am concerned about the impact this ruling would have on the concept of "fundamental research" for people like myself who conduct applied field research. As an Extension Specialist and educator I spend considerable time training graduate students in field research. I am wondering if "fundamental research" includes applied field work and how that might impact foreign nationals who may seek advanced training in crop production and field work?

Thank you for your consideration.

Ralph E. Whitesides

Department of Plants, Soils, and Biometeorology

UMC 4820
Utah State University

Logan, Utah 84322-4820

435-797-8252

From: George W. Clark <gwc@mit.edu>
To: scook@bis.doc.gov
Date: 4/22/2005 12:54:22 PM
Subject: RIN 0694-AD29

Comment on the proposed new regulations:

I am an experimental physicist engaged in basic research on cosmic radiations. My work has been carried out with numerous foreign nationals. We have always made use of the most advanced instrumentation available to achieve our scientific goals. This has required acquisition or construction of the most efficient detectors and electronic systems, including computers of the highest capability.

If we had had to obtain licenses for our foreign collaborators to have access to each of these essential instruments, our work would have been severely curtailed. The alternative of excluding foreign nationals from our work would have drastically reduced the efficiency and productivity of our projects. Many of the best ideas and initiatives in our research have come from our foreign collaborators.

The following are specific examples from my own experience at MIT of foreign nationals who made essential contributions to research that benefited research sponsored by the DOD and by NASA:

Bernard Gregory, a French national who would become the Director General of Cern, collaborated in high-altitude studies of cosmic rays at the MIT facility on Mt. Evans, Colorado.

Peter Bassi from the University of Padua, Italy, collaborated in developing the MIT fast-timing method for determining the arrival directions of the extensive air showers produced by the highest energy primary cosmic rays.

Yash Pal of India participated in the study of new unstable fundamental particles observed with the MIT multi-plate cloud chamber.

Minoru Oda from the University of Tokyo, Japan, invented the modulation collimator that made possible the ASE_MIT identification of the first X-ray source Sco-X1, which had a profound influence on the development of the NASA program in X-ray astronomy. The idea of the "Oda collimator" has been the basis for numerous NASA-sponsored instrumentation developments and use.

Koichi Suga from the University of Tokyo developed the scintillation detectors at MIT for our collaboration with Bolivian scientist in a ground-breaking search in Bolivia for ultra-high energy primary cosmic gamma rays.

Livio Scarsi from the University of Palermo, Italy, collaborated in the development of the MIT giant air shower experiment that detected the first 10-joule primary cosmic ray

particle.

Alberto Bonetti of the University of Florence, Italy, collaborated in the MIT rocket experiment that made the first direct measurement of the solar wind and defined the boundary of the earth's magnetosphere.

I could go on. But the point is that the success of each of these projects was achieved by utilizing the most advanced instrumentation and computer facilities available at the time. If the projects had been burdened with the proposed licensing requirements for our foreign collaborators to use that equipment, those projects would have been severely delayed, made less innovative, and made less cost-effective. Moreover, the effect on morale of the collaborators and their US partners would have been devastating.

In my current status I am no longer actively involved in the procurement and use with foreign collaborators of advanced instrumentation other than commercially available computer equipment. Therefore I cannot give specific estimates of the impact of the proposed rules on current research at MIT. Nevertheless, based on past experience, I urge that scientific research in the US outside of specifically classified projects not be burdened by imposition of the proposed new regulations. I fear they would cripple or kill much of the basic research that lays the foundation for our future prosperity and for our cultural reputation among the important intellectual leaders of the world.

George W. Clark
Professor of Physics, Emeritus
Massachusetts Institute of Technology

From: Jens Zorn <jenszorn@umich.edu>
To: <scook@bis.doc.gov>
Date: 4/23/2005 3:37:52 AM
Subject: RIN 0694-AD29 Constrain foreign students

Comment on Deemed Export Regulation RIN 0694-AD29

I write to urge that RIN 0694-AD29 be set aside.

The proposed regulation RIN 0694-AD29, with its access restrictions on foreign graduate students, will have the effect of crippling many laboratories in university departments of physical science and engineering. The effect will be particularly drastic in those many departments that have a preponderance of foreign graduate students in their enrollments.

It generally true that university departments working in academic science are not set up with the controls that would be necessary to restrict access to the most modern equipment. Indeed the the very existence of such controls will add significantly to the already adverse climate that compromises our ability to recruit the best foreign students.

As a young German immigrant living in Los Angeles during WWII, I saw how restrictions affected the "enemy aliens" who were, in fact, giving every effort in the cause against fascism. Those restrictions were a reflex reaction by a nation suddenly at war; in hindsight we recognize that those restrictions had very little, if any, positive effect toward the eventual outcome.

As a four year Navy veteran of the Korean war I have seen at first hand the awkwardness that comes when not only apparatus and instruction manuals (e.g. for Radar and Sonar) had to be secured but also when the methods of operation and repair of that apparatus could not be freely discussed.

Finally, I suggest that the exertion of new controls in the form proposed will not really enhance the net national security when all effects of those controls are taken into account.

I strongly urge that this proposed regulation not be implemented.

Jens Zorn
Professor of Physics and of Applied Physics,
Physics Department, University of Michigan
Ann Arbor, Michigan 48109-1120
Office: 4215 Randall Laboratory, 734-764-4450
Website: http://www-personal.umich.edu/~jenszorn/

CC: <myron@umich.edu>, <merlin@umich.edu>, <dst@umich.edu>, <crmonroe@umich.edu>, <phb@umich.edu>

From: "Woods, Marianne" <marianne.woods@ua.edu>
To: <scook@bis.doc.gov>
Date: 4/25/2005 4:29:52 PM
Subject: RIN 0694-AD29

April 23, 2005

TO: Mr. Matthew S. Borman
Deputy Assistant Secretary for Export Administration
Department of Commerce
Bureau of Industry and Security

FROM: Dr. Keith McDowell
Vice President for Research
The University of Alabama

RE: Advance Notice of Proposed Rulemaking Deemed Export Controls
RIN 0694-AD29

Dear Mr. Borman,

The University of Alabama is taking this opportunity to comment on the proposed rulemaking by the Department of Commerce in response to recommendations presented by your Office of Inspector General on deemed exports. The University is concerned that the proposed changes will greatly impact research on our campus and hinders our ability to perform basic research. Specifically we have the following concerns.

Definition of "Use" Technology

The University is concerned that the proposed revisions to the definition of "use" would have a profound impact on research at our campus because any foreign student, faculty or staff member involved in the "operation, installation, maintenance (including checking of the equipment), repair, overhaul or refurbishing" would need an export license for each piece of export controlled equipment they would have access to. This will have a significant financial burden on the University. We would have to build a system whereby each person in the multitude of labs on campus would need to be monitored as to their accessibility of a particular piece of equipment, creating a logistics and monitoring nightmare. This would be further complicated by the University having to place a piece of equipment on the "licensed required" list at the discretion of the Department of Commerce as it classifies and reclassifies equipment. As an example, one month a

student or a post doc may have access to the equipment and the next month the equipment may be classified a deemed export requiring the University to obtain a license for the student or post doc. The student or post doc would have to be taken off of the research project and wait 3 months or more for a license. This would have significant consequences in the conducting of research and the producing of research results. It would hurt the ability of the University to provide an open and comprehensive education for all of our students.

The University anticipates that the burden of obtaining licenses under this change would be of considerable cost in not only the fees for obtaining a license, but also the use of staff and administrative time of a variety of university employees, and the cost in delaying admission or denying a student the ability to partake in a particular course they may need to continue in their academic program. The University of Alabama believes that the fundamental research exemption granted by the current regulations is severely altered by this proposed change in the regulations and will cause irrevocable harm to fundamental research in this country.

Proposed requirement that requires a deemed export license for employees or visitors who are foreign nationals and who have access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

Under the proposed changes, the University would be required to apply for deemed export licenses for students, employees, or visitors who are foreign nationals and have access to controlled technology if they were born in a country where the technology in question would require an export license, regardless of their most recent citizenship or permanent residency. For example, a person who is a Canadian citizen, but born in China and having migrated to Canada at age 1, would have to provide proof of birth and if he/she was born in one of the listed countries, a license would be required. The licenses are now taking three months to obtain and with an increase in individuals needing licenses and the anticipated increased workload of the Department of Commerce Licensure Section, we are anticipating delays of up to six month or more before a person would be allowed to conduct research or participate in research on our campus. The number of Chinese and other foreign national students in the U.S. has significantly declined in recent time and this change would further that decline. Foreign students would decline markedly as their "second-class" status on campus became apparent. This would result in a weakening of our national security due to the loss of talent in the workforce, a delay in the conducting of research, a delay in the

production of research results, and a set-back in the development of new technologies. As a country we would encounter great difficulty in maintaining the world wide leadership role we now hold in economic and technology development.

Summary

The University of Alabama urges you to not change the definition of use and to not require that foreign nationals, regardless of citizenship or permanent residency, obtain a deemed export license. The University of Alabama supports the fundamental research exemption and would like this exemption to be upheld without these changes allowing for the maximum participation of all students in academic research and scholarship.

Dr. Marianne R. Woods
Associate Vice President for Research
The University of Alabama
Office for Research
152 Rose Administration
Box 870117
Tuscaloosa, AL 35487-0117

Email: marianne.woods@ua.edu
Phone: 205.348.5152
Fax: 205.348.8882

From: "Don Matthews" <dmatthews@yyc.com>
To: <scook@bis.doc.gov>
Date: 4/28/2005 3:22:40 PM
Subject: Proposed Changes to US Commerce Dept's Export Control Regime RIN 0694-AD29

Hello:
In accordance with guidance from the Canadian Government (below) we are sending our comments on the export control regime changes that may impact Canadian companies. We are writing to relay the comments of one of our members of this provincial association. Meggitt Defence Systems Canada has the following comments:

" Meggitt Defence Systems Canada, being a major Unmanned Vehicle Systems supplier to international customers is not effected by the new export regulations anymore than normal for ITAR goods. We are however finding it increasingly difficult to purchase components from US companies that have ITAR dual use equipment for commercial sale. We are concerned that the ITAR regulations are encroaching on the Canadian regulations and that there is a risk that Canadian Export regulations may begin assimilating these stringent rules without sufficient consideration to Canadian Business."
Thank you for considering our comments.

Don

Don Matthews
President and CEO
Aviation Alberta
Phone 403 717 2289
Fax 403 735 1281
Mail
Box 112, 2000 Airport Road NE
Calgary AB Canada
T2E 6W5
http://www.aviationalberta.com
"Coming together is a start; keeping together is progress; working together is success."

>>> "Curran-Allen, Hilary: AAB" <Curran-Allen.Hilary@ic.gc.ca> 04/21/05 6:57 AM >>>
Hello everyone, as you will see from the email below, the US Commerce Department is proposing changes to the export control regime which may impact Canadian companies. Please distribute this information and invite companies to provide comments to the AIAC by May 6, 2005 and/or directly to the US Department of Commerce, Bureau of Industry and Security (details provided in the attachment).

Hilary Curran-Allen
Sector Officer
Aerospace and Automotive Branch
Industry Canada
Telephone: (613) 941-5567
Fax: (613) 998-6703
email: curran-allen.hilary@ic.gc.ca

From: "GUPTA, ARJUN PREMCHAND" <arjungupta@berkeley.edu>
To: <scook@bis.doc.gov>
Date: 4/29/2005 12:59:35 PM
Subject: RIN0694-AD29

To the Regulatory Policy Division,

This email is regarding the U.S. Department of Homeland Security proposal that would make it more difficult for students from certain countries to study science and technology in the U.S. The implementation of such rules will drastically limit the opportunities available to the affected. I, an international student at UC Berkeley from India, will try to express my concerns and opposition to the proposed rule.

I compare this proposed rule of limited access to research and training opportunities for students of some nationalities to fish yearning for water without having access to it. A very large percentage of the 80,000 (approximately) Indian student body studying in American universities is primarily concerned with scientific research. A narrowing of the definition of 'fundamental research' and widening of the definition of 'deemed exports' will severely restrict our participation in classes and research. Such a rule has the potential of creating unjust divisions within the student body between American nationals and foreign nationals. It will also cause a lot of potential students to consider alternatives to studying at American universities. My own example makes this assertion clear. After graduating from High School in India in 2003 and gaining admission into prestigious British Universities like Leeds and Bristol and the leading college in the University of Delhi, St. Stephens, I had come for a holiday to the US when I visited a few American universities like UC Berkeley and Stanford. My interactions with faculty and students here on my short visit, the reputation of these powerhouses of education and the overall environment here made it worthwhile for me to give up all admissions and to take a year off to prepare for the SAT's and the TOEFL. Had there been restrictions in research in 2003 as are proposed now, I would not be at UC Berkeley today. Such decisions based on this proposed rule will be very unfortunate for both the students and the universities.

For the reasons stated above and many more that I cannot express in an email, I wholeheartedly wish that the US Department of Homeland Security decides against the implementation of the proposed rules.

Arjun Premchand Gupta
2601 Warring Street, Box 157
Berkeley, CA 94720
Phone: (510)-759-1174

From: Guido Mueller <mueller@phys.ufl.edu>
To: <scook@bis.doc.gov>
Date: 5/2/2005 9:09:19 AM
Subject: RIN 0694-AD29

Dear Sirs:

This is a great idea. I am an Assistant Professor at UF and work in the area of experimental astrophysics. I am a German citizen myself and work with several foreign graduate and undergraduate students and postdocs. I am also a member of the graduate recruiting committee at UF and I can tell you that we just accepted 11 US students and 20 foreign students into our graduate students program. About 2/3 of the foreign students come from Asia and would need 'deemed export licenses' to work in my lab. However, in general the grades of our foreign students are much higher than of our US students and they are the backbone of our research.

The consequences of this new rule for our research will be disastrous. The VISA problems of our foreign students are already so bad that we can't send them to foreign conferences or meetings because we fear that we can't get them back into the US. I personally have to make adjustments to my own travel plans every two years to make sure that I get my VISA renewed. Adding an application for a 'deemed export license' for every foreign student for every high tech instrument will further diminish our capabilities to conduct our research.

It becomes really ugly when I imagine that I buy a high tech product from our NASA or NSF grants and I am not allowed to show even my US students how it works because I still have to wait on my own deemed export license. Even better, they have to lock it up and make sure that I can't touch. At least I will be able to check all the specifications as they are all freely available on the internet. What a joke!

In my opinion, there are two ways out:
The first one is that you stop this BS immidiately.
The second option is that we will start buying international products which do not fall under the export license rules. Instruments from Rohde & Schwarz (a german manufacturer of high tech products) are as good as the products from Agilent or Hewlett Packard. They cost the same but have now an incredible advantage: We are actually allowed to use them.

Please, do our educational system, our students, and your great country a great favor and make sure that all our students can work in our labs without having to go through another stupid buerocratic hurdle.
Your president wants to go to Mars and we will not get there with restrictions, regulations, and strangulations of our research.

Sincerely,

Guido Mueller

Guido Mueller
Department of Physics
PO Box 118440
Gainesville FL 32611-8440

E-Mail:mueller@phys.ufl.edu
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Phone: +01-352-392-8521
FAX: +01-352-392-3591

From: "J.P. Liu" <pliu@uta.edu>
To: <scook@bis.doc.gov>
Date: 5/5/2005 3:14:43 PM
Subject: Spam: [Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export administration regulations: Deemed export licenses; clarification and revision

Dear Sir/Madam:

My name is J.P. Liu. I am a US citizen and an Associate Professor at the Department of Physics, University of Texas at Arlington. I am conducting fundamental research in materials physics.

My group currently has five graduate students and three postdocs. Most of them are foreigners, as you may or may not have already seen from other US universities. I did not check item by item your long list of the "sensitive" equipment, but I was told by the Nature reporter that even glove box and laser devices are included in your list. We use these two facilities in a daily base.

To be short, if your proposed rule become in action, I will have to close my laboratory for at least several months waiting for your license. This problem will happen every year when we purchase new facilities and recruit new researchers. More seriously, I cannot imagine how a foreign student or postdoc would accept to be a second-class researcher and human being. I also cannot imagine that myself will have to apply for license to use the research facilities simply because I was not born in this country.

I shared the feeling of being proud to be a US citizen, as most American people and their ancestors who may or may not be born in this country. I hope that under your administration this country will still be the greatest place to do scientific research in the world.

I am also copying this message to my Department Chair and our University Vice President for Research.

Best wishes!
Ping Liu

J.P. Liu
Department of Physics
University of Texas at Arlington
817-272-2815 (o)
817-272-3637 (f)

CC: "Horwitz, Jim L" <horwitz@uta.edu>, "Ronald L. Elsenbaumer" <elsenbaumer@uta.edu>

From: Leo Kadanoff <leop@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/2/2005 4:50:46 PM
Subject: RIN 0649-AD29

I write to describe my views on draft changes in the Department of Commerce export license requirements relative to "deemed exports". I read about the changes in the Federal register for March 28, 2005 after being alerted to them by Judy Franz of the American Physical Society. I am a University scientist.

What I have heard and read makes me very worried about these new requirements. Our unclassified DOE program for studying stellar explosions started out with similar regulations, which prevented foreign nationals from using DOE's biggest computers. However, almost all the people in our group qualified to use these computers were foreign nationals. After some discussion our boss, the DOE weapons labs, decided that the national interest was best served by changing the regulations and allowing a considerably broader use of their computers. While this decision was in process, our entire scheme for computer-use was in disarray so that computational work did not go forward.

The rules for "deemed exports" are complex and seem to contradict themselves. Major disruption to the University are likely to arise in preventing and discovering future breaches of your proposed regulations, which would have a considerably extended range of application beyond the present rules.

In many technical areas, one third to one half of our graduate students are foreign nationals. A large fraction of these students will, in time, bring their acquired knowledge to the service of the United States. It is, I suggest, in the national interest to see that this process continues.

However, a simple modification of the regulations or an interpretation which said
> A license for use will be required only for those cases in which
> a. university transferred knowledge about how to use this or
> equivalent machines is not available in published or freely circulated
> material and
> b. this knowledge about use of the instrument will permit the
> recipient of that knowledge to construct or duplicate the machine in
> question.
would both meet the main security needs and permit much of the present university research and teaching activity.

Thank you for listening.

Leo Kadanoff
phone: 773-702-7189
fax: 773-702-2172
web page http://jfi.uchicago.edu/~leop/

The address:
The James Franck Institute
The University of Chicago
5640 S. Ellis Avenue
Chicago, IL 60637

CC: Judy Franz <franz@aps.org>, "Keith Moffat" <moffat@cars.uchicago.edu>, Don Lamb <D-Lamb@uchicago.edu>, James Pilcher <jpil@uchicago.edu>, Steven Sibener <s-sibener@uchicago.edu>, Ken Cole <cole@aps.org>, <a@slac.stanford.edu>, Robert Wald <rmwa@uchicago.edu>, Claude Canizares <crc@MIT.EDU>

From: Jean-Claude Diels PHYSICS <jcdiels@unm.edu>
To: <scook@bis.doc.gov>
Date: 5/5/2005 12:27:38 AM
Subject: RIN 0694-AD29

I am Professor of Physics and Eletrical Engineering at
the University of New Mexico. I have been doing research in the US
in Lasers, electro-optics, Ultrafast communication,
laser induced discharges, laser gyroscopes, high power
and ultrashort laser pulses since 1970. I have published
one book on Ultrafast lasers, 5 bookchapters
85 invited papers, 230 publications, 12 patents awarded, 2 pending.
Since 1984, I graduated 55 students, of which 10 were US students.
This 20% proportion of US students is higher
than the proportion of American applicants for PhD degree in
Physics and Optics in our and other departments over the country.

Only two of my foreign students have returned to their
native country (France), which show the absurdity of the
contention that foreign student come to "steal the secrets
of the US to bring them back to their country". It is just the
opposite: there would be no higher education in the US without
foreign students: most of the hard science faculty of our
Universities are made of selection of ex-foreign students.

The research thesis of all my 55 students involved equipment that
falls under "export licence control".
Obviously, with the proposed ruling, not only will
10 of my present students have to leave the country,
but I will precede them, with most of my colleagues.

In addition to being in charge of 7 optics laboratories
and 10 graduate students (only one U.S. citizen), I have been since 1987
in the Admission committee for PhD students. In the last five years,
under pressure of the National Laboratories, we have been forced
to adopt two admission standards:
1) one admission standards for foreign students: they have to
demonstrate academic excellence (as it should be)
2) one admission standard for US students:
so low that we virtually admit any candidate.

To increase the number of US born scientists, the
National Science Foundation has now created fellowships
restricted to US nationals, (k-12 fellowship, and "IGERT
program fellowships), paying these less qualified students
$ 33,000 per year, of nearly 3 times the research
assistantship awarded to foreign students.
It is sad to note that our politicians think that
one can create a PhD in Physics or EE by throwing money
at any scientifically illiterate individual!
These unprepared student graduate fast, because there is

a job waiting for them at the National Laboratories such as Sandia, or the Air Force. Indeed since these institution can only select their scientist in the minuscule pool of US nationals with PhD degree in Physics or Optics, they are closing their eyes on the technical (in)competence of their pseudo-scientists. The attached .pps file summarizes well the sad present reality.

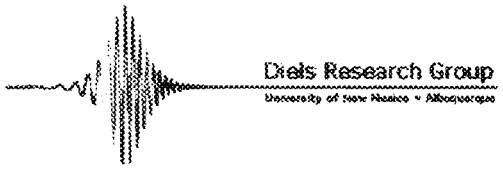
I came to this country in 1970, when the policy was that of "Brain drain". The new policies are favoring Brain Exodus, and will bring this country to the scientific stone age.
Already most European countries have taken advantage of the exodus of young scientist out of the US, and have created new programs to attract student from all over the world, prospective students driven away from the US by the new "security" policies.

The new proposed rule requiring to apply for export license for students, employees or visitors who are foreign nationals, reflects a total ignorance of the realities of American Universities, and Science and Education in the US.
The impact of the proposed ruling is simple:
bring this country back to the stone age.
You can count on your fingers the number of US born scientists in physics and Optics departments of US Universities.
All the other --- about 80% -- will leave the country if your new proposed ruling becomes reality.
If this does not impact more negatively the "national security" than anything else, I don't know what will!

Jean-Claude Diels

****

Jean-Claude Diels
Professor of Physics and Electrical Engineering,
Dept of Physics and Astronomy,
800 Yale Boulevard,
The University of New Mexico,
Albuquerque, NM 87131
Phone (505) 277 4026 or (505) 272 7830.
FAX: (505) 277 5843
http://panda.unm.edu/JCDiels



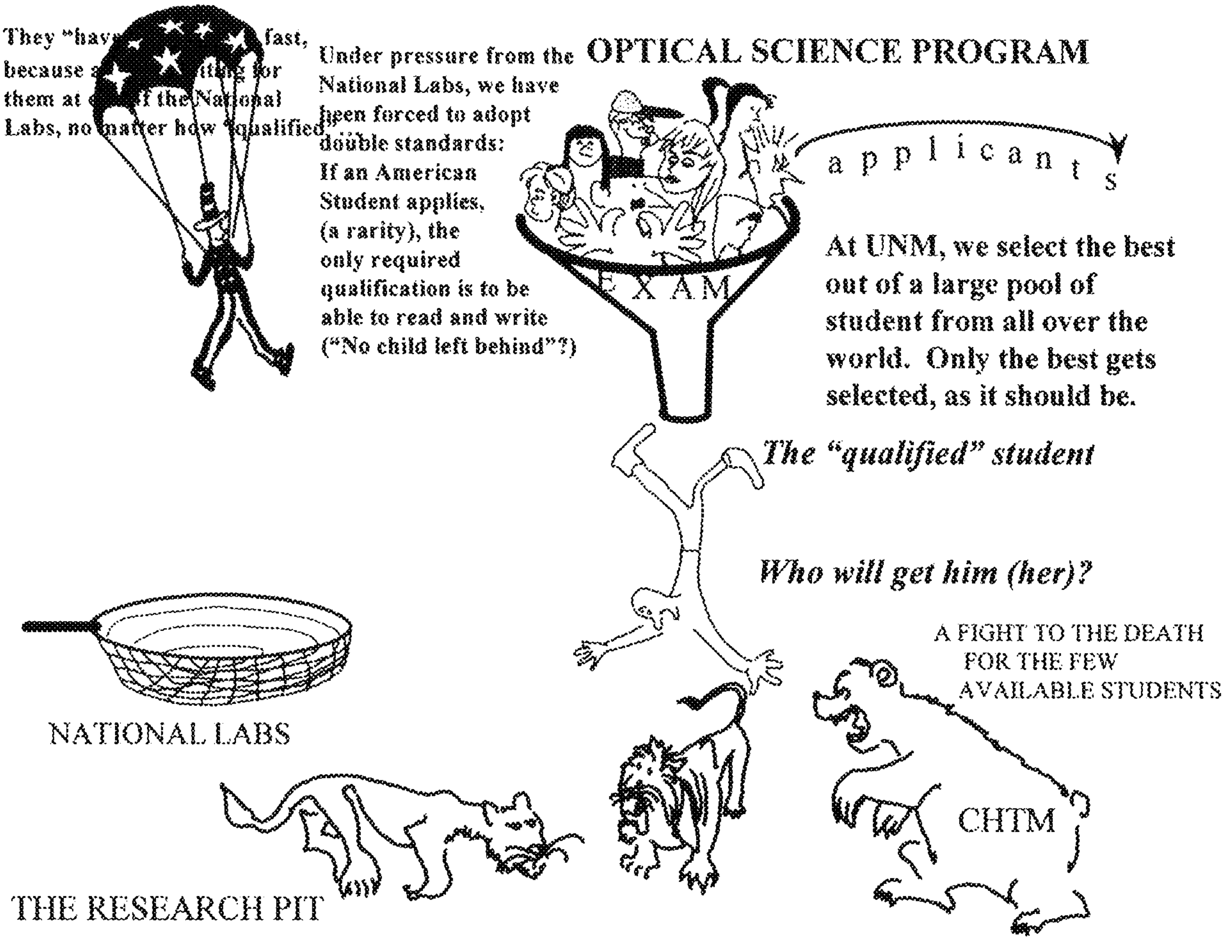
Future Prospects

What is the biggest hurdle?

The fact that we compromised the selection process of our scholars

The US policy used to be that of the "Brain drain":
we selected the best scolars, scientist from all over the world

Now, we have opted for the "brain exodus":
we close our borders to the best qualified foreign student,
we close our fellowships to the most qualified.


They "hav fast,
because a iting for
them at the National
Labs, no matter how "qualified"
Under pressure from the National Labs, we have been forced to adopt double standards:
If an American Student applies, (a rarity), the only required qualification is to be able to read and write ("No child left behind"?)
OPTICAL SCIENCE PROGRAM
applicants
EXAM
At UNM, we select the best out of a large pool of student from all over the world. Only the best gets selected, as it should be.
The "qualified" student
Who will get him (her)?
A FIGHT TO THE DEATH FOR THE FEW AVAILABLE STUDENTS
NATIONAL LABS
CHTM
THE RESEARCH PIT

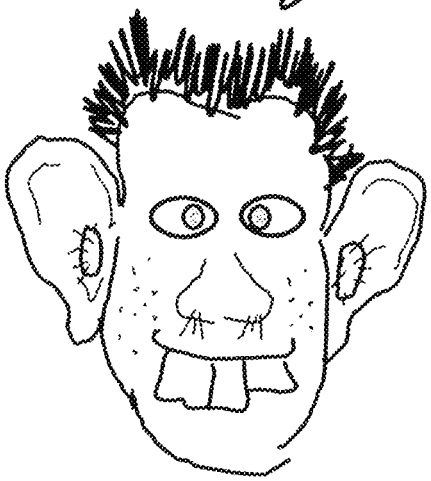
By lowering our standards and by shrinking our selection pool,

we will soon be unable to educate our future scientists

Even NSF is joining in the xenophobia frenzy, by providing fellowships exclusively
For US students (IGERT, K12) at $33,000, or more than 2X the rate of Research Assistanships offered to considerably more qualified students.

If our present policies of closing our border to foreign students are not reversed the pseudo-scientist in charge of our nuclear secrets will be…

Before I could not
even spell zcientyst



and now I are one
at a nazional Lab

From: "Steve Zurian" <Steve.Zurian@wfinet.com>
To: <scook@bis.doc.gov>
Date: 5/5/2005 4:12:24 PM
Subject: RIN 0694-AD29

To begin with, I would like to suggest that the terminology used in the Federal Register in discussing the deemed export issue reflect the current concept of "foreign person" versus "foreign national". If we are dealing with "foreign nationals", we would have to include consideration for U.S. permanent resident aliens who, though considerd "U.S. persons" for export purposes, are still "foreign nationals" by citizenship.

The current BIS policy that deemed export license requirements be based on a foreign person's most recent citizenship or permanent residence may not adequately preclude foreign persons from obtaining access to controlled dual-use technology without all due scrutiny.

However, if the policy is changed to base deemed export license requirements on a foreign national's country of birth, regardless of their most recent citizenship or permanent residency, it skews the scrutiny process to the opposite extreme, and avoids the critical issue: will release of controlled dual-use technology to this foreign person present a risk of unauthorized disclosure to a person or persons in or representing a country to which the technology would otherwise require an export license, or be denied for export.

The true issue that should be examined is where the foreign person in question maintains loyalty, allegiance and/or most frequent contact. All of the issues (country of birth, current citizenship(s) [especially dual citizenship involving proscribed countries], current and past countries of permanent residence, and current U.S. person status) should all be examined in the "deemed export" process.

1. Take the case of a foreign person who may have been born in a country to which an export license wouold be required, or to which export would be denied. If the foreign person has not lived in that country for an extended period, has taken permanent residency in another country not so restricted, or has taken citizenship in another country not so restricted, the risk appears to be lower. The person's country of birth has almost no bearing at all on the "ability" of the foreign person to receive deemed exports. If the foreign person has forsaken citizenship in his/her country of birth, the allegiance factor to that country would appear to be even lower.

2. The treatment of a foreign person based on "most recent citizenship" or "current permanent residence" contains inherent dangers, as the OIG reported. However, establishing requirements for deemed exports based on either of those two factors may also be missing the point of to whom may the foreign person owe allegiance. The discussion in the Federal Register aptly points out that a person with current citizenship in a "no license required" country may hold a previous citizenship or even current dual citizenship in a proscribed country or a country to which more stringent export controls would apply. The same holds true of permanent residence. The foreign national may maintain a permanent residence in a country for which no license is required for deemed exports (e.g., Canada). However, if that same foreign national also maintains or maintained a permanent residence in a proscribed or "export license required" country concurrent with or for an extended period of time immediately prior to (or even just "prior to") his/her current permenent residence, there may be some question as to allegiance, and therefore some expectation of risk in the deemed export decision. Compounding this issue, if a person has lived and worked in a proscribed country, and maintains many extended contacts and friendships in that country, there may be a substantial risk factor involved in a deemed export to that person in the U.S.

The issue does arise within Industry of how to treat dual nationals, especially when one of the citizenships is of the United States. We are told that the most recent citizenship is used in the deemed export decision. However, if the person also holds current citizenship as a dual national in a proscribed or "export license required" country, and that citizenship predates their "most recent" citizenship, does not some risk consideration also apply? We recognize that whenever we release technology to a foreign person, there is always a risk of misuse. The same holds true of granting access to controlled technology to a U.S. person. Of course, U.S. citizens are to be trusted (by law and Constitutional right), U.S. persons are afforded treatment as trusted individuals under export laws, and all persons in the United States are trusted to a reasonable extent ("innocent until proven guilty"). This makes the deemed export decision one of making a decision under conditions of varying uncertainty.

It is therefore suggested that the deemed export decision be made taking all factors into account: country of birth, length of residence in that country, and current state of birth citizenship; country of permenent residence, length of residence in that country, and current state of citizenship in that country; and for foreign persons in the U.S., length of residence in the United States, and current dual citizensip in a proscribed or "export license required" country. There are no easy criteria for this type of decision, so we don't expect clear, precise, easy-to-implement guidance to be forthcoming. However, treatement of the issue in terms of a more comprehensive evaluation of the foreign person and his/her potential loyalties and allegiances, and guidelines in making that evaluation, would be greatly appreciated.

Please consider precluding anyone holding current dual or multiple citizenship, where one or more of the citizenship(s) is in a proscribed or otherwise restricted country, from receiving deemed exports. Also consider restricting any type of export to such a person based on the fact that even though they may hold citizenship in an export-permissable country, they also hold citizenship in an export-deniable country.

Your consideration of the above is appreciated.

Steven A. Zurian

Wireless Facilities International - Government Services

steve.zurian@wfinet.com

From: Yang-Xin Fu <yfu@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/5/2005 8:21:45 PM
Subject: RIN0694-AD29: "Deemed exports" will greatly hurt US research

The Department of Commerce (DOC) is proposing to change the rules regarding "deemed exports" in a way that will seriously affect research and teaching on our campus and tight our hand to do any meaningful collaboration oversea.

The regulations have been in place for around 20 years at the peak of cold war. They are cold war products. Are we still trapped into cold war thinking? Are we able to conduct our research in a reasonable way.

If licenses must be sought to permit them to conduct fundamental research using these technologies, this would have a profound and chilling effect on how we pursue research. For example, each faculty member, post-doc or student from the People's Republic of China would require a license to use each "sensitive technology" including Mac laptop and desktop computers, or mass spectrometers, or Global Positioning Satellite (GPS) equipment. Access to the technologies would have to be controlled and licenses might well be denied. The wide-ranging freedom of enquiry by all qualified individuals, regardless of national origin, that we associate with fundamental research at universities would be lost. This is unthinkable and will have so profound negative impact on campus research!!! We will live under horror environment and hurt ourselves. Is RIN0694-AD29 constitutional? Are we going to fight this in court day to day?

The deemed export issues fall under several headings
* the case has not been made by the Inspector General that security risks are being improperly managed by universities;
* current policy already provides sufficient safeguards against technology transfer to undesirable aliens;
* classification remains the appropriate route to protect research that is considered to bear on national security ;
* the proposed changes misconstrue the nature of fundamental research;
* the changes do not consider the benefits that have accrued to the USA through the open, international nature of our universities, benefits that have contributed in large measure to our international competitiveness;
* the changes do not balance these benefits against security concerns;
* implementation of the changes will require very extensive licensing processes that will be both burdensome and ineffective;
* use of a foreign national's country of birth (rather than citizenship or most recent permanent residency) to determine whether or not they fall under the deemed export regulations is not logical and is also burdensome, since employers typically do not record this information;
* many of the "sensitive technologies" are freely and publicly available in the USA and should not be subject to these regulations in our campus; and
* the definition of "use" of "sensitive technologies" remains unclear.

Yang-Xin Fu, M.D., Ph.D.

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CC: <moffat@cars.uchicago.edu>

From: "Vincent, Sandee L" <sandee.l.vincent@intel.com>
To: <scook@bis.doc.gov>
Date: 5/6/2005 7:18:20 PM
Subject: RIN 0694-AD29-Deemed Export Advance Notice of Proposed Rulemaking

Dear Ms. Cook,

Intel Corporation requests an extension of the May 27th due date for comments on the above referenced "Deemed Export Advance Notice of

Proposed Rulemaking". Intel is currently in the process of gathering information requested in this notice. However, due to the administrative and legal difficulties involved in collecting this type of data we believe the deadline should be extended.

Intel requests that the May 27th due date be extended by 60 days, to ensure BIS receives sufficient data to evaluate this proposal.

Thank you for your consideration.

Sincerely,

Sandee Vincent

Sr. Export Administration Manager

Intel Corporation

CC: <alopes@bis.doc.gov>, "Rose, David" <david.rose@intel.com>, "Straub, Susan A" <susan.a.straub@intel.com>, "Rittener, Jeff" <jeff.rittener@intel.com>, "Vincent, Sandee L." <sandee.l.vincent@intel.com>

From: Wei Du <wdu@huggins.bsd.uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/6/2005 12:02:48 PM
Subject: RIN0694-AD29

The proposed change to the rules regarding "deemed exports" by Department of Commerce will seriously affect research and teaching on campus. consider for example, if each faculty member, post-doc, or student from the People's Republic of China, Russia, India would require a license to use each "sensitive technology" including Mac laptop and desktop computers, or every piece of equipment for research, how the research and teaching can be carried out in our university (it should be pointed out that a lot of these information are freely available on the internet!!!). What effect such rules will have on the scientific and technology development in the US? Is it legal to create a second class of citizen who can vote but not "use equipment" on campus for research because of their origin of birth?

The proposed "deemed exports" rule change failed to consider/address the following issues:

* the case has not been made by the Inspector General that security risks are being improperly managed by universities;
* current policy already provides sufficient safeguards against technology transfer to undesirable aliens;
* classification remains the appropriate route to protect research that is considered to bear on national security ;
* the proposed changes misconstrue the nature of fundamental research;
* the changes do not consider the benefits that have accrued to the USA through the open, international nature of our universities, benefits that have contributed in large measure to our international competitiveness;
* the changes do not balance these benefits against security concerns;
* implementation of the changes will require very extensive licensing processes that will be both burdensome and ineffective;
* use of a foreign national's country of birth (rather than citizenship or most recent permanent residency) to determine whether or not they fall under the deemed export regulations is not logical and is also burdensome, since employers typically do not record this information;
* many of the "sensitive technologies" are freely and publicly available in the USA and should not be subject to these regulations in our campus; and
* the definition of "use" of "sensitive technologies" remains unclear.

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CC: <moffat@cars.uchicago.edu>

From: Christopher Eshelman <christopher@sctelcom.net>
To: <scook@bis.doc.gov>
Date: 5/7/2005 10:55:24 AM
Subject: RIN 0694-AD29

I'm very concerned that the proposed changes would effectively mean that we no longer respect the rights of countries to grant citizenship. By focusing on whichever is more restrictive (place of birth or citizenship) - we open a huge can of worms and an explosion of red tape with very little real world upside.

Who will be banned from using University computer laps - many of which are networked sufficiently to qualify as supercomputers under the regulations?

I feel these changes need a great deal more scrutiny and sunlight before any changes are made.

Christopher Eshelman
Wichita, KS

From: Daphne Preuss <dpreuss@midway.uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/7/2005 1:04:40 PM
Subject: RIN0694-AD29

Department of Commerce:

I am writing to express my concern regarding the proposed rule change regarding deemed exports. As I understand it, the rule may be extended to individuals conducting fundamental research at academic institutions. I am a Howard Hughes Medical Investigator and a Professor at the University of Chicago; I also serve on boards and advisory committees for a number of non-for-profit, for-profit, and federal research organizations. The views expressed below are my own and do not necessarily represent the opinions of my employers or the organizations that I advise.

As summarized below, I believe the proposed change could decrease US competitiveness in science and technology, without providing a significant security benefit.

* Maintaining a strong effort in basic research is in our national interest - the US is a technological leader because of its strong investment in basic research in universities and other research institutions. Part of maintaining that competitive edge is attracting the best researchers from around the world. In many cases, these highly qualified individuals elect to remain in the US. For example, many recent Nobel Laureates are US citizens who were born elsewhere.

* Over the past decades, my basic biomedical research has depended on graduate students and postdoctoral fellows from countries such as Japan, China, India, Russia, and Nepal. In many cases, these individuals have become permanent residents and citizens of the US.

* Recent changes in US immigration procedures have made it more difficult for researchers abroad to bring their talents to the United States. For example, I have heard many Chinese researchers perceive the immigration process to be so difficult that they are electing to work in Japan or Europe, rather than the US. This decline in the applicant pool has had a negative effect on the research activities of myself and my colleagues.

* Further restrictions to research freedom, such as those proposed by the DOC, would enhance this problem. For example, if a foreign researcher knows that they will have to undergo a licensing procedure in order to use computer equipment in a US laboratory, but that similar equipment is readily available in a Japanese laboratory, they would tend to avoid bringing their ideas and talents to the US.

* Over the past decades, the US has performed more poorly than many other countries in K-12 math and science education. As a consequence, there are too few American students to support research efforts, and our research activities are depending more and more on

better-educated students from foreign countries. This is true not only in academic laboratories, but also in basic science efforts in government agencies, where foreign nationals (who are legally admitted to the US) are able to work on non-classified and non-sensitive projects. Inhibiting the abilities of these individuals to do their work would result in a loss of high quality staff, and under-staffing across the board. We simply don't have enough qualified Americans to fill these slots. Efforts to improve education are underway, but are years away from producing the needed talent pool.

* Although it may seem that a licensing process would allow the system to go on functioning, the added burden will cause many researchers to avoid the US entirely. It will also place an undue burden on their employers, who, in many cases are already overwhelmed with the challenges of meeting federal regulations.

* While it is important to ensure that foreign nationals do not have access to sensitive data and classified information; these concerns should be addressed at the point of immigration. If, after screening, researchers are legally admitted to employment at a US university, they should have the same access to non-sensitive, non-classified technologies (such as laptop computers) for the use in fundamental research or education that US or other foreign students would have.

* In sum, the current research system works well, attracting the best minds to our country, and ensuring the ongoing competitiveness of our research enterprise. Restricting access to technologies used in basic research and education would serve to harm research progress, while providing very little benefit in terms of national security.

Sincerely,

Dr. Daphne Preuss

--
Daphne Preuss
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From: Nathanael Nerode <neroden@twcny.rr.com>
To: <scook@bis.doc.gov>
Date: 5/8/2005 4:15:03 PM
Subject: RIN 0624-AD29

"Adopting the OIG's recommendations to address these concerns would...base the requirement for a deemed export license on a foreign national's country of birth,..."

This is racist, bigoted, and indefensible.

Someone born in Iran who emigrated to Canada and obtained Canadian citizenship would be treated as an Iranian. Even if they renounced Iranian citizenship. Even if they fled to Canada needing asylum because they were persecuted in Iran. Even if they fought in the Canadian military. Even if they denounced Iran or fought against it. Even if they had been a Canadian citizen for 40 years. Even if they had left Iran permanently two days after their birth.

I thought the United States was supposed to examine people on the content of their character, not the place of their birth. Hitler would be proud of this proposed rule, under which people are legally tied forever to their birthplace, whether they like it or not -- an essentially race-based scheme.

While this change might be appropriate for foreign nationals who are not citizens (whose allegiance might legitimately be questioned), it is clearly wrong for foreign naturalized citizens, who have generally sworn an oath of allegiance to their new country.

If this rule is passed as written, the US government will be on record believing that bloodline determines destiny. Our allies will be legitimately angered that we have chosen to discriminate against some of their citizens purely on the basis of their birthplace.

Morality demands that this be fixed. Thank you for your time.

--
Nathanael Nerode
Concerned citizen of the US

From: "Chris Cook" <chris.cook@activant.com>
To: <scook@bis.doc.gov>
Date: 5/9/2005 9:57:59 AM
Subject: RIN 0694-AD29

Dear Mr. Cook,

This rule would be counterproductive and unenforceable. It would require Gestapo-like tactics to even begin to try to enforce.

I understand the thought behind the rule, but this would chill the importation of foreign expertise more than it would reduce the exportation of dual use knowledge.

The rule as written also impermissibly discriminates against United States citizens. It creates a class of citizens that, based on their country of birth, are virtually enjoined from employment where dual-use knowledge is available. This may be unconstitutional.

Sincerely,
Christopher Cook

From: Danny Sleator <sleator@cs.cmu.edu>
To: <scook@bis.doc.gov>
Date: 5/9/2005 7:55:17 AM
Subject: RIN 0694-AD29

I'm responding to the request for comments on this page:
http://www.regulations.gov/freddocs/05-06057.htm

> SUMMARY: The Bureau of Industry and Security (BIS) is
> reviewing the recommendations contained in the
> U.S. Department of Commerce Office of Inspector General
> Report entitled ``Deemed Export Controls May Not Stop the
> Transfer of Sensitive Technology to Foreign Nationals in
> the U.S.'' (Final Inspection Report No. IPE-16176-March
> 2004). Certain of these recommendations would require
> regulatory changes that would affect existing requirements
> and policies for deemed export licenses. BIS is seeking
> comments on how these revisions would affect industry, the
> academic community, and U.S. government agencies involved
> in research.

After looking into this, I'm concerned that the changes in these regulations would be extremely damaging to US research laboratories and universities. I strongly oppose the changes.

A large fraction --- probably more than 50% --- of the graduate students studying at US universities are foreign nationals. Many of these people stay in the US after finishing their degrees. Many of them continue to do excellent research, start companies, or otherwise become part of the technological infrastructure of this country. I could list dozens of examples from my own experience teaching at Carnegie Mellon University for 20 years.

The proposed changes (along with changes in immigration rules already in effect) will be extremely damaging to this entire process. I've discussed these issues with many colleagues at this university and others, and the opinion is unanimous that these changes are bad --- bad for our universities, and bad for our country.

Danny Sleator
Professor of Computer Science
Carnegie Mellon University
Phones: 412-268-7563, 412-422-5377
Web: http://www.cs.cmu.edu/~sleator

CC: <alopes@bis.doc.gov>

From: "Mark Derthick" <mad@cs.cmu.edu>
To: <scook@bis.doc.gov>
Date: 5/9/2005 6:49:03 PM
Subject: RIN 0694-AD29

As a university researcher, I'm disturbed by the proposed regulation changes. They will make research like mine more expensive, and take some of my time away from research. They will reduce the contribution from foreign students, and discourage future potential students from enrolling in US universities. The US will lose their contribution as entrepreneurs and teachers after graduation as well. Foreign research centers will welcome them, and the US will begin to lose its research dominance. The best and brightest of US citizens will also be attracted to the best research centers, even if they are overseas.

We are fortunate that our research centers and economic freedom attract so many smart people, who have contributed so much to our economy and security. Where would we be if Hitler hadn't encouraged Jewish scientists to leave, and Germany had continued to lead the world in rocketry and atomic research? Who knows which current students will be the Einsteins, Fermis, and von Neumanns of the 21st century? We shouldn't export our attractiveness. I believe the proposed changes will erode the US lead in technology in general, and national security will suffer.

Sincerely,
Mark Derthick
Research Scientist
Human-Computer Interaction Institute
Carnegie-Mellon University

CC: <gnu@toad.com>, <hcii-faculty@cs.cmu.edu>

From: Daniel Lefebvre <dxlga@uOttawa.ca>
To: <scook@bis.doc.gov>
Date: 5/10/2005 10:13:48 PM
Subject: RIN 0694-AD29

Revised DFAIT deemed exports consultation information/instructions

Hello,

Please find below the Canadian Association of University Research Administrator (CAURA) comments in regards to the Recommendations Relating to U.S. Department of Commerce Deemed Export Controls.

I would like to greatly thank Lucy Nissen (Legal Counsel, Research University of Calgary) who has kindly studied and analysed the question for our Association.

If you have any questions please do not hesitate to contact us

Daniel Lefebvre
CAURA President

Re: Call for Comments in Preparation of Canadian Government Response Regarding Recommendations Relating to U.S. Department of Commerce Deemed Export Controls

The Canadian Association of University Research Administrators (CAURA) has reviewed the details of the three recommended regulatory changes proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS), and has the following concerns and comments.

1. The first recommended regulatory change is clearly discriminatory by deeming that there has been an export to the home country of the foreign national merely because they have used BIS-controlled goods and technology in the U.S. The presumption is that they may eventually return home and take with them whatever knowledge they have gained. This is especially discriminatory for foreign nationals who are Canadian citizens or permanent residents. CAURA's position on the first recommended regulatory change is that it should, at a minimum, exempt Canadian citizens and permanent residents.

2. The third recommended regulatory change appears to limit the scope of the changes to foreign graduate students. There are numerous Canadians who are enrolled in Canadian universities and visit the U.S. or are registered in a U.S. graduate school. This change will limit a student's ability to do certain types of research if they were born in a country where the technology in question is EAR-controlled. The BIS Final Inspection Report, however, recommends that BIS amend its current policy to require a deemed export license "when a foreign national employee or visitor was born in a country where the technology transfer in

question is EAR-controlled [emphasis added]" (see recommendation #3 on page 36). Is it correct that these changes apply only to foreign graduate students? Or do the changes extend to foreign national visitors, as well? If the latter, the impact on Canadian academia will be more significant by extending to professors on sabbatical in the U.S. and university staff who are researchers on collaborative projects.

3. The third recommended regulatory change provides that a license may be required for a foreign graduate student to conduct fundamental research using BIS-controlled goods and technology. It is difficult to assess the full effect of this change without seeing the criteria for determining when such licenses are required.

4. If implemented, the proposed regulatory changes will impact academic research programs, both in the U.S. and Canada, in a number of ways, including:

a) A foreign graduate student's research and education will be delayed by the necessity to apply for a license; and

b) The foreign graduate student cannot conduct meaningful research and meet the academic requirements for a research-based degree without a license because they cannot operate BIS-controlled equipment or access BIS-controlled technology, which includes "instruction, skills training, working knowledge, consulting services, the transfer of engineering designs and specifications, manuals, and instructions written or recorded on other media".

5. The term "fundamental research" must be clarified and defined. The BIS Final Inspection Report demonstrates that there is considerable confusion around the term "fundamental research" (see pages 10-13). The BIS Final Inspection Report discusses the distinctions between "basic", "applied" and "developmental" research in an attempt to clarify what constitutes "fundamental research". For example, "developmental research" is defined as: "systematic application of knowledge toward the production of useful materials, devices, and systems and methods, including the design, development, and improvement of prototypes and new processes to meet specific requirements." "Developmental research" is not "fundamental research" according to the BIS Final Inspection Report. Typically, Canadian universities would consider "fundamental research" to be research where the results can be placed in the public domain through publication, such as research funded by the three federal government funding agencies. There are, however, many research projects funded as grants that would clearly fall under the definition of "developmental research".

6. CAURA proposes that the definition of "fundamental research" include, as one of its criteria, the ability to publish the results of the research for the following reasons:

a) The ability to publish research results is routinely addressed by university administrators in their review of research applications and awards;

b) The ability to publish is a clearly understood criteria;

c) It is consistent with academic practices; and

d) It can be easily determined and applied.

7. Publishability is a current exemption from the deemed export controls. The BIS Final Inspection Report raises two challenges to the publishability exemption. The first is that research must be published for the exemption to apply - an "intent" to publish does not qualify for the exemption. The second is that the exemption does not apply if the publication is submitted for pre-publication review by a journal or government sponsor. CAURA does not agree with these challenges as there are numerous factors that can affect publishability and the nature of the research conducted is not changed merely because the results are not published or that the publication is pre-reviewed.

CAURA recognizes that national security is an important matter, especially in light of increased terrorism. However, CAURA would strongly urge that the regulatory changes be reasonably limited and recognize the unique nature of universities and academic research.

----- Original Message -----
From: Debbie Murray
To: caura-net@lists.caura-acaru.ca
Sent: Thursday, April 28, 2005 3:03 PM
Subject: [Caura-net] Revised DFAIT deemed exports consultationinformation/instructions

<<Call for comments re DOC Deemed export rules.april 15 2005.wpd>>

Hello CAURA members,

Thanks to the vigilance of a few CAURA members it has been noted that the email I sent out today with regards to DFAIT's call for consultation on deemed exports was missing some important weblinks. I am forwarding the document that I cut and paste the email from (thinking it would save you all the hassle of opening an attachment!) The links are contained in this document as well as the background information.

Please note that AUCC is forwarding this request and not collecting information on behalf of DFAIT.

Sorry for the confusion,

Regards,

Debbie Murray

Senior Policy Analyst

Research and Policy Analysis Division

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From: Russell Nelson <nelson@crynwr.com>
To: <scook@bis.doc.gov>
Date: 5/11/2005 10:36:12 AM
Subject: RIN 0694-AD29

Hi. I'm a board member of the 501(c)3 non-profit Open Source Initiative. We use "Open Source" to refer to source code, but the intelligence community uses the term to mean "data gathered from open sources". The intelligence community understands the value of simply perusing open documents. Everything which is available to large numbers of people cannot be withheld from all people. If you doubt this, just ask the music industry how successful they have been at keeping their music out of the hands of pirates! It's simply not possible to stop people from copying music.

Similarly, it's simply not possible to stop people from copying information which is generally available. We have an open society in America for a reason. Attempts to close our society will eliminate some risks, but it will destroy more advantages than the value of the risks eliminated.

Please stop trying to keep information from being exported. Export controls are a waste of my taxpayer dollars. I want ZERO controls placed on any information which is available in a public library. I want ZERO controls placed on any information which is available on the Internet. I want ZERO controls placed on any information which is shipped with any product -- even if that product itself is under export control.

The whole concept of "deemed export" is broken, and you must abandon it or you will hurt American society more than you help it.

Thanks for listening to me, and I hope that you will take my words to heart.

--
--My blog is at blog.russnelson.com | The free market is the only
Crynwr sells support for free software | PGPok | mechanism that has ever been
521 Pleasant Valley Rd. | +1 315-323-1241 cell | discovered for achieving
Potsdam, NY 13676-3213 | +1 212-202-2318 VOIP | participatory democracy. -MF

From: Helen Te <hte@medicine.bsd.uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/12/2005 10:40:18 PM
Subject: RIN 0694-AD29

Dear Sir/Madam:

Much of the research that has advanced science and medicine in the United States have been carried out by foreign nationals who have the intelligence and the dedication to make it to the United States and become productive in their fields. It is not uncommon to walk into a research lab and find post-doctoral students and scientists who are citizens of foreign countries, though legal residents of the United States. The free exchange of ideas within the realm of research in hospitals and universities allow for progress and development of new ideas and technology which contribute to the betterment of mankind.

The deemed export regulations, if implemented, will have some serious negative impact on the progress of research. A blanket or widespread regulation of the ability to perform research by hundreds of thousands of individuals who are in no circumstances found to be of threat to national security would simply impede the advancement of science and medicine. There has to be a better way to identify or classify areas of research that are deemed to be sensitive and therefore, justifies regulation. The medical field is already crippled by other problems that have already started to erode on the physician-researcher and physician-educator population, forcing physicians to divert time to clinical care rather than research and education due to lowering reimbursements and rising overhead expenses, including skyrocketing malpractice insurance costs. A blanket regulation of research performed by foreign nationals will add to this erosion that will leave us greatly disadvantaged compared to the rest of the Western World.

Helen Te, MD

From: "Sakitt, Mark" <sakitt@bnl.gov>
To: "'scook@bis.doc.gov'" <scook@bis.doc.gov>
Date: 5/12/2005 9:49:34 AM
Subject: RIN 0694-AD29

The attached WORD document is a response to RIN 0694-AD29

Mark Sakitt

CC: "Sakitt, Mark" <sakitt@bnl.gov>

Brookhaven Science Associates Response to Department of Commerce Notice in the Federal Register March 28, 2005
Concerning 15 CFR Parts 734 and 772
Revision and Clarification of Deemed Export Related Regulatory Requirements
Docket No 050316075-5075-01
RIN 0694-AD29

These comments are submitted by Brookhaven Science Associates, the management and operating contractor of Brookhaven National Laboratory (BNL), under contract with the U.S. Department of Energy. BNL is one of several Department of Energy science laboratories engaged in fundamental research in fields such as high-energy physics, biology, chemistry and nanotechnology.

BNL is submitting these comments in response to the proposed change in the definition of "use" with respect to deemed exports. At present, in 772.1 of the EAR the term "use" is defined as "Operation, installation, (including on –site installation), maintenance (checking), repair, overhaul, and refurbishing." The proposal is to change the "and" to an "or".

The focus of these comments is on the word "operation" as contained in the definition of use". Export controls apply to the transfer or release of technology. The operation of export-controlled technology may or may not result in that transfer or release. As way of example, the operation of a state of the art, export controlled and commercially acquired, oscilloscope by a physicist doing a nuclear physics experiment does not result in the physicist having acquired any of the technology inside the oscilloscope box. Only a skilled electronics engineer can produce an advanced oscilloscope.

It is urged that the definition of use be divided into two parts. The first part of the definition should state that the operation of export-controlled technology may or may not be a deemed export and that a technical evaluation of the specific technology being operated be performed to see if any technology would be released or transferred. The second part of the definition should contain the remaining parts of the proposed definition.

The impact of the definition proposed in the Federal Register versus the one being proposed in this response is extremely significant for our laboratory. BNL has more than a thousand foreign citizens who come to use the unique scientific facilities at BNL each year. Part of BNL's Department of Energy mission is to provide state of the art facilities for the international scientific community. In the course of doing experiments many of these scientists operate export controlled equipment but such use would not transfer or release any of the technology contained in that equipment. They rarely perform any of the other functions in the proposed definition of "use". If the proposed definition stands, BNL would have to process several thousand deemed export licenses despite the fact that there is no possible technology transfer or release. At this stage no labor and cost estimates have been made to comply with the proposed definition. The expectation is that

the volume of needed licenses would overwhelm both the laboratory and the Department of Commerce.

In addition to the cost of processing the export licenses, there will be a significant impact on the ability to use Department of Energy scientific facilities. Users of Department of Energy facilities give advanced notice of their arrival of about 30 days. That would have to be extended in order to allow the processing of the license. More importantly, an evaluation of exactly which pieces of instrumentation would be utilized would have to precede the application for the license. There are many instruments that may or may not be used depending on how a particular experiment proceeds. It is extremely difficult to predict ahead of time exactly what will be used. If a situation develops that requires an instrument that was not anticipated to be used, the experiment would come to a complete halt. This would occur even though no technology would be transferred or released by operating the test instrument. In addition, that piece of test equipment would have to be guarded to prevent the use by another scientist for whom one did not have a license for that particular test instrument. From an operational standpoint, this new proposed rule will make it extremely difficult to optimally utilize the National Laboratories facilities without any significant protection of our technology

Submitted by
Dr. Mark Sakitt
Export Control Officer
Brookhaven National Laboratory
May 11, 2005.

UNIVERSITY OF CALIFORNIA, DAVIS

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May 13, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230

RE: Advance Notice of Proposed Rulemaking (RIN 0694-AD29)
Revision and Clarification of Deemed Export Related Regulatory Requirements

The University of California, Davis (UC Davis) appreciates this opportunity to provide comments on the Advance Notice of Proposed Rulemaking (ANPR) published on March 28, 2005. The ANPR, issued by the U.S. Department of Commerce Bureau of Industry and Security (BIS), requested comments on recommendations contained in the Department of Commerce Office of Inspector General (OIG) March 2004 report on deemed export controls.

In viewing the issue of the "deemed export" rule, UC Davis uses as its touchstone the principles articulated in the National Security Decision Directive (NSDD) 189, affirmed in 2001. NSDD 189 provides that the products of fundamental research should remain unrestricted and that "where the national security requires control, the mechanism for control of information generated during federally funded fundamental research in science, technology and engineering at colleges, universities and laboratories is classification."

Other agencies already perform extensive background checks on foreign nationals coming to the U.S. to perform research in academic laboratories through the Visas Mantis program. Once the United States government has approved a foreign national under a visa that permits study and research at a U.S. university, there should be only a very few and well-defined instances in which the individual must face additional restrictions in working within the academic research community.

With respect to the regulations reviewed by the OIG, UC Davis believes that much of the confusion referred to in the OIG report is related as much to the term "technology" as to the term "use" in the EAR. "Technology" does not refer to the controlled equipment itself but to the specific information necessary for the development, production, or use of a product. (15 CFR 772.1) We believe it is critical (1) to distinguish "equipment" from "technology;" and (2) to be clear that the deemed export rules apply only to transfer of certain "technology" (that is, specified technical information) to foreign nationals within the United States, and *not* to transfer or use of equipment. Furthermore, it is crucial to acknowledge that not all "technology" is subject to the EAR in the first place.

The EAR states that "publicly available technology" is not subject to the EAR (15 CFR 734.3(b)(3)). Publicly available technology includes:

- information that is or will be published;
- information that arises during, or results from, fundamental research; and
- educational information.

Thus, in reviewing the proposed change to the definition of "use" technology referred to in the ANPR, UC Davis believes that it is important to note that, under the applicable regulations, the controlled "technology" at issue does not include information in any of the above-listed categories. At times, the OIG report appears to obscure the distinction between equipment and information in describing controlled "technology", and also implies that all technology must be controlled rather than recognizing that some may qualify as publicly available. Both of these distinctions are critical to determining the applicability of the "deemed export" requirements.

The current framework of the EAR does not restrict the sale or purchase of equipment within the United States. As Undersecretary Kenneth I. Juster noted in his August 13, 2004 letter to Professor Alice P. Gast of MIT, "the actual use of equipment by a foreign national is not controlled by the EAR. Rather, the transfer of technology relating to the use of the equipment may be controlled." (Juster Letter, page 2, fn. 1 (emphasis added).) Whether such "technology" is controlled under the EAR depends on whether the technology for the use of the equipment is specifically listed on the Commerce Control List (CCL) and on whether such technology is "publicly available" as described above.

The EAR places controls on "production", "development" and "use" technology for many of the items on the CCL. However, the OIG noted that definition of "use" presented particular compliance problems. "Use" is defined in section 772.1 of the EAR as "operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing", and concluded that the term encompassed too many activities to be useful for implementation and enforcement purposes. Because the OIG considered it unlikely that one individual would perform all six activities, it found that one would almost never determine that a license for the export of technical information related to "use" was required under the regulation as presently drafted. It therefore recommended that "or" be substituted for "and" in the regulation.

UC Davis does not object to the change in the definition of "use" so long as (1) BIS does not go further and rewrite and limit the "publicly available" information exemption and fundamental research exemption; and (2) BIS does not adopt an interpretation based on what we believe is the erroneous assumption of the OIG that "use" of controlled equipment necessarily entails transfer of controlled "technology".

Because under its export compliance plan, UC Davis operates within the regulatory exemptions (including the "fundamental research" exemption) applicable to controlled technology that is publicly available, it believes that it is not required under the regulations as drafted to obtain "deemed export" licenses before publicly available technology is provided to foreign nationals. However, should BIS change its interpretation of these exemptions and should UC Davis be required to obtain "deemed export" permits, the change advocated by the OIG would place a substantial burden and cost on UC Davis.

The OIG report notes approvingly that the State Department's Directorate of Defense Trade Controls uses a country of origin approach in its administration of the International Traffic in Arms Regulations (ITAR). The OIG asserts that, because this approach is already being used by the State Department, it would be consistent and practical for BIS to use the same approach. The University believes that the ITAR's exemption for information in the "public domain" allows it to share information with a foreign national that would otherwise be controlled without obtaining an export license. 22 CFR 120.11. More importantly, it must also be noted that the items covered on the ITAR's U.S. Munitions List is far narrower than all of the "dual use" items that appear on the CCL. Therefore, UC Davis does not support the use of the State Department's approach to country of origin by BIS.

Beyond the very real record-keeping and verification burden and cost to UC Davis, we believe that such a requirement would exacerbate the increasing problem faced by UC Davis and others in attracting the very brightest faculty, students, and scholars from around the world. We urge BIS to carefully consider these "costs" as well, and to reject the OIG's recommendation to use country of birth as a licensing criterion.

Thank you for this opportunity to provide comments on the ANPR. We hope our comments will be useful.

Sincerely,

Barry M. Klein
Vice Chancellor for Research

Jeffery Gibeling
Dean, Graduate Studies

/led

c: UC Research Compliance Director Patrick Schlesinger
UC Exec Director Academic Legislative & Research Policy Ellen Auriti
UCD Provost and Executive Vice Chancellor Virginia Hinshaw
UCD Assistant Vice Chancellor Gov & Community Relations Marjorie Dickinson

From: "Licht, Robert H." <Robert.H.Licht@saint-gobain.com>
To: <scook@bis.doc.gov>
Date: 5/13/2005 10:59:38 AM
Subject: Fwd: RIN 0694-AD29 [Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export

Dear Mr. Cook,

Thank you for the opportunity to comment on the Subject Proposed Rule Change. Specifically, I wish to comment on the second proposed change, "Use or Foreign National's Country of Birth as Criterion for Deemed Export License Requirement"

I strongly disagree with this proposed rule change. This change is potentially discriminatory, would pose additional problems for industry in balancing export control concerns with potentially conflicting EEOC guidelines, and would probably lead to a significant increase in frivolous anti-discrimination law suits. Industry, with controlled technology, already identifies foreign national visitors and employees by their most recent citizenship or permanent residence. This rule would require additional sensitive and after-the-fact inquiries for all FNs as to their place of birth. If this rule change is made, and using the example given in the Federal Register: What would industry have to do for a Canadian employee born in Iran, who has received controlled technology properly without a license? Would the employer have to obtain an export license for technology already released? Would the employee have to be terminated or re-assigned until the license is received?

However, the main point that I wish to make is this proposed change is inconsistent with our own export control regulations, and therefore illogical.

Under both EAR and ITAR, technology license requirements do not apply to naturalized U.S. citizens and Permanent Residents. Industry does not need to inquire about the country of birth of a U.S. Citizen or Permanent Resident to be in compliance. There is an obvious distinction made with foreign nationals working in the U.S. on a temporary work visa, where deemed export license requirements properly apply. The premise for these EAR and ITAR jurisdiction rules, as explained at a recent BIS Update, is that U.S. Citizens or Permanent Residents never have to return to their country of birth, whereas, someone legally permitted to work in the U.S., but without permanent residence, will eventually have to return unless their immigration status changes.

Why then should the BIS impose different standards on our multi-lateral export control regime trading partners? In the example given in the FR, The U.S. is essentially questioning the naturalization policies of Canada in

granting citizenship or permanent residence? If the U.S. does not impose license requirements on U.S. citizen born in Iran, why should it matter where a Canadian citizen was born? A Canadian citizen born in Canada could just as easily violate U.S. reexport regulations, so we should not be imposing discriminatory rules based upon country of birth.

This could be considered an example of BIS deferring the responsibility of a sensitive foreign policy issue to U.S. Industry. If BIS considers Canada as a diversion risk for controlled technology because of Canadian naturalization policy, then the U.S. should address this with Canada. If the U.S. decided that sanctions were needed, all Canadian citizens should be treated equally regardless of their country of birth.

This country of birth proposed rule change is inconsistent with the logical and well thought out Deemed Export rules in the EAR. It would cause an undue burden on U.S. industry trying to be in compliance, while navigating these inconsistencies. Thank you for your consideration of these comments.

Sincerely,

Robert H. Licht

Manager, Government Programs Group

Saint-Gobain Ceramics & Plastics, Inc.

9 Goddard Road

Northboro, MA 01532

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e-mail: Robert.H.Licht@saint-gobain.com
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From: "Thomas A.Witten" <t-witten@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/13/2005 11:31:45 AM
Subject: Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export administration

RIN 0649-AD29 I sent this via the web site comments.regulations.gov but the server reported an error.

Please see letter attached. Excerpts:
... As a co-administrator of a multi-member research grant from the National Science Foundation, I have given some thought to how we would administer the proposed rules. ...

...A label on a piece of equipment would presumably state what class of people would be proscribed from using it. The label would say for example, ``If you were born in Iran, you are not allowed to use this device."

Letter also appears at http://panza.uchicago.edu/DeemedExportComment.pdf

THE JAMES FRANCK INSTITUTE

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May 12, 2005

Mr. Matthew S. Borman,
Deputy Assistant Secretary for
Export Administration.
Re: RIN 0694-AD29

Dear Mr. Borman:

I'm responding to your request for public comment on the proposed deemed-export rules for export-restricted equipment. As a co-administrator of a multi-member research grant from the National Science Foundation, I have given some thought to how we would administer the proposed rules. Our research team uses lithography equipment and computers that may be on the list of restricted exports. It is an implicit requirement of our research that we obtain or build equipment with new capabilities. Thus we must anticipate that a certain small fraction of our equipment will be subject to the regulations; the affected fraction is likely to be that most crucial to our research output.

Tradeoffs

Implementing such a regulation presumes an established and current need for each restriction to be imposed. These restrictions are justified by the threat of terrorist acts resulting from a given instance of deemed export. The potential gain in preventing terrorism must be balanced against the certain weakening in national security and economic viability that results from each instance. National security depends on scientific competence. Economic viability depends on technological research and development. Both of these activities require up-to-date equipment that continually presents new possibilities for terrorist exploitation. The rules are also based on the presumption that people born in certain countries are more prone to promote terrorism than are others. It is with this understanding that I estimated the impact to our activities below.

Labeling

Our university labels equipment when it is purchased. By expanding this labeling system, the university could in principle label any piece of equipment carrying export restrictions, stating what classes of individuals were restricted from using that equipment. Administering this labeling process could be analogous to that now required for hazardous materials, and would not in itself be much more burdensome.

However, the different nature of the labeling needed here would lead to greater burdens. On the one hand the list of hazardous materials is relatively static. Once established, the hazards of a given material do not change much, nor does the required treatment of the hazard. The definition of such materials is according to their technical names and has little ambiguity. The situation is more difficult with deemed exports, where the list of restricted equipment necessarily expands with each advance in capability or perceived threat. Also it would be essential for items to be removed from the list as the effectiveness of the regulation in preventing access diminishes. Otherwise research becomes increasingly stifled. Since the restricted list must be constantly updated, an ongoing program of relabeling would be necessary. Each piece of equipment bearing a label would need to be relabeled, eg. every six months. This would double or triple the administrative overhead, but would be possible.

Enforcement

A label on a piece of equipment would presumably state what class of people would be proscribed from using it. The label would say for example, "If you were born in Iran, you are not allowed to use this device." Some mechanism would then need to be implemented to prevent the proscribed use. Our most advanced equipment is typically kept in rooms with other such lab equipment. Graduate students and post-docs circulate in these rooms freely in the course of their research. In order to assure that proscribed persons not operate the restricted equipment, someone must be held responsibile for legitimate use. This person must be aware of all the currently regulated equipment and the birth country of all graduate students, postdocs, research scientists and technicians in our Institute. This person must then monitor the regulated equipment at all times to prevent unauthorized use. Hourly patrols of all the labs containing the restricted equipment could assure this. Less frequent patrols would be progressively less effective. The identity of each person using the equipment would have to be verified in each instance in order to assure that the person was authorized.

The regulation does not require us to deny use to these nationals; it only requires us to obtain a license. However, the option of obtaining a license does not appear viable. I could not imagine a state of affairs that would enable a licensing official to grant a license when the regulations required one. How would the official determine that the individual in question was not a risk? Also, the delay and

uncertainty of applying for a license would make it impractical to undertake the process.

This enforcement process would be much more burdensome than the labeling process described above. It would also create undesirable consequences that go beyond the large administrative cost. The enforcement of these rules by their nature discriminiates against some students on the grounds of their country of birth. For example, an Iranian student in our Institute would be forbidden access to our lithography equipment while a US-born student could use it freely. The regulations oblige us all to regard the Iranian as a potential terrorist. Otherwise they make no sense. It is difficult to sustain an intense, co-operative research operation like ours in the midst of such an atmosphere of distrust. Our research achievements past and future depend on our mutual support and trust. The erosion of this trust represented by implementing the deemed export requlations would hamper our research and weaken the human values that underlie our institution. We know from similar cases in World War II and the McCarthy era that the poisoning effect of such discriminatory policies is real and long-lasting.

Impact

I estimate that implementing the deemed-export policy would ultimately weaken our research output in the range of 20–25 percent. I base this estimate on comparison with other research institutes where regulatory burdens have eclipsed the scientific mission, such as Los Alamos National Laboratory. Naturally such estimates are crude and subjective. In individual instances supervisors would be forced to choose between their responsibility and commitment to a student and the enforcement of the regulation. Sometimes the supervisor would side in favor of the student. This would weaken the governmental authority behind the regulations and lessen its ability to be respected and obeyed.

Yours sincerely,

T. A. Witten

As knowledge increases, life is improved.

From: Rustem Ismagilov <rustem@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/14/2005 6:39:57 PM
Subject: Fwd: RIN0694-AD29

Dear Sir/Madam,
I am writing to urge you to reconsider changing the rules regarding "deemed exports". As an active research faculty member, I believe that these rules would limit the research performed at Universities, limit the technological development, and weaken the country in the long run. Our economy and defense rely on new technologies, that are developed to a large extent thanks to the education and research taking place at Universities. We cannot afford to disrupt this process.

Sincerely,
Rustem Ismagilov

Rustem F. Ismagilov, Ph.D.
Jones GHJ 409A
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From: Matthew Wright <mwright@cse.uta.edu>
To: <scook@bis.doc.gov>
Date: 5/16/2005 2:42:11 PM
Subject: Fwd: RIN 0694-AD29

Comment on Revision and Clarification of Deemed Export Related Regulatory
Requirements as posted in the Federal Register on 3/28/2005.

An overwhelming majority of the graduate students in my department, the Department of Computer Science and Engineering at the University of Texas at Arlington, are from China or India (I estimate 90 percent). Nearly all of the research-producing faculty were born in a foreign country, including many born China or India. Our department chair is Iranian.

I can understand the security need to carefully control access to nuclear technologies or other materials that can be turned into dangerous weapons. I would probably support a rule adding a license requirement to specific, targeted technologies.

Unfortunately, given the broad wording of the rule, we as researchers will not have the luxury of assuming that our benign technologies will be exempt from the rule. We will have no choice but to be prudent and provide an export license to almost everyone for every piece of equipment we use. Of course the equipment is all "sensitive" ... research is all about state-of-the-art technology. The process of obtaining licenses will add delay and cost to every research effort we make.

The rule, as written, will provide several onerous results. First, if the goals of this rule change include tracking which foreign nationals have access to potentially dangerous or highly sensitive equipment, those critical licenses will be obscured in a sea of unnecessary licenses obtained by universities to ensure compliance. Second, the rule will make the recruitment and retention of the best foreign nationals as researchers more difficult. A new regimen of red tape for every piece of equipment obtained will increase the incentive for them to stay in their own country, thereby draining the talent pool in America. Third, the rule's added cost and delay to our research efforts leads directly to less research done.

Finally, I would like to point out that a significant proportion of the research in our department is in homeland security and computer and network security. We are among many such departments that provide the tools and technologies that will make our country and our military safer from attack. This rule change will slow our progress and the cost will be to reduce, rather than enhance, security for our country.

Matthew Wright
CSE@UTA

UNIVERSITY OF HOUSTON SYSTEM
UNIVERSITY OF HOUSTON

Office of the Vice Chancellor for Research and Intellectual Property Management
UH System

Office of the Vice President for Research
University of Houston

May 17, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Houston (UH) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UH is one of the nation's top universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

316 E Cullen Building ■ Houston, TX 77204-2015 ■ (713) 743-9104 Fax: (713) 743-9577

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, UH recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Arthur C. Vailas, Ph.D.
Vice Chancellor for Research and Intellectual Property Management, UH System
Vice President for Research, UH

C: Jay Gogue, Grover Campbell, April Burke
Lee Boozer, Rosemary Grimmet, John Warren

From: Rishi Raj <Rishi.Raj@colorado.edu>
To: <scook@bis.doc.gov>
Date: 5/17/2005 11:34:36 AM
Subject: Fwd: RIN 0694-AD29

RIN 0694-AD29
Bureau of Industry and Security
15 CFR Parts 734 and 772
Revision and Clarification of Deemed
Export Related Regulatory
Requirements

May17'05

Comment:

I am the responsible faculty member for research in the field of materials science in the department of mechanical engineering at the University of Colorado at Boulder. Leading edge research, by definition means the use of leading edge equipment. If our students and post-docs are restricted from using state-of-the-art equipment they cannot compete effectively in the increasingly competitive world of scientific research on breakthrough materials. Having worked in scientific research for 40 years at leading Institutions, including Harvard University (five years), Cornell University (twenty five years) and the University of Colorado (ten years), I am absolutely certain that the technological and military pre-eminence of the United States has its roots in our excellent infrastructure (including state of the art experimental facilites) in basic and fundamental research. Indeed, the development of new cutting edge experimental techniques is a significant aspect of our fundamental research framework. If this foundation of fundamental research is weakened then slowly but surely our national leadership will also weaken. There is just not doubt in my mind about this. We have prospered in economic and military power because we have found the correct balance between security concerns and scientific discovery. This regulation and the visa restrictions already in place will together disturb this balance, and weaken our dynamic system of scientific innovation.

Rishi Raj
Professor of Mechanical Engineering
University of Colorado at Boulder

From: "Miriam Satin" <msatin@aui.edu>
To: <scook@bis.doc.gov>
Date: 5/17/2005 4:29:00 PM
Subject: Fwd: RIN 0694-AD29

Please find attached a letter regarding RIN 0694-AD29.

Best regards,

Miriam Satin
Executive Assistant to the President
Dr. Ethan J. Schreier
Associated Universities Inc.
(202) 462-1676
msatin@aui.edu

<<AUI - ExportControlsCommentLetter lh.pdf>>

Associated Universities, Inc.

Suite 730
1400 16th Street, NW
Washington, DC 20036
Phone: 202.462.1676
Fax: 202.232.7161

May 17, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This letter from Associated Universities, Inc. (AUI) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

AUI is an independent, non-profit corporation established by the university community and chartered as an educational institution. Its purpose *is to serve the broad national interest by constructing and operating large scientific projects and facilities effectively and with the utmost integrity, and by supporting the development of a society that is both scientifically and technically literate through educational programs and public outreach.*

AUI operates the National Radio Astronomy Observatory for the National Science Foundation. We conduct federally-funded research selected on the basis of merit. Faculty, students and scientists from our own and other institutions regularly publish their research results based on observations with our telescopes in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

We are also building a large international astronomical observatory to be located in Chile on the behalf of the National Science Foundation, in partnership with Canada, Europe, and Japan.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect us. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. Second, the recommendation that would categorize a foreign national by country of birth rather than current citizenship status would greatly exacerbate our ability to recruit and retain foreign faculty, students and other scientists.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. Foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, AUI recommends that DoC:

- Withhold changes to the current system of license requirements for use of export-controlled equipment in academic basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Ethan J. Schreier
President
Associated Universities Inc.

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May 18, 2005

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person,s country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research and technology capacity.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. I do not ask them their citizenship, or indeed, their country of origin, when I invite them into my laboratory. The University ascertains their legality by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required in order to enter into the building in which my laboratory is housed, as noted above, the cards do not distinguish among nationalities. To do so would require a major expenditure on NYU's part and would surely further discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative, that is, to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and very time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely but I fear that it would deal a fatal blow to certain aspects of my work. For example, my laboratory uses very powerful high-speed computers for work on "Eye Movement Control: Cortical and Subcortical Mechanisms" funded by the National Eye Institute. The need to apply for an export license for foreign nationals who would have access to this equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to

severely restrict or perhaps even abandon the research.

United States science and technology has been a major economic driver and it has given our country pre-eminence in many fields. Cutting edge research can only flourish in the open environment of free exchange. I urge you not to adopt these revisions.

Sincerely,

Paul W. Glimcher, Ph.D.
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May 18, 2005

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
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Attn: RIN 0694-AD29

Ladies and Gentlemen:

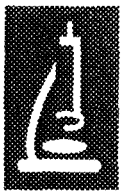
I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research and technology capacity. The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. I do not ask them their citizenship, or indeed, their country of origin, when I invite them into my laboratory. The University ascertains their legality by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required in order to enter into the building in which my laboratory is housed, as noted above, the cards do not distinguish among nationalities. To do so would require a major expenditure on NYU's part and would surely further discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative, that is, to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and very time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely but I fear that it would deal a fatal blow to certain aspects of my work. For example, my laboratory uses viruses, antibodies, and molecular probes for work on DC003635 and NS039746. The need to apply for an export license for foreign nationals who would have access to this equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to severely restrict or perhaps even abandon the research.

United States science and technology has been a major economic driver and it has given our country pre-eminence in many fields. Cutting edge research can only flourish in the open environment of free exchange. I urge you not to adopt these revisions.

FAXED 5-19-05



AMERICAN SOCIETY FOR MICROBIOLOGY

Public and Scientific Affairs Board

May 19, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW.
Room 2705, Washington, DC 20230
ATTN: RIN 0694-AD29

Re: Bureau of Industry and Security, Department of Commerce Advance Notice of Proposed Rulemaking for the Revision and Clarification Of Deemed Export Related Regulatory Requirements 70 *Federal Register* 15607, RIN 0694-AD29

The American Society for Microbiology (ASM) appreciates the opportunity to comment on the Advance Notice of Proposed Rulemaking regarding Revision and Clarification of Deemed Export Related Regulatory Requirements published at 70 Federal Register 15607, March 28, 2005 (BIS Notice). The ASM represents over 43,000 members who work in academic, industrial, medical and government institutions and laboratories. The ASM's mission is to enhance the science of microbiology and to promote its application for improved health, environmental and economic well being.

The ASM has worked with Congress, the Administration and government agencies to develop legislation and regulations that ensure protection of public safety without encumbering legitimate scientific and health related research and testing. The ASM welcomes the opportunity to provide the Bureau of Industry and Security (BIS) , Department of Commerce, with comments regarding the adverse consequences to the conduct of fundamental research that would result from adoption of the recommendations of the Department of Commerce Office of Inspector General (OIG).

As noted in the March 2004 OIG report, the ASM has established internal publication procedures to provide careful prepublication scrutiny of articles dealing with certain biological agents. The ASM is sensitive to the need for balanced policies that protect against the transfer of certain scientific information that may result in the misuse of science. At the same time, the ASM maintains the utmost dedication to the need for policies that vigorously support the fundamental research and international collaboration upon which so much of humanity's future welfare depends. The ASM agrees with Secretary of State Rice's letter of November 1, 2001 to Dr. Harold Brown of the Center

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for Strategic and International Studies that "the linkage between the free exchange of ideas and scientific innovation, prosperity, and U.S. national security is undeniable." Regulations that inhibit, delay, or diminish fundamental research are contrary to the interest of science and to the national interest of the United States.

The ASM submits that the revisions to the Export Administration Regulations (EAR) suggested by the OIG are not required by existing law, are ambiguous and unnecessary, and do not achieve a proper balance between security considerations and the conduct of fundamental scientific research. The recommended revisions would unnecessarily burden scientific laboratories, virtually vitiate involvement of foreign nationals in fundamental research within the United States, and not achieve additional security for the United States. For these reasons, the ASM asks that the BIS not proceed with the rulemaking but instead reconsider the need for any revision to the existing regulations and practices. If the BIS has need for revised procedures, it should develop an alternative approach that would advance collaborative research and minimize the imposition of burdens on research institutions and the performance of fundamental research within the United States.

1. Application Of The System Of Licensure Recommended By The OIG Would Create An Unworkable Regulatory System That Most Likely Would Vitiate Involvement Of Foreign Nationals In Fundamental Research Within The United States.

If the OIG's recommendations were adopted, laboratories would have to obtain a license before any controlled technology could be transferred by way of operating instructions, training classes, informational materials, or otherwise to foreign nationals performing research in a laboratory within the United States. Although this requirement may technically not be triggered merely by the operation or utilization of equipment, the BIS Notice advises that the OIG report finds that operation of equipment "most likely is accompanied by some transmittal of information or instruction constituting 'technology.'" [1] Accordingly, in the absence of clarification of this point by the BIS, it appears that the operation of controlled equipment "most likely" would trigger a license requirement. Such a requirement, or even a license requirement for a more narrowly defined transfer of technology, would impose burdens upon laboratories and upon BIS that almost certainly would effectively preclude foreign nationals from working in research laboratories.

[1] The scope of the impact of the recommended change in the definition of "use" is not clear from the BIS Notice and OIG report. The BIS Notice suggests that there would have to be a "transfer" of technology under the recommended revised definition of "use." Presumably, such a transfer would result from instruction or training on the use of the equipment or from the communication of any information related to the design, performance, capacity, or use of the equipment. However, the OIG report suggests that the redefinition of "use" may be triggered by the "use" of controlled technology. In either case, in light of the comment in the BIS Notice that operation of equipment "most likely" includes transmittal of information that would constitute a transfer of technology, this ambiguity may not be important because it appears that, under either interpretation, operation of controlled equipment likely would result in a deemed transfer of technology.

a. The recommended system would require laboratories to undertake actions that are taxing and unworkable.

To comply effectively with the recommended system, laboratories would need to determine all its laboratory equipment that is on the Commerce Control List (CCL). The CCL is divided into ten broad categories. These are: (a) Nuclear materials, facilities and equipment (and miscellaneous items); (b) Materials, Chemicals, Microorganisms and Toxins; (c) Materials Processing; (d) Electronics; (e) Computers; (f) Telecommunications and Information Security; (g) Sensors and Lasers; (h) Navigation and Avionics; (i) Marine; and (j) Propulsion Systems, Space Vehicles, and Related Equipment. In turn, each of these categories is divided into five product categories. These are: (1) Systems, Equipment and Components; (2) Test, Inspection and Production Equipment; (3) Material; (4) Software; and (5) Technology. Although many of the categories would not be applicable to most laboratories, the classifications of equipment on the CCL are lengthy and complex. Taking the step of inventorying equipment under the CCL would be a burdensome and time consuming process. Moreover, due to the complexity of the CCL and the likelihood that laboratories do not employ persons with expertise on these complex classifications, laboratories almost certainly would have to retain outside consultants to undertake the project. Thereafter, each acquisition of additional equipment would require a review of the CCL further burdening laboratory budgets.

Separately from inventorying its equipment, the OIG report suggests that deemed export policy should take into account the nationalities of foreign nationals based upon the foreign national's place of birth regardless of the individual's most recent citizenship or residency status. To implement such a requirement, the laboratory would need to determine each foreign national's country of birth, nation of permanent residency, and most recent citizenship. Minimally, the laboratory would then have to correlate the nationalities of such researchers and employees with the CCL equipment used by such researchers and employees. More realistically, because of the likelihood of changing assignments within a laboratory and the availability of equipment to researchers, the laboratory would need to cross-reference each CCL item in its laboratory against the potentially multiple countries identified for each foreign national employed by the laboratory.

The laboratory then would have to file for a license for each foreign national affected by the cross-referencing. Importantly, the laboratory could not permit the researcher to "use" the CCL equipment until the license was obtained.[2] This process of inventorying equipment, obtaining and maintaining additional nationality information, cross-referencing equipment with nationalities, filing for licenses, and holding positions in

[2] As noted it appears that technically a researcher might be able to work in the laboratory as long as he/she did not receive any transfer of information related to the CCL equipment. However, it is also possible the government would take the position that access to information about such equipment, even if the equipment were not ordinarily operated by a researcher, would require a license. In any event, simply from a logistics, enforcement, and recordkeeping perspective it is impracticable to have researchers in the laboratory who are not permitted to use certain categories of equipment.

suspense pending issuance of a license unquestionably would result in substantial increases in expenses and time delays that would discourage retention of foreign students and researchers. For those laboratories that were able to bear the costs and delays, the additional and ongoing scrutiny of foreign nationals undoubtedly would chill the spirit of openness and collaboration in which research flourishes.

These burdens would compound the current burdens associated with acquisition and retention of foreign nationals for work in research laboratories that already encumber research. Faced with a duty to take on review and administration of a complex system related to usage of CCL equipment, laboratories may well abandon retention of foreign nationals to the detriment of science generally and the United States in particular. This outcome is even more likely when juxtaposed with the burdens that would be imposed upon BIS discussed immediately below.

b. Under the proposed system, the BIS would be required to make hundreds or thousands of individual licensures decisions related to the operation of a vast array of widely varying equipment and technologies by nationals with varying degrees of education, skill, and experience from numerous nations working in a host of laboratories. It is not clear that the BIS has the personnel, funding, or experience to make such licensure decision in a timely and effective manner.

According to the OIG report, in fiscal year 2003 the BIS considered 846 applications for deemed export licenses. According to the information in the OIG report, the average number of applications per fiscal year for fiscal years 2000 through 2003 was 886 applications.

Although the ASM does not possess definitive information on the number of foreign nationals performing fundamental research within the United States, it may be assumed that there are numerous foreign nationals working on fundamental research within the United States. Moreover, as foreign students arrive and depart from the United States, there would be a constant and ongoing change in the foreign nationals performing research.

If the recommendations of the OIG were implemented, it must be assumed that the BIS would initially face a deluge of licensure applications that would then continue to number in the hundreds annually as the population of foreign national students in the United States turned over. The BIS Notice does not describe the factors that BIS would apply in making licensure decisions related to such foreign nationals. For example, the BIS Notice does not assert that BIS would review the background of the foreign nationals in determining whether to issue a license. It is difficult to see how BIS would undertake a more meaningful inquiry than the inquiry preceding the entry of the foreign national into the United States and admission to a laboratory setting. Indeed, the OIG report states that since 2001 the Central Intelligence Agency has declined to review deemed export license applications because of the lack of derogatory "hits" they have obtained from this exercise in the past. Since then, BIS licensing officers from the Deemed Export Division

have queried a CIA supplied database for information on any foreign national associated with a license application and/or any affiliated entities the foreign national has listed on his résumé (e.g., previous employers or universities attended). However, the OIG report concludes that BIS officials have not received any derogatory hits against this database since they began the exercise.

Separate and apart from reviewing the background of the specific foreign national, BIS would need to analyze each proposed transfer. Such a review presumably would include a determination of whether the work constituted a transfer of technology and, if so, whether the transfer met standards for licensure. The ASM is not aware of the specific standards that would be used by BIS in determining such matters as whether training a specific foreign national on a specific piece of equipment would meet standards for licensure. For example, would any weight be given to the identity and background of the individual foreign national or would there be a presumption that the training of any individual born in a country of concern constituted the transfer of the information to that nation?

Clearly, the addition of a duty to process quickly perhaps hundreds of license applications annually would impose new burdens on the BIS. If such applications were not handled very expeditiously then the implementation of the licensure program would be a certain death knell for the involvement of affected individuals in fundamental research as few if any laboratories may desire to make offers to researchers with the prospect of a lengthy delay to receive a determination whether the individual will be permitted to undertake the contemplated tasks. Moreover, as set forth below, such expenditures are unlikely to achieve any real security gains.

2. Application Of The System Of Licensure Recommended By The OIG Would Not Enhance The Security Of The United States And Would Be Contrary To The Announced Policies Of The United States.

   a. Participation by foreign nationals in fundamental research within the United States substantially benefits the national interest and should not be unduly inhibited or discouraged.

The OIG report does not recognize or give sufficient weight to the essential nature of the research environment and the strategic importance to the nation of access to international talent for the success of the research and education system in the United States. As Secretary Rice's letter of November 1, 2001 recognized, fundamental research relies upon open, international collaborations.

The OIG recommendation essentially would remove the fundamental research exemption from export control requirements because most likely licensure will be required as a prerequisite for involvement of an affected foreign national in such research. Even if the list of technologies and equipment of concern were reduced, extensive monitoring procedures would be needed.

Significant amounts of equipment involved in the conduct of university research are export controlled. Universities would have to track in detail and restrict their foreign students' participation in classes and research. It appears that many fundamental research projects at universities would require determinations of the need for deemed export licenses in order for foreign students, faculty, visitors, technicians and research staff to work on such projects. Such a policy would slow and disrupt research at academic institutions, would discourage foreign student and scholar participation in important life science research, and would threaten continuing leadership by the United States in fundamental research, education, and innovation.

b. There is no evidence that the current system exposes the United States to security risks warranting additional infringements upon fundamental research.

The OIG recommendations do not appear justified by real threats to national security resulting from the current system. The OIG report provides no evidence that existing controls do not work or that additional burdensome controls are necessary.

On page 14 of the OIG report, for example, the report states that a fermenter having a 20-liter, or larger, capacity is controlled by inclusion on the CCL under Export Control Classification Number (ECCN) 2E301. Certainly, however, instructing a foreign national on the means to use a fermenter in the context of ongoing fundamental research should not be deemed either a transfer of controlled technology or an act that endangers the security of the United States. The interest of the United States involves the access of a foreign nation to that equipment and not an instruction on how the equipment may be used.

Students who are foreign nationals are already screened by visa mantis procedures before they are granted a visa, and there is no suggestion that BIS could take more substantial procedures in evaluating an individual foreign national in the context of a license application. The visa process is intended to assess threats to national security before approving entry into the United States for individuals pursuing research and education. Laws and regulations already are in effect to restrict access to certain biological agents. Processing thousands of export licenses would unnecessarily require an expansion of government resources and would delay research and education and further encourage international students to study in other countries rather than in the United States. Following the September 11, 2001 terrorism attacks, the university and scientific community worked with Congress and the Administration to formulate changes in visa and other policies affecting select agent research to meet national security goals without unduly compromising openness and the strength of research and education activities. The work of those parties should be honored and observed by BIS.

3. The Interest Of The United States Is Furthered By Encouraging Scientific Collaboration. Regulations That Inhibit Such Collaboration Are Contrary To The Security Interests Of The United States And Retard Scientific Advances Crucial

To The Welfare Of Humanity And Important For Continuing Leadership By The United States In Science.

All education entails some degree of risk that the educated individual may turn his/her knowledge to wrongful purposes. The policy of the United States is that national security is best served by encouraging to the maximum possible extent the free flow of scientific and technical information.

Mechanisms exist to control findings that have clear implications for national security. National Security Decision Directive 189, formulated in 1985 and restated in 2001 as American policy, states that, to the maximum extent possible, fundamental research should remain unrestricted The revisions suggested by the OIG would unduly restrict the involvement of foreign nationals in fundamental research and should not be pursued by the BIS.

Sincerely,

James M. Tiedje, Ph.D.
President, ASM

From: Spence Armstrong <SArmstr251@aol.com>
To: <scook@bis.doc.gov>
Date: 5/19/2005 10:51:02 AM
Subject: Fwd: Comments on "RIN 0694-AD29"

These comments (attached) are in response to your March 28, 2005 posting in the Federal Register. Request that you acknowledge receipt so I will not need to follow up with a hard copy.
Thank you,
Spence M. (Sam) Armstrong
703-799-9667

Comments on Department of Commerce's Advanced notice of proposed rulemaking (RIN 0694-AD29 in the Federal Register March 28, 2005)

Spence M. (Sam) Armstrong
Member, the Government, University, Industry, Research Roundtable (GUIRR)
8714 Bluedale Street
Alexandria, VA 22308
May 19, 2005

Disclaimer: The GUIRR is chartered under the National Academies of Science to provide a forum for senior members of the three sectors (government, university, industry) to meet three times a year to discuss issues pertinent to those sectors. Deemed exports surfaced as a topic at GUIRR's October 2004 meeting, and I have led a task force of GUIRR members during the intervening 7 months to more thoroughly understand the issue. There have been 7 telecons of this multi-sector group during this time, and 4 convening events. Since GUIRR is prohibited from issuing any formal statements or reports, it is from my personal knowledge gained during these discussions that I write my response. I have attempted to do justice to the inputs of task force members where possible, but the opinions expressed herein are strictly my own, and I am solely responsible for these comments.

The Situation: PL 106-65, "National Defense Authorization Act for FY 2000 requires the Office of Inspector General of several departments to conduct an annual review of policies and procedures with respect to their adequacy in preventing the export of sensitive technology and technical information to countries and entities of concern. In 2004 the OIG of the Departments of Commerce, Defense, Energy, Homeland Security, State and the Central Intelligence Agency reviewed "deemed exports". The reason for this focus is unknown to me and my group. Each of the OIG's published their own report as well as a combined agency interagency review. However, my comments will only address the Department of Commerce review. Incidentally, that review, IPE-16176-March 2004, is no longer available on the DOC OIG web page and one is directed to seek a copy of the report through the Freedom of Information Act. I did find that some reviews from previous years were still posted. I also looked on the BIS web page and the DOC web page but was unable to get to the OIG review. Perhaps this is due to my poor search skills. In any case, I think it is curious that the review has been taken off line while the comment period is open. Therefore, the statements that I will make concerning the review are from memory.

Two statements from the DOC OIG review leaped out to me. The first was their mention of the 5-axis machine at NIST. Although the two authorized operators were both American citizens and the machine

manufactured in Germany, the operating manual was apparently not secured from any foreigners who might be in that laboratory. This was listed as an example of a possible deemed export. Secondly, the OIG reported that they came to think that the "use technology" definition which listed six possible functions all of which must be exercised by one person to constitute "use technology" was unrealistic and the definition should have the "and" replaced by "or" so that any single function of the six would constitute use. According to their report, they went back to BIS during their review and got agreement from them that it should be "or" rather than "and". I find it highly irregular for any agency to agree to a change in definition in the midst of an investigation. They would typically (based upon my 45 years of government experience) finish the inspection under the existing rules for consistency and sort out any recommended OIG changes afterwards. This signals to me that BIS intends to accept this definitional change in the rule making venue since they apparently have already agreed with the OIG.

Prior to my discovery, the university research community became very concerned as to how the "use" definition and other OIG recommendations would stymie their research. President Charles Vest of MIT wrote a letter of concern (September 9, 2004) to Dr. Condoleeza Rice and other senior Administration officials and this letter was co-signed by 21 other presidents/chancellors of the nations leading research universities. Dr. Rice's response (October 13, 2004) stated that she understood the importance of university research. Then she said: "Your letter makes it clear that misunderstandings persist about these rules and about the potential impact of the March 2004 report issued by the Department of Commerce's Inspector General." She indicated that what was needed was better communication/liaison with universities.

In the meantime, the deemed export issue was discussed at the October, 2004 GUIRR meeting that was addressed by Assistant Secretary Lichtenbaum. He also addressed the National Academy leadership and some university presidents on November 9, 2004. He also made a presentation at a dinner on January 31, 2005 attended by university presidents and agency heads. He and some of his staff have also met with the AAU and a BIS representative has also been purposely included on the seven telecoms mentioned earlier as well as the February, 2005 GUIRR meeting. He also made a presentation at the first OSTP convened Interagency group in March, 2005. In the AAU discussion, it was reportedly stated by BIS that the equipment on the Commerce Control List (CCL) was not subject to the deemed export classification unless proprietary information was involved. The "publicly available" exclusion could be exercised if the technology was not proprietary. This was never mentioned in the other discussions that I mentioned above and not written in any paper that I have seen. So despite efforts on all parts, there remains a "Lot of Confusion in the Cockpit".

Do deemed export controls make sense as currently defined? In my presentation to the March 2005 Interagency Panel I stated that I didn't think so. I also said that we should remember the 2002 campaign slogan: "It's the Economy, Stupid". I said that "export" should be substituted for "economy" without the pejorative term at the end. The issue is if a piece of equipment on the CCL would require an export license to be exported to some country, is it possible for a national from that country to gain enough knowledge to replicate the functionality of that equipment in his home country? I doubt that such a person doing any of the six functions listed in the "use technology" could replicate the functionality as the OIG believes. In fact, I doubt that doing **all** six functions would be any more successful. This is because the manufacturer is going to supply the equipment purchaser with an operating manual, possibly a detailed parts diagram and enough instructions to do minor refurbishments on site. But it is very unlikely, in my thesis, that the manufacturer would supply proprietary data that would allow someone to make their own. Without the CAD/CAM data, source code and a detailed description of the sealed units and electronic boards in the equipment, replication is not doable. I told the Interagency Panel that President Dan Mote of the University of Maryland had agreed to host a group of engineers and technicians to test the theory and I would personally witness the test. So far nothing has come of that offer but my thesis is still on the table. If the functionality can be replicated, I would label it as a "de-facto" export. I believe that the term "deemed export" is so flawed by the "use of technology" definition with either "and" or "or" that it has to be struck from the regulations.

What is the impact if only the "or" recommendation is incorporated? Despite the assurances that this will not be a big deal, I and others think it will be. Several years ago when I was leading NASA's efforts to get relief from the ITAR's inclusion of research and experimental spacecraft that was causing the universities great problems. State asked us to get some data to support the impact that we were articulating. So we identified the 129 universities that NASA funded the previous year by $500,000 or more and did a random computer identification of 36 of them—fifteen from the top third, twelve from the middle third and nine from the bottom third in terms of NASA dollars. In three sessions we conducted a telephone conference with those 36 selected. We concluded that the universities fell into three categories. The first category were universities who understood the ITAR restrictions and penalties and felt that they had the legal and administrative resources to comply although at considerable expense. (Three of those universities sent me a supplement that they had created for this purpose. All were different and I personally disagreed with at least one part of each.). The second category were universities who understood the burden of complying and elected to avoid the problem.

The final category were universities who weren't even aware of ITAR and may or may not have violated it.

I would predict that universities will respond to the deemed export rule change in a similar way. Their legal staff will advise them to be conservative. Plus their security personnel will advise them to protect instruction manuals and other CCL related data in response to the NIST finding I mentioned earlier. One large university president at the January 31 dinner stated that he estimated that his university would have to install over a thousand key pad security locks. If universities tried to use the "publicly available" exclusion, how would they ascertain this? I will not further elaborate on the impact on universities as I'm sure they have done a more thorough job than I can. However, I do want to want to speculate on the impact on funding entities in either government or industry. After all, that's why GUIRR members felt they represented voices that should be heard. I say speculate, because the impact on these funding entities is a secondary effect. When they advertise a research opportunity, universities may elect to submit their response using only personnel that are not subject to the EAR (shunning the talent that is present in the large foreign student population). Or they might intend to comply, if they win, by submitting license applications for the personnel who would best do the research. This would delay the research. Or they might submit a proposal that included the extra cost of obtaining licenses as well as the delay. In any of the cases, the funding entities will find that they are getting less research for the same funding. How universities will account for the added security in their laboratories is unknown but none-the-less real.

Recommendations:

1. Do not implement any of the OIG recommendations!

I fully recognize that there is great bureaucratic peril in failing to embrace the recommendations of one's OIG. Especially if the OIG is carrying out a congressional mandate! However, the national origin and the publishing associated recommendations can be easily and successfully refuted. The only critical one is the "and" or "or" one associated with the "use technology" definition. Contrary to assertions that this will not be a big deal, many of us think that it will be. It will engender confusion, greater costs and, worst of all, less fundamental research—the very kind of research that American universities have produced over the years that has provided many aspects of true National Security. However, my last recommendation offers a logical solution to the "use technology" issue.

2. Substantially reduce the items on the CCL. Maybe "Dual Use" is a term that has outlived its usefulness? There are items on the ITAR that could conceivably have a civil use. On the other hand, any item on the CCL that has a disturbing military concern should be classified on the ITAR and the fact that it has a possible civil use should be incidental.

This recommendation should reduce export control administrative costs and address the complaints of U.S. business that we have placed them at an unfair global advantage.

3. Lastly, I would eliminate the "deemed export" provision from the EAR.

It is confusing as is "defense service" in the ITAR and will only become more of a conundrum because of the OIG review. If there is technology on the CCL, and if there is a possibility of replication in an unfavored country as I have mentioned earlier, I would describe that as a "de-facto" export with the definition that is appropriate to the concern. I would gladly volunteer to help construct the appropriate wording.

> I began this paper with the necessary disclaimer. As I sit here at my computer, I realize that I have used largely layman language to express my concerns. Some might say that my paper is really a sermon with the requisite three points. To that I would say—Amen.

The fact that you put the OIG recommendations out for comment before acting on them is commendable. I don't fault your OIG—they were dealing with what was presented to them—instead I applaud them for bringing the "deemed export" issue into the light of day. Thank you for the opportunity to express my comments as a GUIRR member in your deliberations on the OIG recommendations.

From: Simon Swordy <s-swordy@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/19/2005 3:46:14 PM
Subject: Fwd: Comment on RIN0694-AD29

Hello,
please find attached my comment letter
on RIN0694-AD29 - "deemed-export" rule change
proposal. Please let me know if there are problems
reading this attachment/etc.

sincerely,
Simon Swordy
University of Chicago

THE UNIVERSITY OF CHICAGO
THE ENRICO FERMI INSTITUTE
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CHICAGO, ILLINOIS 60637

Laboratory for Astrophysics and Space Research

TEL: 773-702-7835
FAX: 773-702-6645
INTERNET: s-swordy@uchicago.edu

May 18, 2005

To whom it may concern:

This letter is in response to an advanced notice of proposed rulemaking by the Department of Commerce, RIN 0694-AD29 entitled "Revision and clarification of deemed export related regulatory requirements." I am a physics professor at the University of Chicago, engaged in experimental research. I am deeply troubled by the proposed rule changes to make some aspects of fundamental research at universities subject to "deemed export controls." The stated intent is to stop the transfer of sensitive technology to foreign nationals. However, it is not at all clear that this proposed rule change will do much to accomplish that goal, but it is abundantly clear that this proposed action will damage the ability of the research universities to do business and compete in the world arena.

A significant proportion of the population of graduate students in the sciences is foreign nationals. This is because the reputations of the U.S. research universities are very high; they are probably the strongest part of the entire scientific education system in the U.S. They could therefore be counted upon to attract not just the brightest scientific students from the U.S., but also from abroad. This constant inflow of young, intelligent people has, since the 1950s, provided a fundamental research environment second to none.

Since the more restrictive visa practices were introduced in 2001, the number of foreign graduate students has declined, largely from the perception of the U.S. as being unfriendly and difficult to deal with. Most of these students either stayed at home or went to Europe. This has been a net loss for the U.S. over the last three to four years. This process will clearly become even worse if rules requiring licenses for specific foreign students to be involved in research are applied.

I do not argue against the fact that the U.S. has certain technological assets it should protect. The appropriate way to do this is by classification of the items, which has a proven record of success.

So, to me, this whole issue comes down to a question of balance. The argument in favor of the new rule interpretation is that it will somehow

make the U.S. more able to retain its critical technological superiority. This seems fairly speculative, considering the non-classified environment of most universities. The argument against this new rule is far stronger, since its implementation will inherently damage the strong fundamental research environment which forms the basis for the development of these critical technologies in the first place.

I sit writing this letter one block from the site of the first self-sustaining chain reaction, produced in the 1940s by Enrico Fermi and collaborators. Ironically, if this proposed rule change had existed at that time, Fermi would not have been allowed to use the equipment to do this without a license, since he was from Italy, then an enemy of the U.S. This irony can be extended to Edward Teller, who later produced the fusion nuclear weapon for the U.S. As Teller was born in Hungary, which at the time was part of the Soviet block, he could never have managed to do this, if individuals born in "problem" countries were perceived as de facto threats. So, one might reasonably conclude that the U.S. would not have become a leading nuclear power if the intellectual input of foreign-born nationals had been excluded.

The United States has much more to gain by encouraging the best intellects of the world to come to its shores, than by this proposed restrictive action, which will implicitly define some as undesirable through new licensing requirements. Especially because the rationale for this proposed action seems to rest essentially on speculation.

Yours truly,

Simon P. Swordy
James Franck Professor
Departments of Physics
and Astronomy & Astrophysics,
Enrico Fermi Institute, and the College

From: "Nafus, Dawn" <dnafus@essex.ac.uk>
To: <scook@bis.doc.gov>
Date: 5/19/2005 1:53:23 PM
Subject: Fwd: RIN 0694-AD29

I am a US citizen and a scholar working in a foreign university. A policy such as this would ensure I NEVER returned. This policy would make it effectively impossible for foreign students and scholars to come to the US, as I fail to see what ISN'T a potential dual-use technology. Perhaps the makers of this law would like to ban the teaching of English to foreign citizens on the grounds that it could help them understand their supposed 'enemy'. Knowledge cannot be contained within national boundaries; perhaps the government should pay more attention to what people actually do with it. University knowledge is not a commodity and therefore should not be treated as an 'export'--this is an affront to everything universities have set out to achieve. This is a foolhardy policy that would impoverish American universities both intellectually and financially. It is an embarrassment and a slight on my citizenship.

From: "Stephen Vavasis" <vavasis@cs.cornell.edu>
To: <scook@bis.doc.gov>
Date: 5/19/2005 3:28:07 PM
Subject: Fwd: export regulations for training of foreign students RIN 0694-AD29

Dear Commerce Department Officer,

Please find a PDF attachments with our comments on the proposed export regulation of training of foreign students.

-- Ken Birman, Charles Van Loan and Steve Vavasis

Cornell University

Department of Computer Science
4130 Upson Hall
Ithaca, NY 14853
Phone +1-607-255-7316
Fax +1-607-255-4428
Home page http://www.cs.cornell.edu/

May 17, 2005

To Whom It May Concern:

We are writing to express deep concern about proposed new regulations that will prevent the training of certain foreign graduate students in some branches of computer science, and in particular, in high-performance computing. The proposed regulations are fundamentally at odds with the atmosphere at a research university like Cornell in which lectures, seminars and facilities are open to all students. More serious, the proposed regulations would undermine U.S. leadership and influence worldwide as we will now explain.

Computer Science innovations are transforming the world, and fortunately, the United States has a significant lead over the rest of the world in this exciting field. A substantial portion of this leadership comes from immigrants who were trained at U.S. universities. The proposed regulations would threaten to shut off this pipeline of brainpower into the U.S. to the point of threatening our lead in high-performance computing.

Allow us to provide two examples. Our colleague Keshav Pingali is a leader in software for high-performance systems. He holds an endowed professorship at Cornell, was a Presidential Young Investigator, chairs program committees for leading-edge scientific conferences and has developed technologies adopted by large U.S. vendors (Intel, SGI) as part of their high-performance programming products. Professor Pingali, who is a naturalized U.S. citizen, originally came to the U.S. from India on an F-1 student visa to study computer science at MIT. His PhD dissertation research was on an advanced computer architecture known as a dataflow model.

Dr. Horst Simon, a scientist on the staff of Lawrence Berkeley National Laboratory, is the director of the National Energy Research Scientific Computing Center (NERSC) and is also the director of LBL's Computational Research Division. NERSC is the flagship scientific computing facility for the Office of Science in the U.S. Department of Energy. As one of the largest facilities in the world devoted to providing computational resources and expertise for basic scientific research, NERSC is a world leader in accelerating scientific discovery through computation. As the director of NERSC, Dr. Simon is one of the key individuals for foreseeing future directions in high-performance computing and maintaining the U.S. strategic leadership in this area.

Dr. Simon, who is also a naturalized U.S. citizen, originally came to the U.S. from Germany on an F-1 student visa to study applied mathematics at Berkeley. His PhD

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dissertation research was on computer algorithms for solving linear equations that arise in large-scale complex scientific problems.

In both the case of Professor Pingali and Dr. Simon, the proposed regulations could be construed to apply to their PhD research topics. If those regulations had been in place at the time of their PhD studies, perhaps they would have never immigrated in the first place, which would clearly be to the great detriment of the U.S. effort in high-performance computing.

The proposed regulations are presumably intended to enhance U.S. national security. Indeed, the spread of conventional and nuclear weapons to hostile groups and nations is generally acknowledged to be one of the most severe security threats facing our citizens today. However, there is no evidence of a connection between this security threat and the training of foreign students in advanced computer science. On the contrary, the evidence suggests that training foreign students in computer science makes the U.S. more secure by increasing U.S. prestige and influence worldwide.

Yours truly,

Kenneth P. Birman
Professor

Charles F. Van Loan
Joseph C. Ford Professor and Chair

Stephen A. Vavasis
Professor

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Ladies and Gentlemen:

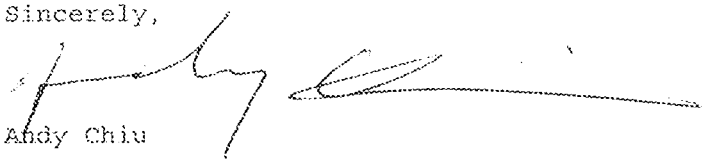
I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research and technology capacity.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. I do not ask them their citizenship, or indeed, their country of origin, when I invite them into my laboratory. The University ascertains their legality by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required in order to enter into the building in which my laboratory is housed, as noted above, the cards do not distinguish among nationalities. To do so would require a major expenditure on NYU's part and would surely further discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative, that is, to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and very time-consuming, both for the University to prepare the paperwork and for the government to process it.

United States science and technology has been a major economic driver and it has given our country pre-eminence in many fields. Cutting edge research can only flourish in the open environment of free exchange. I urge you not to adopt these revisions.

Sincerely,



Andy Chiu

From: Mel Shochet <shochet@hep.uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/20/2005 3:03:23 PM
Subject: Fwd: RIN 0694-AD29

Please see the attached letter.

Melvyn Shochet

THE UNIVERSITY OF CHICAGO
THE ENRICO FERMI INSTITUTE
5640 SOUTH ELLIS AVE
CHICAGO, ILLINOIS 60637

PHONE: 773-702-7440
FAX: 773-702-1914
shochet@cdf.uchicago.edu
May 20, 2005

U.S. Department of Commerce
Washington, D.C.

Dear Department of Commerce:

I am a professor at the University of Chicago who does research in elementary particle physics. I am concerned about the proposed changes in the "deemed export" regulations. If enacted, they will significantly detract from the world-wide effort to understand matter, energy, space and time at the deepest level.

My research is currently carried out at the Department of Energy's Fermi National Accelerator Laboratory. The planning, construction, and operation of the massive experimental detectors are carried out and financially supported by a collaboration of scientists from North America, Europe, and Asia. The apparatus we design and build is at the cutting edge of technology. As such, we use high speed digital computers, fast oscilloscopes, and state-of-the-art electronic design tools. My students, postdocs, and I have built here at the University of Chicago very sophisticated electronics systems that have won awards from U.S. electronics firms. Many of these young scientists have been nationals of other countries, including China. Their very creative work led to important innovations that were then used by others in the U.S. They later applied their acquired skills to challenges in academia and in the private sector in the U.S. Requiring a license for each of these people would make it much more difficult for me to attract the brightest minds to my laboratory and thus significantly decrease the ability of my group to answer deep questions about the working of our universe.

Beyond my own laboratory, there is another issue that is quite important. The highest priority scientific facility in the medium timescale for the U.S. Department of Energy as stated by the Secretary of Energy is a very high energy electron-positron linear collider in the U.S. Such a facility is extremely costly and would require significant financial contributions from many foreign governments if it is to be realized. The proposed changes in the "deemed export" regulations would appreciably add to the perception abroad that the atmosphere in the U.S. is hostel to international collaboration in science and consequently that the United States should not host major international projects.

I urge you to reject the proposed changes in the regulations.

Sincerely yours,

Melvyn J. Shochet
Kersten Distinguished Service Professor of Physics

From: Johnson Roger <pugsmithjr@yahoo.com>
To: <publiccomments@bis.doc.gov>
Date: 5/20/2005 11:24:22 PM
Subject: RIN 0694-AD29

I object to the above regulation proposal which impedes scientific and technology development in the United States which relies in part on foreign students in our univerisities. Also, the rule applies unevenly to different countries. An East Indian would have to obtain a license while a Saudi would not. Saudis are the ones who manned the planes in the 9/11 incident in New York.
There would be no consistent sense or application of this rule and more importantly it would degrade our learning institutions by further discouraging foreign students from coming to the United States.

Roger Johnson
111 Pickwick Lane
Oak Ridge TN 37830
pugsmithjr@yahoo.com

UMBC

AN HONORS UNIVERSITY IN MARYLAND

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Office of the Dean and
Vice Provost for Research & Planning
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May 23, 2005

U.S. Department of Commerce,
Bureau of Industry and Security,
Regulatory Policy Division,
14th & Pennsylvania Avenue, NW, Room 2705,
Washington, DC 20230,
ATTN: RIN 0694-AD29.

RE: Revision and Clarification of Deemed Export Related Regulatory Requirements

Ladies and Gentlemen:

The March 31, 2004 report of the Department of Commerce Inspector General (IG), *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S. (IPE-16176),* contains recommendations which will have a severe and detrimental impact on research universities such as the University of Maryland, Baltimore County (UMBC). In particular, the emphasis on "deemed exports" (defined as the release of controlled technology or technical data that conveys information to a foreign entity or individual in the U.S.), will be unduly burdensome and impossibly problematic in practice.

The most serious issue is the concept of the "use" of Export Administration Regulations (EAR) controlled equipment by foreign nationals at universities under the fundamental research exemption. UMBC, like most universities, interprets the use of controlled equipment for fundamental research as exempt under the EAR fundamental research exemption. However, the Commerce IG advocates that "technology relating to controlled equipment—regardless of how use is defined—is subject to the deemed export provisions even if the research being conducted with that equipment is fundamental."

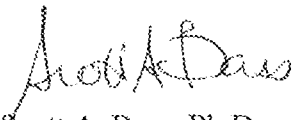
Under the Commerce interpretation, our many fundamental research projects will require determinations of the need for deemed export licenses in order for our foreign students, faculty, technicians, and other research staff to work on these projects. Complex security procedures will have to be developed and implemented to ensure that non-licensed foreign faculty and students will not have access to controlled equipment. Moreover, substantial and unaffordable investment in staff and resources will be required to monitor the research equipment available on campus that may be subject to deemed export controls. Many items routinely used in university research, for example GPS equipment and fermenters, are included in the controlled list.

The Commerce IG interpretation all but eliminates the EAR fundamental research exemption. It will grind much university research to an effective halt, as well as compelling discriminatory treatment of foreign nationals on campus. The enforcement burden on universities would be enormous and would provide for a disparate impact since others, like retailers, sell controlled equipment without such constraints.

The report also discusses the EAR education exemption for information released in catalog courses and associated teaching laboratories as potentially allowing release of controlled technology to foreign nationals. However, without this exemption universities would have to exclude foreign students and faculty from many science and technology courses unless burdensome and expensive security procedures are put into place to control the subjects taught and persons given entry into classrooms and teaching laboratories.

The result of the adoption and implementation of the Commerce IG interpretation would cripple the teaching and research at many universities like UMBC who would be faced with implementing expensive and administratively complex security procedures regulating access of foreign nationals to classrooms and laboratories. More generally, but also more importantly, this Commerce IG interpretation would severely limit the diversity and richness of U.S. higher education and threaten our nation's leadership position in the conduct of world class research and teaching.

Sincerely,



Scott A. Bass, Ph.D.
Dean of the Graduate School and
Vice Provost for Research & Planning

cc: Dr. Freeman A. Hrabowski, III
Dr. Arthur Johnson
David Gleason, Esq.

UNIVERSITY OF Cincinnati

Office of the Vice President for Research
University of Cincinnati
PO Box 670663
Cincinnati, OH 45267-0663

250 Health Professions Building
Phone (513) 558-3024
Fax (513) 558-0549

May 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Cincinnati (UC) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, UC recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Sandra J. Degen, PhD
Acting Vice President for Research

UNIVERSITY OF Cincinnati

College of Medicine
Department of Surgery
University of Cincinnati Medical Center
231 Albert B. Sabin Way
PO Box 670558
Cincinnati OH 45267-0558
Phone (513) 558-5333
Fax (513) 558-2585

May 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

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The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

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Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Jeffrey B. Matthews, M.D., F.A.C.S.
Christian R. Holmes Professor
Chairman, Department of Surgery
University of Cincinnati

JBM:sw

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Department of Psychiatry-North
Obesity Research Center
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Cell: 513-807-0704
E-mail: tschoemh@ucmail.edu

UNIVERSITY OF Cincinnati

May 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

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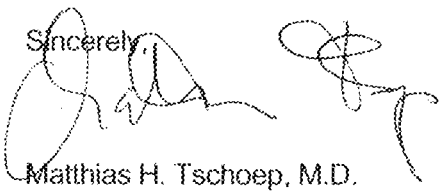
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,



Matthias H. Tschoep, M.D.
Associate Professor
Department of Psychiatry, Obesity Research Center

From: Raj Singh <Raj.Singh@uc.edu>
To: <scook@bis.doc.gov>
Date: 5/23/2005 8:19:03 PM
Subject: RIN 0694-AD29

Please find attached my response to the proposed changes by DoC.

--

Raj N. Singh, Sc.D.
Herman Schneider Professor of Materials Engineering
Department of Chemical and Materials Engineering
University of Cincinnati
501 B-Engineering Research Center
P.O. Box 210012 (skip this for express mail)
Cincinnati, OH 45221-0012

Voice: (513) 556-5172
FAX: (513) 556-3773
email: Raj.Singh@uc.edu

UNIVERSITY OF Cincinnati

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Chemical and Materials Engineering
Materials Science and Engineering Program
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May 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

As a faculty at the University of Cincinnati (UC) I am concerned by the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the

deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, I at UC recommend that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, I hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Raj N. Singh
Professor of Materials Engineering
University of Cincinnati
Cincinnati, OH 45221-0012

513-556-5172
email: Raj.Singh@uc.edu

From: Alice Filmer <filmer@express.cites.uiuc.edu>
To: <scook@bis.doc.gov>
Date: 5/23/2005 1:21:20 PM
Subject: RIN 0694-AD29

To whom it may concern:

Please put me on record as opposing the BIS proposed regulation requiring export licenses for international students in the US who work with new / high-technology. The current safeguards that are already being enforced are adequate to screen for domestic security purposes. To impose further restrictions on our international students would be an unnecessary hardship on them and would threaten the enormous contribution that international students offer in the academic experience of those of us who are US citizens like myself.

Sincerely,
--
Alice Filmer, PhD Candidate
Institute of Communications Research
University of Illinois, Urbana-Champaign
228 Gregory Hall, MC-463
810 South Wright St.
Urbana, IL 61801
(217) 333-1549
filmer@uiuc.edu

From: "Howley, Heather A." <hahowley@cazenovia.edu>
To: <scook@bis.doc.gov>
Date: 5/23/2005 12:01:06 PM
Subject: "RIN 0694-AD29"

I am greatly opposed to any regulation that would force certain international students in certain majors to apply for an export license before being able to participate in certain classroom activities, such as looking through high-end microscopes. I am also greatly opposed to singling out students or individuals from China, Cuba, India, Iran, Iraq, Israel, Libya, North Korea, Pakistan, Russia, Sudan, and Syria. Requiring students to receive special documentation from the government is un-democratic. It creates an atmosphere of hostility and suspicion. By encouraging students, from all countries, to study in the United States, we have greater potential to open the world to democratic ideals and practices. These proposed regulations thwart that goal.

Heather A. Howley Ph.D
Assistant Professor, Communication
Communication Studies
Advisor, The Quad
Cazenovia College
Cazenovia, N.Y. 13035
(315) 655-7325
hahowley@cazenovia.edu

From: "James C. Mulloy" <James.Mulloy@cchmc.org>
To: <scook@bis.doc.gov>
Date: 5/23/2005 3:19:47 PM
Subject: RIN 0694-AD29

May 23, 2005

U.S. Department of Commerce

Bureau of Industry and Security

Regulatory Policy Division

14th and Pennsylvania Avenue, NW

Room 2705

Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Cincinnati (UC) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute 'use.'

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, UC recommends that DoC:

> * Withhold reforms to the current system of license requirements for use of
> export-controlled equipment in university basic research;

> * Clear international students and post docs for access to controlled
> equipment when their visas are issued such that admission to university
> academic programs is coupled with access to use of export controlled
> equipment; and

> * Continue to consider citizenship status, not country of birth, for purposes
> of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

--
James C. Mulloy, Ph.D.
Assistant Professor
Cincinnati Children's Hospital Medical Center
Division of Experimental Hematology
Stem Cell Biology Program
3333 Burnet Ave.
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Cincinnati OH 45229
(513)-636-1844 office
(513)-636-3471 lab
(513)-636-3768 fax
James.Mulloy@cchmc.org
http://www.cincinnatichildrens.org/research/div/exp-hematology/labs/stem/mulloy

From: "Shata, Mohamed (shatamt)" <shatamt@UCMAIL.UC.EDU>
To: <scook@bis.doc.gov>
Date: 5/23/2005 12:06:13 PM
Subject: [Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export administratio

May 23, 2005

U.S. Department of Commerce

Bureau of Industry and Security

Regulatory Policy Division

14th and Pennsylvania Avenue, NW

Room 2705

Washington, DC 20230

Re: RIN 069-AD29

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As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

M. Tarek Shata, MD, PhD

Associate Prof.

Viral Immunology Laboratory, MSB 6360

Department of Internal Medicine

Division of Digestive Diseases.

231 Albert B. Sabin Way

University of Cincinnati Medical Center

PO Box 670595

Cincinnati, OH 45267-0595

Tel: (513) 558-6110

Fax: (513) 558-1744

Pgr: (513) 269-0695

Email: mohamed.shata@uc.edu

From: Nova Starr <tanishawaggoner@gmail.com>
To: <publiccomments@bis.doc.gov>
Date: 5/23/2005 1:13:11 AM
Subject: RIN 0694-AD29

These new regulations that are being implemented to hinder the education of foreign students in the US are appalling. Hindering education will not cure the security problems that this nation has. International students will leave US institutions and take their knowledge an creativity elsewhere. If they had a dream to complete their education in the US they may become bitter, and in decades to come they may become real security threats.

Please stop all of this exessicve nonsense with the excuse of national security. You have disrupted the lives and dreams of enough people already. Doing this without the permission and blessing of the American people is a disgrace to freedom and democracy. Please, leave the students alone.

THE UNIVERSITY OF MICHIGAN
OFFICE OF THE VICE PRESIDENT FOR RESEARCH
408 FLEMING BUILDING, 503 THOMPSON STREET
ANN ARBOR, MICHIGAN 48109-1340
734 764-1185 FAX: 734 763-0085

May 24, 2005

United States Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230

ATTN: RIN 0694-AD29

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements

We have the following comments regarding the revisions to the EAR suggested in the Federal Register, Vol. 70, No. 58 March 28, 2004 (pp 15607-15609).

1) Definition of "Use" Technology:

Commerce proposes to change "and" to "or" in the definition of "use" in EAR Sec. 772.1.

This seems rational; but we have concerns about how this definition might be interpreted where the word "use" is applied. It is our understanding that the intention of Commerce is to clarify what is controlled as a deemed export, and not to modify the controls under the regulations for the use - as such - of the equipment. Care should be taken by Commerce in the application of the word "use" in the context of deemed exports that it does not put under EAR control, for example, the simple use of equipment where the operation is merely to push a button and the operator does not by that action obtain any controlled information related to the equipment being operated.

The regulations should clarify that the Department of Commerce does not consider the transfer of controlled equipment to a foreign national in of itself to be a deemed export of controlled technology, as stated in the advisory opinion letter dated December 6, 2004, by Alexander K. Lopes, Jr., Director, Deemed Exports and Electronic Division, Office of National Security and Technology Transfer Controls Division, Bureau of Industry and Security.

We also have strong concerns about how the definition of "use" might be used in defining what information is controlled under the EAR. We believe that it would be extremely impractical and unnecessary to the

objectives of the export regulations to consider information about equipment to be controlled when the equipment is readily available to the public through sales in stores, by catalogs or otherwise through general commercial avenues.

The Regulations should clarify that if the sale of equipment is open to all members of the public, then any technology that might be transferred is deemed to be publicly available and, thus, not subject to the Regulations, as also stated in the advisory opinion letter dated December 6, 2004. This should include any manuals, including operating and maintenance instructions that typically are provided with such equipment or are otherwise readily available.

Access to manuals is also very important for public policy reasons. Manuals generally include important warnings and directions for safe handling and operation of equipment.

In addition, we are particularly concerned about potential restrictions on access to equipment by foreign nationals when students use the equipment in courses at the University. It is a very common and important part of the educational experience of students to use a variety of equipment in many of their courses. Instructions for the use of such equipment is commonly taught in such courses; and it is commonly required that the students understand details about the equipment performance in order to properly apply the equipment or interpret results provided by the equipment.

The Regulations should clarify that instruction about equipment that is commonly provided to students is excluded from the Regulations as part of the type of information commonly taught in universities.

2) Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement:

We have a strong sense that it would cause unreasonable hardships and complications to base the requirement for deemed export licenses on the countries in which foreign nationals are born instead of their most recent citizenship or permanent residency.

The OIG recommendation is based on a clearly invalid assumption that everyone will have a lifelong allegiance to their countries of birth that will always take precedence over any allegiance they may have to their adopted countries, including an invalid assumption that such an allegiance to their country of birth would be inherently detrimental to the interests and security of the United States.

If the OIG recommendation were adopted, there also is a potential issue of unconstitutional discrimination against individuals based solely on their countries of origin.

It is very likely that such a rule would at most be helpful to the objectives of the export regulations for only a very tiny percentage of individuals; and that it would not be beneficial with regard to an overwhelming majority. The potential hardships and complications would thus strongly outweigh any potential benefits of such a rule.

Many situations quickly come to mind for which such a rule would not achieve the objectives and would cause major undue hardships and complications. Consider for example a few potential realistic scenarios:

- A person's family moved to the current country of citizenship when the individual was a small child.
- The parents were not ever citizens of the country where the person was born, and were there only temporarily working for an organization that provides international services, such as foreign nationals working for a United States company, or British citizens working for a British company, that is supporting the U.S. efforts in Iraq.
- One or both of the parents was working in a consul or embassy at the time the person was born.
- The person escaped the country of birth to avoid persecution.
- The family moved to another country to obtain freedoms not available in the country in which the person was born, such as a move from Cuba to Canada.
- The family moved because the country where the person was born had come under strong religious laws inconsistent with the religion of the family: For example, Christian families moving from Iran.
- The person moved to the country of citizenship or permanent residence for opportunities not available in the country of birth.

There also is a potential reciprocity danger. Apparently, the change proposed by the OIG would only apply to people defined as foreign nationals under the Regulations and would not apply to people who become permanent residents or citizens of the United States. It might not be clear to our allies, such as Canada and Great Britain why such a rule should apply to citizens and permanent residents of their countries and not to U.S. persons; and they might then establish similar rules with regard to activities involving U.S. persons, causing even greater strains in our international relationships and on U.S. nationals desiring to learn technology from the international community.

3) Clarification of Supplemental Questions and Answers on Government Sponsored Research and Fundamental Research:

a) Question A(4) in Supplement 1 to Part 734:

The change to the answer to Question A(4) suggested by Commerce seems consistent with Section 734.11. It might be helpful for Commerce to give some more examples to help clarify that section.

One such example might clarify that information resulting from an otherwise fundamental research project that initially had publication approval requirements would no longer be subject to the EAR once such approval was given by the sponsoring agency.

Another such example might clarify that a sponsored project that otherwise would be considered totally fundamental research might be separated into more than one part, with approvals only required for publication of the results from certain specified parts of the project; and, therefore, the information resulting from the other parts from the beginning would not be subject to the export regulations.

b) Question D(1) in Supplement 1 to Part 734:

The proposed wording by Commerce is too broad. The issue of deemed export goes to the information about the equipment that likely would be obtained by access to the equipment; and not whether or not the physical equipment itself can be exported to the person.

Similarly to issue (1) above, the student might have limited access such that no controlled information would be available - such as just pushes a start button. Or, the information that the student might obtain from access to equipment and associated manuals might already be readily available to the public.

Commerce should clarify that access to equipment is not of itself controlled, similarly to the statement in the December 6, 2004 advisory opinion letter that transfer of equipment to a foreign national in and of itself would not be considered a deemed export of controlled technology.

It would be extremely impractical and unnecessary to the objectives of the export regulations to consider information about equipment to be controlled when the equipment is readily available to the public through sales in stores, by catalogs or otherwise through general commercial avenues.

As discussed above, the Regulations, including the answer to Question D(1), should clarify that if the sale of the equipment that would be accessible to the students is open to all members of the public, then any technology that might be transferred to the students is deemed to be publicly available and, thus, not subject to the Regulations. This should include any manuals, including operating and maintenance instructions that typically are provided with such equipment or are otherwise readily available.

In addition, restrictions on access to equipment by foreign nationals when students use the equipment in courses at the University is a particular concern. It is a very common and important part of the educational experience of students to use a variety of equipment in many of their courses. Instructions for the use of such equipment is commonly taught in such courses; and it is commonly required that the students understand details about the equipment performance in order to properly apply the equipment or interpret results provided by the equipment.

The University of Michigan alone has over four thousand (4000) laboratories for research and education. Each laboratory has a multitude of equipment. Due to various factors, the exact number is difficult to determine. Given the number of laboratories, there are likely somewhere on the order of 50,000-100,000 pieces of equipment at the University. Only a very small portion of the equipment is received with constraints on dissemination of technical information; and access to that equipment would be controlled.

Also, there are more than five thousand (5000) foreign students at the University of Michigan. It would be a monumental task and extremely large and unjustified expense to attempt an assessment of potential export regulation constraints for each student for each piece of equipment to which the student might have access.

Overwhelmingly, the equipment is readily available on the open markets; and technical information associated with the equipment is easily available to foreign nationals from sources outside of the University. Controlling access to such equipment at the university would have a devastating impact on the research and education activities at the University; and this impact would occur with no benefit to the country, given the broad and easy access to technical information regarding the equipment that is readily available to foreign nationals through the general markets and media.

Sincerely,

Marvin G. Parnes

Marvin G. Parnes

Marvin G. Parnes
Associate Vice President for Research and Executive Director of Research Administration
Telephone: (734) 936-3933 Facsimile: (734) 763-0085 e-mail: mgparnes@umich.edu

Director, Division of Research Development and Administration
Telephone: (734) 764-7230 Facsimile: (734) 764-8510

From: "Rasha Abdulla" <roush@hotmail.com>
To: <publiccomments@bis.doc.gov>
Date: 5/24/2005 12:33:08 PM
Subject: RIN 0694-AD29

I strongly oppose this ruling. It's very discriminating. I'm not from any of the countries on the list, and I've already finished my ph.d. in the US two years ago. But if this rule was in effect, I would not have come to the US. There are many other places that offer good education. And if this rule is in effect, I would certainly advise my students to go to any of these other places.

From: "Daniel Foster" <Daniel.Foster@UTSouthwestern.edu>
To: <scook@bis.doc.gov>
Date: 5/24/2005 12:43:27 PM
Subject: 'RIN 0694-AD29'

Bureau of Industry and Security
Department of Commerce
15 CFR Parts 734 and 772
Edocket No. 050316075-5075-013
RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements

As an American Physician/Scientist funded for many years by the NIH and a member of the Institute of Medicine of the National Academies of Science, I urgently oppose adoption of these regulations. They will further move the USA, our beloved country, down the slippery slope toward scientific mediocracy. Laboratory investigation requires young minds and hands and energy. Unfortunately young Americans are not entering science. We can only replace them by the best and brightest applicants from overseas as graduate students and postdoctoral fellows. Many stay in our country and join our team. My own late, long term colleague, Dr. J. Denis McGarry, was just such a star. We revolutionized the physiological and molecular understanding of diabetes mellitus. He became a citizen and a passionate American scientist. Don't take that away by these unwise changes.

Sincerely,
Daniel W. Foster, M.D.
Professor of Internal Medicine
The University of Texas
Southwestern Medical Center
Dallas, Texas, 75390-9030
214 648 8068

From: "Hollie E. Stephenson" <hollie@lewis-burke.com>
To: <publiccomments@bis.doc.gov>
Date: 5/24/2005 3:10:46 PM
Subject: RIN 0694-AD29

I am submitting the attached comment letter for RIN 0694-AD29 on behalf of the President of the Association of Independent Research Institutes, Randall C. Main.

Please let me know if you have any questions.

Thank You,

Hollie E. Stephenson
Lewis-Burke Associates LLC
1000 Vermont Ave, NW
11th Floor
Washington, DC 20005
t: 202-289-7475
f: 202-289-7454

Association of Independent Research Institutes

May 24, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement from the Association of Independent Research Institutes (AIRI) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

AIRI is a nationwide association of 89 non-profit independent research institutes conducting peer-reviewed basic and applied research in the biomedical and behavioral sciences. Like universities, independent research institutes (IRIs) conduct federally-funded research awarded by science agencies primarily on the basis of merit. AIRI institutes are academic-style institutions with faculty who publish their research results in scholarly journals. Most IRIs do not grant degrees to students but conduct their research in an academic model. AIRI institutes are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

IRIs have the same interests as universities in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system

AIRI believes that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect academic-style institutions, including IRIs. The first IG recommendation of great concern to AIRI would alter the definition of use technology in determining deemed exports. In addition, AIRI is concerned that difficulties in recruiting and retaining foreign faculty will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

AIRI finds the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. AIRI strongly disagrees and supports the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, AIRI does not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of the most recent country of citizenship. With regard to IRI's and other academic-style institutions, foreign faculty are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, AIRI recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in IRI basic research;
- Clear foreign nationals for access to controlled equipment when their visas are issued such that employment at an IRI is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, AIRI hopes that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Randall C. Main
President

From: "Hollie E. Stephenson" <hollie@lewis-burke.com>
To: <publiccomments@bis.doc.gov>
Date: 5/24/2005 2:55:25 PM
Subject: RIN 0694-AD29

I am submitting the attached comment letter for RIN 0694-AD29 on behalf of the Executive Director of the Society for Industrial and Applied Mathematics, James M. Crowley.

Please let me know if you have any questions.

Thank You,

Hollie E. Stephenson
Lewis-Burke Associates LLC
1000 Vermont Ave, NW
11th Floor
Washington, DC 20005
t: 202-289-7475
f: 202-289-7454

Society for Industrial and Applied Mathematics

May 24, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the Society for Industrial and Applied Mathematics (SIAM) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

SIAM is a professional membership society of university and industry applied mathematicians, computational scientists, numerical analysts, engineers, statisticians, and mathematics educators conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our member researchers regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university/industry community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the research community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect university/industry research institutions. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty, students and professionals will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to research institutions, foreign faculty, students and professionals are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, SIAM recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international faculty, students, and professionals for access to controlled equipment when their visas are issued such that admission to university academic programs/employment in an industry lab is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

James M. Crowley
Executive Director
SIAM

From: "Purdy, Michael" <M-PURDY@govst.edu>
To: <publiccomments@bis.doc.gov>
Date: 5/24/2005 6:10:20 PM
Subject: RIN 0694-AD29

Comments on proposed policy changes"

Defining "Use" in this policy as proposed herein would seriously hamper the role of the US in many aspects of graduate education where we currently are preeminent.

``Use". (All categories and General Technology Note)--Means all aspects of ``use," such as: operation, installation (including on-site installation) maintenance (checking), repair, overhaul, or refurbishing.

Please consider leaving this policy more liberal and open to interpretation. Not only would this hamper the excellence of US education it would severely limit an already antagonistic policy toward international students.

This has implications for the US being on the cutting edge of technology, but also for international relations.

The best ambassadors of the US are students who have studied in the US and know the value of the open system of education and research we cherish.

Thanks for listening,

Dr. Michael Purdy -> m-purdy@govst.edu

Communications Program, chair

Governors State U.

(708) 534-4081 / 7895(fax)

From: Robert Curl <rfcurl@rice.edu>
To: <scook@bis.doc.gov>
Date: 5/24/2005 10:50:29 AM
Subject: `RIN 0694-AD29'

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

15 CFR Parts 734 and 772

[Docket No. 050316075-5075-01]
RIN 0694-AD29

Revision and Clarification of Deemed Export Related Regulatory Requirements

AGENCY: Bureau of Industry and Security, Commerce.

These proposed regulations, if adopted, will be enormously destructive to the scientific enterprise of the United States. At a time when our scientific and technological leadership is threatened by the development of scientific and technological capabilities of other nations, the adoption of these regulations would be equivalent to our deciding to compete in a boxing match with our hands tied behind our back.

U.S. science has always depended upon the influx of talented foreigners for its vitality. The most notable example of this dependence occurred in the years preceding World War II when foreign scientists flocked to this country, because they could not tolerate fascism. It was these European refugees who conceived and proposed the atom bomb and contributed in a major way to its development. In the more than 65 years since this influx of refugees from fascism, a large and steady stream of foreign scientists have come to work in American universities with most returning home, but many staying here to contribute in a very significant way to our scientific and technological enterprise. Foreign scientists come here because they hear of and like the freedom of America. The proposed regulations turn that upside down by restricting and regulating foreign scientists in the activity they love the most, their scientific research. They will stop coming, and we will be much poorer for it.

The proposed regulations are based upon two fantasies: 1. knowledge can be kept from spreading and 2. that we are actually miles ahead of the rest of the world in science and technology.

The knowledge of fundamental discoveries spreads across the world at the speed of light. Are you proposing that we cannot email our colleagues in Canada, the United Kingdom, Germany, France, or Japan news of some exciting fundamental discovery that we have made? They are under no restrictions. Once they hear, you can be assured that

the information might as well be published in The New York Times.

We are under the illusion that we are miles ahead in technology, because our military is the most technologically advanced not because our society is the most technologically advanced. Our military is the most technologically advanced because we have spent a significant part of our GDP making sure that it is the most technologically advanced. Other countries have spent proportionally much more on developing technology for commercial applications. If you don't believe this, what is the brand of your cell phone, your television, your VCR, your digital camera, your camcorder, or your car? Any claim to leadership that we have is in the area of fundamental science. The effect of the proposed regulations will be destroy our leadership in fundamental science.

These proposed regulations are a very bad idea. Do not adopt them.

--
Robert F. Curl, Nobel Laureate in Chemistry 1996
Kenneth S. Pitzer-Schlumberger Professor of Natural Sciences
Chemistry Department MS-60
Rice University
Houston, TX 77005
Phone: (713)348-4816
Fax: (713)348-5155

New York University
A private university in the public service

David W. McLaughlin
Provost

Elmer Holmes Bobst Library
70 Washington Square South, Room 1221
New York, NY 10012-1091
Telephone: (212) 998-3077
Facsimile: (212) 995-3190
Email: david.mclaughlin@nyu.edu

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW., Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29.

May 25, 2005

Ladies and Gentlemen:

We are responding to your request for comments regarding the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. As one of the top 50 research institutions in the country, receiving more than $230 million in research funding annually, we would like to make you aware of the potential effect of these proposed regulations at all U.S. research institutions and New York University in particular.

To view as a deemed export the operation of export-controlled instrumentation by a foreign national, even if that person were engaged in fundamental research, would have a chilling effect on the U.S. research enterprise. Fundamental research relies for its success on an open, international, collaborative and spontaneous research environment where members of research teams and their colleagues from the university community freely visit each others' laboratories, participate in joint projects, and convey ideas and information without constraint.

As the nation's National Security Advisor, Condoleezza Rice, reaffirmed in November 2001 "the linkage between the free exchange of ideas and scientific innovation, prosperity and U.S. national security is undeniable." She further acknowledged that the policy on the transfer of scientific, technical, and engineering information set forth in NSDD-189 shall remain in effect. Further, the June 2004 report of the President's Council of Advisors on Science and Technology (PCAST) cautions that the U.S. is falling behind other nations in science, technology, engineering and mathematics fields and cites as one of two reasons, "clear signs that security concerns may lead to unworkable and counterproductive policies and controls."

The recommendation that deemed export license requirements be based on a foreign national's country of origin rather than their most recent citizenship or permanent residency would generate a large burden for universities which do not presently track this information. In fact, the requirement raises legal issues with regard to constitutionally proscribed national origin discrimination. It is unclear why the IG does not believe that the current visa process, which screens foreign nationals and assesses their threat to national security before approving their entry, is judged insufficient.

Similarly, the proposed change in the definition of "use" technology would have the effect of requiring a deemed export license for merely imparting the information on how to flip a switch to turn on a piece of controlled equipment. In addition, much controlled equipment and its use technology are readily available around the world; foreign nationals would not have to come to the U.S. to obtain much of the technology to which deemed export controls apply. We believe that controlled use technology should be defined to encompass only proprietary technology that is not generally available for free or for acquisition on a non-exclusive basis by willing purchasers in the U.S.

The cost of compliance with the proposed regulatory requirements is difficult to compute. The New York University community includes thousands of students, faculty and staff who hold citizenship from other countries. Each is issued an ID card which gives them entrée into campus buildings. The cost of erecting screening devices for all laboratories and reissuing cards to our 16,000 employees and 39,400 students would be measured in the multi millions of dollars. In addition, we estimate that hundreds of licenses would be required for authorized foreign nationals to have access to controlled equipment, and a highly expensive and intrusive security system would have to be put in place to prevent unauthorized access.

Current U.S. policy, which provides that classification is the appropriate mechanism for government control of fundamental research, has for many years protected the small portion of U.S. academic research that is likely to pose a real security risk for the nation. There is no evidence that the existing control regime is not effective. As such, we urge that these proposed revisions not be adopted.

Sincerely,

David McLaughlin
Provost

Pierre Hohenberg
Senior Vice Provost for Research

DWM: ph

UNIVERSITY OF Cincinnati

Department of Environmental Health
Office of the Director
University of Cincinnati Medical Center
PO Box 670056
Cincinnati OH 45267-0056

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3223 Eden Avenue
Cincinnati OH 45267-0056

Phone (513) 558-5701

May 25, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Cincinnati (UC) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how

these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use".

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, UC recommends that DoC:

1) Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research; 2) Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and 3) continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Rakesh Chakraborty, Ph.D.
Robert A. Kehoe Professor
and Director of Center for Genome Information

UNIVERSITY OF Cincinnati

Department of Environmental Health
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Phone (513) 558-5701

May 25, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Cincinnati (UC) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how

these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use".

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

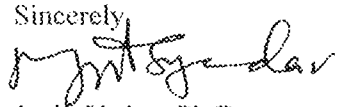
Based on these concerns, UC recommends that DoC:

1) Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research; 2) Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and 3) continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,



Jagjit Yadav, Ph.D.
Assistant Professor of
Environmental Health

WASHINGTON STATE UNIVERSITY

Office of the Vice Provost for Research

May 25, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Re: Advance Notice of Proposed Rulemaking, RIN 0694-AD29, Federal Register Vol. 70, No. 58, March 28, 2005; Revision and Clarification of Deemed Export Related Regulatory Requirements

Washington State University (WSU) is appreciative of the opportunity to provide comments and input regarding the Advance Notice of Proposed Rulemaking (ANPR), RIN 0694-AD29, published in the Federal Register, Vol. 70, No. 58, March 28, 2005 entitled "Revision and Clarification of Deemed Export Related Regulatory Requirements". We are appreciative of the significant outreach efforts that the U.S. Department of Commerce (DOC), Bureau of Industry and Security (BIS) have been making regarding export controls (including deemed exports). We also understand that the world has changed since the events of September 11, 2001 and are supportive of, and understand the need for, increased vigilance regarding the potential dual use of materials and technology.

We feel strongly about the impact of the proposed rules and join our colleagues, individually and in concert with the Council on Governmental Relations (COGR), the Association of American Universities (AAU), and others in providing our comments and concerns. In general, the BIS ANPR appears to adopt all of the recommendations made in the U. S. Department of Commerce, Office of the Inspector General (OIG), Final Inspection Report No. IPE-16176, March 2004, entitled, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." Thus many of our comments and concerns stem from the OIG report and their adoption in the ANPR. Our major comments and concerns are discussed below.

1. **Interpretation and clarification of the word "use".**
   We do not have any disagreement in changing the "and" to an "or" in the definition of "use". However, we believe that the OIG has misconstrued the interpretation of "use" if it were applied to deemed exports in the context of using a piece of equipment in the U.S. that was traditionally exempt based on fundamental research and/or publicly available information.

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509-335-9143 • Fax: 509-335-1949 • www.research.wsu.edu

2. **Interpretation and clarification of whether "use" entails the transfer of controlled technology.**
We do not believe that simply allowing "use" of controlled equipment which is available in the open market in the U.S. would entail the transfer of controlled technology. We believe that requiring a deemed export license to allow certain individuals to "use" equipment to collect research data would be unnecessarily burdensome to universities and to BIS. We believe that if a piece of equipment is shipped in the U.S. without restriction and comes with a standard operating manual that this equipment and information should not be subject to a deemed export license for "use" by certain foreign nationals for fundamental research in the U.S.

3. **The National Security Decision Directive (NSDD) 189 of September 21, 1985 provides necessary control.**
NSDD 189 provides exclusion under EAR and ITAR for "fundamental research". We believe that NSDD 189 should be the mechanism to prevent dissemination of classified information and technology in the U.S. When a university agrees to perform classified research or agrees to information dissemination restrictions on "applied research" it has an affirmative duty to carefully control who has access to that research. However, when performing fundamental research, a university must have an open academic environment and access to the best scientific talent. This is the means by which the U.S. has attained and can maintain its technological progress.

4. **Restricting certain foreign nationals access to technology (equipment and/or information) at U.S. research universities is a detriment to the leadership position the U.S. holds in university research and technology development.**
I have read and heard many arguments and statistics regarding students choosing to attend universities in other countries. This irreparably damages the U.S. educational system and leadership in fundamental research. There is currently a shortage of qualified students and research faculty in the sciences and engineering fields, and The costs, delay and burden of requiring a university to apply for numerous deemed export licenses will only exacerbate this trend. Any actions or interpretations that hinder the competitiveness of U.S. universities would be detrimental our future leadership in fundamental research and subsequent technological advances.

5. **Use of foreign national's country of birth as a criterion for deemed export license.**
This information is not currently collected at U.S. universities and would require a significant administrative burden to implement. In general, it is difficult to understand how such a requirement would be pertinent for controlling technology.

6. **Usability and understandability of the EAR and ITAR regulations.**
In general the EAR and ITAR regulations are among the more difficult to understand and interpret that we have encountered. To understand the technical terminology of the equipment lists requires significant technical expertise. We believe that if universities are to educate and rely on faculty to identify controlled

equipment that BIS must assist with examples and publications to help universities comply. BIS could utilize their experience in collaborating with universities to identify lists of equipment typically found on universities that is controlled and equipment that is not controlled. Such materials and examples would be of significant help in educating our faculty regarding thee regulations.

In summary, WSU is sympathetic to the need for enhanced national security and our role in such endeavors. We are currently expending considerable time and effort in tracking foreign nationals and enhancing our security of biological and other research materials. However, we do not believe that the recommendations in the DOC OIG Report should be adopted wholesale by BIS. We are hopeful that the dialogue that BIS has started with universities will continue and that the comments received on the ANPR will result in changes (if any are necessary) that will be practical and truly in the best interest of the U.S.

Thank you for the opportunity to comment on the proposed regulations.

Sincerely,

James N. Petersen
Vice Provost for Research

JNP/jo

cc: V. Lane Rawlins, President
Robert C. Bates, Provost
Keith Jones, Executive Director, Office of Intellectual Property Administration
Daniel G. Nordquist, Director, Office of Grant and Research Development
Robert H. Harder, Director, International Programs
David R. Clark, Research Compliance Officer
Sherry Gordon, Assistant Attorney General

From: Ken Strauss <kstrauss@uc.edu>
To: <scook@bis.doc.gov>
Date: 5/25/2005 9:20:41 AM
Subject: RIN 069-AD29

May 25, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

I agree with the statement (below) submitted on behalf of the University of Cincinnati (UC) addressing the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States.

In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of

countries that have not been deemed a security risk to the U.S.

Based on these concerns, UC recommends that DoC:
… Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
… Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
… Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Kenneth I. Strauss, Ph.D.
Director, Mayfield Neurotrauma Research Lab
University of Cincinnati Dept. of Neurosurgery
ML515 College of Medicine
231 Albert Sabin Way, MSB 4458
Cincinnati, OH 45267-0515
e-mail: kstrauss@uc.edu
tel: 513-558-3334
fax: 513-558-7702

From: Jim Pilcher <j-pilcher@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/25/2005 11:40:45 PM
Subject: [Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export administration regulations: Deemed export licenses; clarification and revision, RIN 0694-AD29

Please see the letter in the attached file.

Sincerely,

James E. Pilcher

THE UNIVERSITY OF CHICAGO
THE ENRICO FERMI INSTITUTE
5640 South Ellis Avenue
Chicago, Illinois 60637-1433
Telephone (773) 702-7823
Fax (773) 702-8038
Office of the Director

May 25, 2005

Department of Commerce
Washington, D.C.

To Whom It May Concern:

I am writing in regard to your proposed revision and clarification of "Deemed Export Related Regulatory Requirements," RIN 0694-AD29.

I write as the director of the Enrico Fermi Institute, a physics research institute of the University of Chicago. We have a staff and faculty of 280 people and conduct research from grants and contracts which last year totaled $25.8M. Our fields of research include cosmology, astrophysics, elementary particle physics, cosmochemistry, and imaging sciences. The research is all of a fundamental nature. We are investigating the properties of nature at its most basic level. We pursue almost no applied research.

In the course of performing this research our scientists use state of the art scientific equipment, including computing systems, oscilloscopes, spectrometers, optical and radio telescopes, and particle accelerators. The equipment must be state-of-the-art to obtain the best performance and results from the research we are funded to perform. We also compete in this research with scientific teams in many other countries. The equipment we use is available in a number of first class laboratories at other sites around the world.

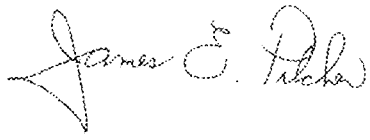
Front-line fundamental scientific research is truly an international endeavor. Almost all our major programs involve close collaboration and personnel exchange with international partners In addition, approximately half of our 71 graduate students are foreign nationals. They are the best and brightest from many countries and have passed rigorous selection requirements on their knowledge and abilities. We take great care to respect all visa requirements for our foreign participants, but the proposed change in interpretation of the "deemed export" requirements would be truly onerous. I estimate that to cover our foreign scientific visitors and graduate students we would need to license about 50 individuals, each for approximately 5 pieces of equipment.

I believe that the visa requirements, the rigorous selection of the individuals, and the fact that most of the equipment is available at other sites outside the U.S., would make illicit use of this equipment in the U.S. very unattractive.

I encourage a thoughtful and constructive interpretation of the regulations as has been the case in the past for fundamental research. To do otherwise would cause serious damage to the fundamental research enterprise at U.S. universities and government research centers.

I urge that the proposed changes in interpretation be rejected.

Sincerely,



James E. Pilcher
Director, Enrico Fermi Institute
Professor, Department of Physics

From: "Jon Christopher Pennington" <jpenning@uclink.berkeley.edu>
To: <scook@bis.doc.gov>
Date: 5/25/2005 12:47:34 AM
Subject: RIN 0694-AD29 Comments

Dear scook@bis.doc.gov,

As for the current proposed Commerce Regulations that would require costly and time-consuming bureaucratic licenses for foreign students, I only have one response: Are you insane? You are a Commerce Department, which means that you are to promote commerce, not to destroy it. America's university system is the envy of the known world and it's a major reason why the best and brightest of nations all over the world want to attend higher education here. To implement this rule would chase away hundreds of foreign PhD students who could someday create the next great invention in computers or biotechnology. It's nonsensical to anybody who cares about research & development are necessary to promoting the inventions necessary to keep a healthy and functioning economy. Please reconsider these regulations. Thank you and, if possible, I would appreciate the courtesy of a reply.

Sincerely,

Jon C. Pennington

From: Hassan Aref <haref@vt.edu>
To: <scook@bis.doc.gov>
Date: 5/25/2005 4:00:13 PM
Subject: RIN 0694-AD29

Dear Regulatory Policy Division:

On behalf of Virginia Tech's College of Engineering, I am writing to express my strong concerns about the possible actions stemming from the review of the Inspector General Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." I would like to cite a number of compelling reasons that we believe these recommendations would adversely impact research activities in higher education across the U.S. I will also cite a number of specific concerns in our College of Engineering, among the top 15 colleges of engineering in the U.S. in terms of research expenditures as cited by the National Science Foundation.

Let me start with this overview, taken from the May 4, 2005 editorial page of the Wall Street Journal. The article "Our Ph.D. Deficit," written by Norman R. Augustine, retired chair and CEO of Lockheed Martin Corp., and Burton Richter, former director of the Stanford Linear Accelerator Center and winner of the Nobel Prize in Physics in 1976, presents extremely compelling facts about the current risks to the U.S. economy. They made the following sequential points:

- A major component of job creation is investment in science research
- With new technologies, come new high tech wage jobs
- Unfortunately U.S. federal funding for research in the physical sciences and engineering has been stagnant for two decades in inflation-adjusted dollars
- As a percentage of GNP, the federal investment is physical science research is half of what it was in 1970
- In China, R&D expenditures rose 35 percent between 1991 and 2001, and the number of science and engineering Ph.D.s soared 535 percent.
- In South Korea, R&D expenditures increased 220 percent and Ph.D.s by 150 percent.
- In that same period the number of U.S. patents from each country grew by 400 percent.
- In America, enrollments in the physical science and engineering fields are down more than 20 percent since 1993.

- And the kicker – With abundant opportunities in their own countries, foreigners are not flocking to study in American universities in the same number they did a decade ago.

Do we really want to compound this problem?

We know that the visa controls already in place (both factual and hearsay) have resulted in many middle-eastern countries sending their students to other countries, mostly Australia, Canada, and England. Fewer and fewer are even thinking or considering the U.S. for either

graduate or undergraduate education. Can you imagine the impact of the proposed legislation on that already small percentage?

At Virginia Tech, our Director of International Programs, Dr. Sedki Riad, has had a number of exchanges with Egyptian officials about the potential new policy. A particularly compelling statement was reported to him by one Egyptian official who learned about this proposal. His comment to Dr. Riad was: "It will be better and more economical for us to reopen the channels with the Russians!"

As a reminder, Egypt used to send their graduate students to the Soviet Union and East European countries in the 60s and 70s until they realized that they were not getting the same education given to the natives. The Eastern Bloc countries designed special programs for international students that were substandard and limited in scope. If the U.S. goes the same route by limiting the international students from adequate exposure to the state-of-the-are technologies, those students will go to other countries where they will get the needed exposure and they will get it.

As another concern, our college has many Chinese and Indian scholars by birth, as well as some Russian and Pakistani, four of the countries cited as being "of concern." Take the example of Dr. Ishwar Puri, the Head of our Department of Engineering Science and Mechanics. Under the proposed rule change, he too would have to be licensed since the proposal changes the basis for rule application to be country of birth rather than country of citizenship. Therefore, the proposal is particularly egregious and personally disrespectful of his status as an American citizen, since it boldly questions his patriotism and national allegiance. (In fact, Dr. Puri was required to relinquish his Indian citizenship by the Indian government when he became an American citizen quite a few years ago). That requirement in itself might serve as a severe litmus test. The Department of Commerce must consider that Dr. Puri's status reflects many thousands of academicians throughout higher education in the U.S. Do we really want to subject our American citizens, born on foreign soil, to this embarrassment?

Furthermore, Virginia Tech is the home of the National Science Foundation Center for Power Electronic Systems (CPES). CPES is a 5-university consortium with 76 industry partner companies from around the world. Although the center has developed and successfully implemented a strategic plan with the purpose of enhancing participation of a diverse population of U.S. students within the Center, domestic student participation is but a single component of the larger multicultural and global profile of the center. The participation and contributions of international students represents a critical component of the center's activities and outputs and reflects the globalization of today's high-tech marketplace.

In fact, international students represent 70 percent of doctoral student effort related to this five-university consortium that has generated $58.6 million in resources since its inception in 1998. Furthermore, investment by foreign industry in CPES totals more than $3.5 million, reflecting the worldwide recognition of the center.

Within the past year alone, non-U.S. students within just the Virginia Tech component of CPES have contributed to nine invention disclosures, nine U.S. patent applications, and seven U.S. patents awarded. Its visiting scholar program hosted nine faculty, post docs, and students from around the world for the purpose of research collaboration. The negative impact that the Department of Commerce's proposed regulation would have on an international center like CPES is abominable.

Space is yet another strong concern. What if academic institutions had to provide additional lab space to provide both the limited access facility as well as the open domain lab for each area of research that is considered "sensitive" by the Department of Commerce? At CPES, state-of-the-art laboratories, vital to the consortium's productivity and its history of industry collaboration, total more than 37,000 square feet and reflect a combined investment in inventory and facilities estimated to total more than $32 million. CPES at Virginia Tech (enabled by an award from the Defense University Research Instrumentation Program (DURIP) and university cost sharing) has expended more than $1 million to renovate and upfit its laboratory facilities to accommodate medium voltage, megawatts power capacity. This unique installation distinguishes Virginia Tech as one of a few select universities in the U.S. with this capability and enhances its position as a future leader in power electronics research on a global scale.

Currently, any student in the CPES group can access all the instruments. To limit this access by regulating that particular instruments are off-limits to some under the proposed export control rules is ludicrous. It would require a separate lab space with limited access be arranged. Considering the severe shortage of lab space for our specific college, and the amount of outdated or antiquated space that we already operate in (four of our engineering buildings range in age from 79 to 43 years old), additional lab space only for that particular purpose is a tremendous waste and an impossible expenditure at this time in higher education.

According to the AAUP website (http://www.aau.edu/sheets/ITAR.html), when Congress transferred in 1999 the responsibility for satellite technology from the Commerce Department to the State Department, research activity that once was subject to the fundamental research exclusion under National Security Directive 189 was, for the first time, formally regulated and made subject to the State Department's International Traffic in Arms Regulation (ITAR). Adverse impacts on research at universities have been substantial. Please take the time to visit this website and read the listed scenarios.

In our own specific case at Virginia Tech, one of our internationally known researchers in the wireless field, William Tranter of electrical and computer engineering, received an RFP from Boeing on hardware in the loop simulation. He responded and won the competition. At the kick-off meeting he discovered that it was a DARPA feed-through project and ITAR restrictions applied. Since ITAR was not mentioned in the RFP Virginia Tech objected. Boeing removed the ITAR restrictions, since no restricted technical material was to flow from Boeing to the University

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All went well until Boeing wanted to renew. Boeing stated up front that the second year's effort would be ITAR restricted, but that we could apply for exceptions where appropriate. The University accepted the renewal contract on these terms. Then the problems started. Boeing stated that all ITAR DARPA rules would apply, and all students supported by this effort would not be allowed to share offices with foreign nationals. Seminar and defense gatherings in which the Boeing effort was discussed would have restricted attendance, etc. After a few months in negotiations, Dr. Tranter told his Boeing contracts officer that such restrictions were not in the best interest of graduate education and sent the money back!

Is this how we want to run research and graduate studies at our American universities?

In conclusion, and speaking from my own personal experiences, I was born in Alexandria, Egypt, but I am an American citizen. I attended the University of Copenhagen as an undergraduate and received my doctorate in physics from Cornell University. In 1985 I was named a National Science Foundation Presidential Young Investigator. Included in my career is a three-year stint as the Chief Scientist at the San Diego Supercomputer Center. At Virginia Tech, I played a leading role in the development of System X, the fastest academic supercomputer in the world. Similar to Dr. Puri's situation that I outlined above, I would take exceptional offense to having my allegiance questioned. I am not alone. Are you truly ready to present America's competitors with another edge on global competition?

Sincerely yours,

CC: <alopes@bis.doc.gov>

Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Office of the Dean

College of Engineering (0217)
333 Norris Hall, Blacksburg, Virginia 24061
(540) 231-6641 Fax: (540) 231-3031

May 25, 2005

U.S. Dept. of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Ave. NW
Room 2705
Washington D.C. 20230
ATTN: RIN 0694-AD29

Dear Regulatory Policy Division:

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Sincerely,

Hassan Aref
Dean of Engineering
Reynolds Metals Professor

From: Ya-Ping Tang <yptang@bsd.uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/25/2005 6:22:19 PM
Subject: RIN0694-AD29

Dear Lawmakers:

The "deemed exports" made by DOC is against the fundamental policy, which highly evaluates and respects for the "human right", in this country. Everybody knows in this world why so many first-class scientists want to come to this country for their career life. This is because of the most attractive policies: freedom, excellent human right, and equality. It is extremely unfortunate that the policy of the "deemed exports" is undoubtedly going to destroy this foundation.

It should be mentioned that almost all of us are immigrants. Also, I believe that more than 99.99% scientists from other countries including China and India are truly contributing their efforts, intelligence, and even whole life to developing this country. Although there is a possibility that an extremely low number of these foreigners may do some illegal things to against this country or to challenge the social security in this country, it really does not make any sense to put a discriminative policy on all the foreigner scientists. It is totally unimaginable that a judge decides to put not only all of the family members, but also their relatives and friends, and people from the whole neighborhood, or even from the whole city into a jail (may be one hundred jails), just because one member from this family is criminal. Even in ancient China or Roman, 2,000 year ago, it was impossible.

The "deemed exports" is a sever race discrimination policy and I, as a basic scientist in this country originally from China, protest any possibility to approve this policy, in the strongest way. It is not only hurts all scientists from other countries, but also hurts the University, Institutes, Organizations, and eventually this country.

Dear lawmakers, please do your best to develop this country, but do not block or destroy this country. I will appreciate your efforts.

Yours sincerely,

Ya-Ping Tang, Ph.D.

Assistant Professor
Department of Psychiatry
Committee on Neurobiology
The University of Chicago.
--
Ya-Ping Tang, Ph.D.

Assistant Professor
Department of Psychiatry

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Tel: (773) 834-5151 (office); (773) 834-5154 (lab)
Fax: (773) 834-2970
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CC: <moffat@cars.uchicago.edu>

OAK RIDGE NATIONAL LABORATORY
MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

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Fax: (865) 241-2967
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May 26, 2005

Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Pennsylvania Avenue NW
Room 2705
Washington, D.C. 20230
ATTN: RIN 6094-AD29

Proposed Rule for Revision and Clarification of Deemed Export Related Regulatory Requirements Vol. 70 No. 58 Federal Register RIN 0694-AD29 (March 28, 2005)

UT-Battelle, LLC, the management and operating contractor for Oak Ridge National Laboratory, appreciates the opportunity to comment on the Department of Commerce Notice of Proposed Rulemaking, Vol. 70 No. 58 Federal Register RIN 0694-AD29, regarding the revision and clarification of deemed exports relating to regulatory requirements. We recognize that it is a very broad and difficult task to promulgate a rule addressing the conditions and criteria that govern the transfer of sensitive technology to foreign nationals working at or visiting United States national laboratories. Several aspects of the proposed rule needs additional clarification and modification in order to balance national security concerns with the technological leadership in an increasingly competitive world market. Our comments are as follows:

We believe the rule should segregate the definition of "Use" and its implication on technology transfer into two components. The present "Use" definition is *Operation, installation, (including on-site installation), maintenance (checking), repair overhaul, and refurbishing*. We suggest the first part of the definition should consist of only installation (including on-site installation), maintenance (checking), repair, overhaul or refurbishing. The second part of the definition should be separated and include only operation. In separating the operation component, the criteria for technology transfer for operations would be based on a "Technical Analysis," which may or may not transfer technology given the individual circumstancens of a particular situation.

In summary, if a low threshold is used to define technology transfer (deemed exporting) without regard to "Technical Analysis," the research community would be severely impacted with research schedule delays, cost of seeking a large number of deemed export licenses, and research programs moving abroad because of the competitive nature of the business.

Again, thank you for the opportunity to comment on the proposed rulemaking. If you have any questions, please contact Rolf Migun at 865-576-7230 or Alan Parker at 865-241-9514.

Sincerely,

Jeffrey Wadsworth

Jeffrey Wadsworth
Director

JW:sjb

c: G. G. Boyd, DOE-ORO
L. Dever, DOE
M. J. Frietze
R. P. Migun
S. L. Porter
J. B. Roberto
J. W. Smith
G. L. Turner
File - RC

UT-Battelle, LLC
Management and Operating Contractor for the U.S. Department of Energy's
Oak Ridge National Laboratory
Comments on the Proposed Rule for Revision and Clarification of Deemed Export Related Regulatory Requirements
Vol. 70 No. 58 Federal Register RIN 0694-AD29 (March 28, 2005)

Introduction:

UT- Battelle, LLC, the management and operating contractor for Oak Ridge National Laboratory (ORNL), appreciates the opportunity to comment on the Department of Commerce (DOC) Notice of Proposed Rulemaking, Vol. 70 No. 58 Federal Register RIN 0694-AD29 (March 28, 2005), regarding the revision and clarification of deemed exports relating to regulatory requirements. We recognize that it is a very broad and difficult task to promulgate a rule addressing the conditions and criteria that govern the transfer of sensitive technology to foreign nationals working at or visiting U.S. National Laboratories and Universities. Several aspects of the proposed rule need additional clarification and modification in order to balance national security concerns with technological leadership in an increasingly competitive world market

Jurisdictional Breadth of this Rulemaking

In review of the Proposed Rulemaking and 15 CFR Part 774 Commerce Control List, it is noted that a number of the Export Control Commodity Classifications (ECCNs) fall under the jurisdiction of other Government Agencies. Examples include:

- 0A001 (nuclear reactors), which is controlled by the Nuclear Regulatory Commission (NRC) under 10 CFR Part 110 for equipment and the Department of Energy (DOE) under 10 CFR Part 810 for the associated technology;
- 0A002 (nuclear propulsion systems), which is controlled by the Department of State under 22 CFR Parts 120-130; and
- 1C991 (vaccines, immunotoxins, medical products for human administration), which is controlled by the Food and Drug Administration under 42 CFR Part 72.

The question here is whether the DOC's proposed rulemaking will apply to these items cited in the Commerce Control List where the export control jurisdiction falls under another government agency.

It is our understanding that the answer is no. It is also our understanding that rules associated with "Use Technology" will be defined under the other respective jurisdictions (Energy, NRC, State, etc.) and that those rules will apply to the cited commodities where jurisdictional authority lies with other government agencies. An example is the Department of State and its rule with respect to "Object Code" and "Source Code." Under the Department of State object code (application software) use constitutes a technology transfer. Under the DOC the technology transfer depends upon the intended purpose and use of the application software, after which, a judgment is made.

Rulemaking Restatement:

Two stated subject areas are cited in this Federal Register Notice. The two subject areas cited by the IG-Audit (Final Inspection Report No. IPE-16716-March 2004) are:

- Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement and
- Definition of "Use Technology."

Each of these areas is addressed separately below.

Citizenship versus Country of Birth

The current Bureau of Industry and Security (BIS) deemed export requirements are based on a foreign national's most recent country of permanent residency or citizenship. The IG-Audit cited above recommends using country of birth rather than most recent country of citizenship. In our opinion, this change would not correct the perceived problem identified by the IG-Auditors. The IG-Auditors used an example of a Canadian citizen who was born in a sensitive or terrorist country and travels in the U.S. doing business with a research laboratory. When applying the recommended change to this foreign national, access to the technology would require a license because his/her country of birth is a sensitive or terrorist state. However, if this foreign national travels back to Canada (their country of citizenship), he/she can be sent information because it is now an export rather than a deemed export. The contention here is that an individual's loyalty or intended behavior is best characterized by the country of birth rather than the country of most recent citizenship.

The attempted correction in the IG-Audit may well have the opposite effect in the example of an individual who is born in Canada, but moves and obtains citizenship in a sensitive or terrorist country. In this example, the individual would be authorized to have access to many export control technologies while in the U.S. doing business with a research laboratory. In this situation, the equipment and software can be deemed exported even though the foreign national holds citizenship from a sensitive or terrorist country, while they are in the U.S.

The intent and challenge is to identify individuals who threaten U.S. interests (loyalty and intended behavior). Although one-dimensional approaches are usually not sufficient in making this determination, using two different bases for application (deemed export – country birth place and export – country itself) often, creates more problems than it solves. This dilemma will become an increasingly troublesome problem in the future. Transience behavior of individuals in an increasingly mobile world with the dramatic increase in multinational corporations, international institutions (e.g., IAEA, professional organizations, affiliations, etc.), universities, and web-based businesses will require a new model (approach) other than the country of citizenship or country of birth.

At this time, for the reasons stated above, we strongly recommend continuation of the country of citizenship rather than the country of birth to predict loyalty and intended behavior as it relates to this rulemaking notice.

Definition of "Use" Technology

(A) Background

The following two technology definitions as cited in 15 CFR Part 772, are provided for reference purposes. The deemed export definition in 15 CFR 734.2(b)(2) and publicly available information definition found in 15 CFR Part 772 are provided for references purposes as well. The subsequent recommendations are based on the understanding of these definitions and the proposed rulemaking notice.

General Technology Note states that, "The export of 'technology' that is 'required' for the 'development,' 'production,' or 'use' of items on the Commerce Control List is controlled according to the provisions in each Category. Technology required for the 'development', 'production', or 'use' of a controlled product remains controlled even when applicable to a product controlled at a lower level. License Exception TSU is available for 'technology' that is the minimum necessary for the installation, operation, maintenance (checking), and repair of those products that are eligible for License Exceptions or that are exported under a license."

Use (All categories and General Technology Note)--Operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing.

The IG-Audit cited above took exception to the wording in the definition of "Use Technology." The IG-Audit proposed the change from "and" to "or" as indicated below:

- (All categories and General Technology Note) – Operation, installation (including on-site installation), maintenance (checking), repair, overhaul **and** refurbishing
- (All categories and General Technology Note) – Operation, installation (including on-site installation), maintenance (checking), repair, overhaul **or** refurbishing

The IG-Auditors argue, that the likelihood of a foreign national meeting the collective definition by the use of the word **and** would be rare, due to the breadth of the collective definition. Casual users, researchers and others would not meet this definition and therefore the transmission of technology (deemed export) would likely occur by the use of the "and" rather than "or."

Pursuant to the Export Administration Regulations(EAR) 15 CFR 734.2(b)(2), a deemed export is defined as follows:

> *(ii) Any release of technology or source code subject to the EAR to a foreign national. Such release is deemed to be an export to the home country or countries of the foreign national. This deemed export rule does not apply to persons*

lawfully admitted for permanent residence in the United States and does not apply to persons who are protected individuals under the Immigration and Naturalization Act (8 U.S.C. 1324b(a)(3)). Note that the release of any item to any party with the knowledge that a violation is about to occur is prohibited by §736.2(b)(10) of the EAR.

The regulation further states that the technology or software can be "released" for export through:

(i) Visual inspection by foreign nationals of U.S.-origin equipment and facilities;

(ii) Oral exchanges of information in the United States or abroad; or

(iii) The application to situations abroad of personal knowledge or technical experience acquired in the United States.

The definitions of publicly available information, technology and software as defined in 15 CFR Part 772 are:

- ***Publicly available information***. Information that is generally accessible to the interested public in any form and, therefore, not subject to the EAR (see part 732 of the EAR).
- ***Publicly available technology and software***. Technology and software that are already published or will be published; arise during, or result from fundamental research; are educational; or are included in certain patent applications (see §734.3(b)(3) of the EAR).

(B) Definition Recommendations

The definition of "Use" again is "Operation, installation (including on-site installation), maintenance (checking), repair, overhaul **and** refurbishing." Changing the definition to "Operation, installation (including on-site installation), maintenance (checking), repair, overhaul **or** refurbishing" will allow any one of these conditions to potentially constitute a deemed export. These definitions apply to export control equipment, materials, and software.

The threshold could be set very low if this definition **automatically** includes visual observation, walk by, or topical discussions without regard to a meaningful definition of what truly constitutes a technology transfer. This definition would compel research laboratories, universities, and corporations to apply for deemed export licenses under a very broad range of foreign national visits, assignments, employment, professional organizations, and other interfaces regardless of whether an actual technology transfer took place. Fundamental research, as well as other open research projects and programs, would be adversely impacted by having such a broad-based definition.

Rather than protecting the U.S. Government from loss of sensitive technologies it would have the opposite effect of driving research abroad and severely impacting our technology and economic leadership.

The following process is recommended to address the potential concerns about the interpretation and implementation of this proposed rulemaking. First, segregate the "Use" definition into two components. The first part of the definition would consist of installation (including on-site installation), maintenance (checking), repair, overhaul or refurbishing. An individual who is involved with equipment under definition must have some access to the technology in order to perform his or her job, which would include making performance improvements. The second part of the definition is operation. And the technology ***may or may not*** transfer. To make this determination, the individual circumstances would need to be evaluated under the conditions of an operation, that is, a "**Technical Analysis**" would be conducted.

The technical analysis would include reviews of the kind of equipment, materials, software (characteristics) to be used, the type of facility, the foreign national involved and his/her training and knowledge, the purpose of the use of the equipment, materials, or software (i.e., fundamental research or proprietary work), including what is already in the public domain. This technical analysis component of the process addresses the question of whether or not a technology transfer will occur.

It is highly recommend that the "operation" part of the definition be based on a technical analysis that allows the research facility to review the conditions of the use and make the proper technology transfer determination. This determination could include a set of evaluation criteria from BIS for family or classes of equipment, material and/or software that would be used to determine what constitutes technology transfer within each of these families/classes. This recommendation is expanded under Commerce Department Partnerships below.

(C) Examples of Technical Analysis

(1) Automobiles
An individual who is responsible for designing, building, repairing, installing (assembly), overhauling, or providing maintenance would need to know the technology associated with these functions in order to perform their work. A person who operates the vehicle can drive for years over thousands of miles over many years and not know enough from that operation to repair an electronic failure in the vehicle.

(2) High Performance Computers (HPC)
Under the DOC the export of HPC is highly controlled. The reasons for control under the commodity classification of ECCN 4A003 include National Security, Missile Technology, Nuclear Nonproliferation, Anti-Terrorism, Crime Control, and HPC (special reporting requirements). The related source code for the hardware is ECCN 4D003 and the technology is ECCN 4E001. Given the highly restrictive controls, a foreign national who is not from a Tier 4 country can run application software on top

of the operating system and hardware provided the foreign national does not get access to the operation software (source code) and hardware and the output is checked to assure that the work being performed is what was reviewed and authorized. This flexibility is an example of "Technical Analysis" which concluded that a deemed export would not occur under these conditions.

(3) Research Reactors
This example involves a research reactor that is used for fundamental research involving neutron science. Nuclear reactor equipment is under the NRC jurisdiction and the technology is under the DOE export control jurisdiction. In this example the proposed research is reviewed prior to authorization access. In conducting the fundamental research experiment, the foreign national does not acquire access to controlled technology of the reactor facility. The researcher uses the neutron beam to conduct fundamental science experiments and there is no transfer of controlled reactor technology.

(D) Operational Impacts without Implemented Recommendations

ORNL has approximately 4000 employees and another several thousand assignees supporting a multitude of projects, programs, and research areas. Presently ORNL has in excess of 2600 foreign visits and assignments each year, and that number is expected to grow as new world-class User Facilities are opened over the next two to three years. An example facility is the $1.4 billion Spallation Neutron Source research facility which will have many foreign national researchers conducting a wide variety of experiments. ORNL has a number of international agreements involving diverse scientific collaboration. An example program is the $5.0 billion ITER Fusion Program involving many foreign governments and research institutions. ORNL has over 20,000 pieces of equipment, as well as a substantial amount of materials and software in its property system. Additionally, ORNL procures over $500 million of goods and services each year. As a result of this level of procurement activity there is a significant amount of material and equipment being surplused each year, which also requires evaluation. ORNL is typical of most U.S. Government research facilities and reasonably representative of larger universities in this country with respect to broad-based research programs, large amounts of equipment, materials and software, and a significant foreign national population.

At the programmatic level many researchers are not U.S. citizens or do not have a VISA status of Legal Permanent Residence (LPR) which exempts these individuals from export control licensing requirements. These non-LPR foreign nationals lead projects or provide technical assistance as research staff or guests, including post-docs and visiting faculty. This group would be impacted by this rulemaking.

A specific cost figure can not be determined given that the threshold has not been established. However, the cost will be significant, and the cost to research could be detrimental to the future technology position we as a nation enjoy at this time.

If a low threshold is used to define technology transfer (deemed exporting) without regard to "Technical Analysis," the research community and the DOC would be overwhelmed by the sheer volume of license applications. Research schedules would be delayed and, in some instances, the research (and researchers) would move abroad because of the competitive nature of the business. Implementation of the license and its provisos for each of these deemed exports at such a level would be administratively difficult, burdensome, and potentially ineffective.

In addition to the technology transfer issue associated with equipment, material and software use is the evaluation of the intended research. Programs, projects, and research areas must also be vetted to assure that control areas, proprietary research, and national security programs do not result in a deemed export to a foreign national. This area is already scrutinized closely and requires a significant amount of resources. Equipment, material, and/or software are tools being used for an intended research program and should not be overlooked when considering the "Technical Analysis" request being made herein. A significant amount of effort and resources is expended in this evaluation as well.

Commerce Department Partnership

The commodity code "Use" list provided by the BIS identifies approximately 75 ECCN(s). Embodied in these 75 ECCN(s) is the reference to other ECCN(s) totaling approximately 335 ECCN(s). This number is quite large and involves many types of equipment, materials, and software. It would be extremely helpful and ultimately necessary to accumulate these ECCN(s) into family groups or classes and address the "Technical Analysis" criteria in the context of family groups or classes. Such a categorization provides a consistent evaluation process for all research laboratories, research facilities and universities. A checklist of the technical analysis criteria could be developed and provided to the general public as a part of BIS Export Management System guidance discussed in the next section below.

Related Recommendations

Depending on the threshold criteria that are selected in the final rule, the technical analysis process for the family groups or classes will require a phased approach, which is essential if the research laboratories, research facilities and universities are to responsibly respond to the additional requirements. This time frame needs to include training by BIS with the development of technical criteria checklists by family groups or classes with actual examples.

Presently, deemed export licenses have a maximum duration of two years. It is recommended that this duration be extended for foreign national researchers who are employees, or who have long-term research relationships with U.S. laboratories, universities, and research facilities as long as that relationship exists. This time interval can be tied to the program, project, or facility.

It is recommended that deemed export licenses be granted for export control commodity categories rather than specific equipment, materials, or software. This would offer greater flexibility in a research environment where specific work pathways are subject to change based on new research information and direction.

It is recommended that the Advisory Opinions issued by the BIS in this area of Technical Analysis involving technology transfers be posted on the BIS web site for public access.

It is recommended that the BIS Export Management System be updated to include the process of technical analysis for equipment, materials, and software and posted on the BIS web site.

URA Universities Research Association, Inc.

May 26, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the Universities Research Association, Inc. (URA) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

URA is a nonprofit consortium of 90 research-oriented universities conducting federally-funded research awarded by science agencies primarily on the basis of merit at the Fermi National Accelerator Laboratory (Fermilab). In addition, other international scientific institutions perform research at Fermilab as well. Our staff, visiting scientists, and graduate students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules, although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fall short of a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by way of implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime, rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign scientists, faculty, and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth, rather than current citizenship status.

1111 19th Street NW, Suite 400, Washington, DC 20036-3627
(202) 293-1382 FAX: (202) 293-5012
WWW.URA-HQ.ORG

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul, and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews, and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, URA recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

William A. Schmidt
General Counsel

cc: G. Leonard, FNAL

From: Liubo Hong <liubo_hong@yahoo.com>
To: <scook@bis.doc.gov>
Date: 5/26/2005 9:57:43 PM
Subject: Opposing DOC's RIN 0694-AD29

Dear Sir/madam;

This DOC proposal will pose serious difficulty to many citizens or permanent residents of the US like me. The proposal needs to be thought through carefully.

Sincerely
Liubo Hong, Ph.D.

From: <kstrickland@spa.msstate.edu>
To: <Kstrickland@spa.msstate.edu>, <scook@bis.doc.gov>
Date: 5/26/2005 12:38:23 PM
Subject: RIN 0694-AD29

This document was also faxed.
Thank you,
Kacey Strickland
Mississippi State University
(662)325-7402

Mississippi State University

Office of the Vice President for Research and Graduate Studies

May 25, 2005

Mr. Alex Lopes
Director
Deemed Exports and Electronics Division
Bureau of Industry and Security

SUBJECT: Mississippi State University Response to RIN 0694-AD29 dated March 28, 2005

Dear Mr. Lopes:

On behalf of Mississippi State University, I am writing to respond to RIN 0694-AD29 "Revision and Clarification of Deemed Export Related Regulatory Requirements." Mississippi State University fully understands and concurs with the need to protect certain information and technologies for purposes of national security. However, the Commerce Inspector General's recommendations have serious implications for academic institutions. Our primary concerns are the "policing" responsibilities that these recommendations will impose on academic institutions and the resulting administrative burden.

Mississippi State University has approximately 77,294 items classified as "equipment" that may have to be considered under the proposed new guidelines. We have approximately 662 foreign national students and faculty on our campus representing 88 foreign countries. Considering an estimated 10 hours per evaluation for a deemed export license at an average cost of $37.93/hr. ($379.30 per evaluation) this would be an overwhelming financial burden for Mississippi State University. Significant resources would be redirected to this policing action, greatly reducing resources available to educate U.S. students and to advance the nation's research programs.

Although we understand the need for control, we feel that the control should be at the visa level. In this way, foreign nationals of concern can be identified and their access to U.S. academic institutions limited based on their visa status. To pass this burden to academic institutions by requiring a license for a foreign national to "use" equipment, if the export of the equipment to the student would require a license, would be financially damaging to U.S. institutions and students.

We appreciate the opportunity to submit these comments. I hope you will give our concerns your most serious consideration.

Sincerely,

Colin Scanes
Vice President for Research and Graduate Studies

P.O. Box 6343 • Mississippi State, MS 39762-6343 • (662) 325-3570 • FAX (662) 325-8028

From: "Horton-Smith, Glenn" <gahs@phys.ksu.edu>
To: <scook@bis.doc.gov>
Date: 5/26/2005 12:40:46 PM
Subject: RIN 0694-AD29 Revision and Clarification of Deemed Export Related Regulatory Requirements

Regarding the proposed "Revision and Clarification of Deemed Export Related Regulatory Requirements":

Modifying the rule as proposed would have an extremely negative impact on U.S. university research groups, including my own. I would characterize the impact as somewhere between extremely damaging and completely disastrous.

I am currently in the process of interviewing candidates for a postdoctoral research position in neutrino physics. The two top candidates on my present short list happen to be Chinese citizens. The research topic itself is as basic as one can imagine, but in order to perform the research, we need to use a variety of tools which appear on the Commerce Control List, especially high speed oscilloscopes (or equivalent digitizing electronics) and clusters of networked recent-model Pentium-class computers, and potentially any commercially available technology that is of use to us, which might include anything from secure communications software APIs to sensitive gated cameras. If the rules change and my people can no longer use these tools, then I can no longer do my research. If I were, as a consequence of this proposed rule change, to hire a less-qualified non-Chinese postdoc in order to get someone who can use the necessary tools legally, or to fire the Chinese postdoc and hire someone else at such time as the rules do change, it would be (1) a repugnant and possibly illegal discrimination in employment on the basis of nationality, (2) an action that would likely harm my relations with my peers and collaborators in many other nations, not just China, and (3) a situation that would harm my research compared to how it could progress if I could hire the most qualified person and expect that this person could legally use these tools. This is why I characterize the impact as somewhere between extremely damaging and completely disastrous.

When I say we "use" these tools, I mean that we make use of them as "ordinary users": we do not build them from scratch, tear them apart to see what makes them work, or otherwise develop the skills to construct Pentiums, high speed oscilloscopes, etc. Operating, installing, and/or maintaining such equipment or

software does not confer the necessary skills to allow anyone to recreate such technology in another country. I have been using such equipment for almost as long as I have been driving, and I could no more build a high-speed oscilloscope or a Pentium CPU than I could rebuild my car's transmission. I therefore oppose the proposed rule change as being unnecessary and unwise, in addition to being extremely damaging to U.S. basic research. It is appropriate that the "export" of technology be "deemed" to have occurred _only_ when the "use" of the technology includes operation _and_ deep engineering or reverse-engineering of the technology, such as redesign, refurbishment, or rebuilding.

I apologize for the poor formatting of the text in this message. I am currently on location at an experimental site in Japan, and have a limited amount of time to deal with niceties. But I did not want to miss the opportunity to comment, due to the significance of the proposed rule change. I have spent a some time over the last month attempting to determine on my own specifically which of the technologies I use would be affected. I was not able to find anyone in the KSU administration knowledgeable about "exports" who could help me. You should know that the time spent on this activity subtracted from the time I could spend on my research. Thus, while I truly appreciate your attempts to improve your regulations and your process for inviting citizen input, you should be aware that merely proposing such a radical change to the conduct of university research in the U.S. has already had some negative impact. I sincerely hope it will be a long time before any such change is proposed again.

Respectfully yours,
Glenn Horton-Smith
Assistant Professor
Department of Physics
Kansas State University

CC: "Horton-Smith, Glenn" <gahs@phys.ksu.edu>

From: "Jones, Tony" <JONESTO2@voughtaircraft.com>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: 5/26/2005 2:16:30 PM
Subject: RIN 0694-AD29, Revision and Clarification of Deemed Export Relate d Regulatory Requirements

Vought Aircraft Industries, Inc. ("Vought") provides the comments below for your consideration during BIS' review of the Inspector General Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S."

1. Vought does not object to the proposed change to the definition of "Use" technology in Section 772.1 of the EAR. Vought has interpreted "and" in the definition as meaning "and/or;" therefore this change will not adversely impact Vought.

2. The Inspector General's use of the term "foreign national" requires clarification. The EAR does not define "foreign national" in Part 772, or elsewhere, and the term has various potential meanings as shown by the Inspector General's report. A precise definition is necessary for a complete evaluation of the impact of the proposed changes to Vought's business activities. Part 772 of the EAR does define "person" as "a natural person, including a citizen or national ... of any foreign country ...." The EAR does not define "foreign national," although the term is used in Parts 730, 734, 736, etc. The lack of a clear and concise definition for this key term results in various interpretations by Government and industry personnel responsible for export compliance and enforcement. A clear, concise definition is needed.

3. Requiring U.S. industry to determine and/or obtain documentary evidence of the place of birth, regardless of citizenship, of every potential foreign employee or foreign visitor who will have access to dual-use controlled technology will place an additional burden on U.S. industry and will result in:

* Additional costs (paperwork, time and effort)
* Increasing lead times for foreign visit/employment processing
* A need for additional deemed export licenses requiring 45 to 90 days for processing
* Potential violation of U.S. EEO laws and regulations pertaining to nondiscrimination based on nationality

In the event Vought requires and succeeds in obtaining documentary evidence of each individuals place of birth (e.g., by requiring each individual provide a birth certificate and/or a passport), Vought, and probably most of U.S. industry, does not possess the expertise to verify the validity of foreign birth certificates and may not have the ability to read foreign birth certificates.

Any proposed change to foreign national access to dual-use controlled technology will have an immediate and direct impact on Vought's:

* Business relationship with its Canadian suppliers and employees of

Canadian suppliers. Vought purchases a substantial amount of commercial aircraft products, capital machinery and equipment, software and raw material from Canadian suppliers. Vought hosts visits by over 100 Canadian citizens each year. At present, Vought confirms each Canadian visitor's citizenship, but not their place of birth. Verifying each Canadian visitors place of birth will delay on-going business activates.

* Foreign suppliers and customers because in order to comply with the EAR they will have to obtain deemed reexport licenses for each of their employees who, although citizens of the same country, may have been born in a different country (Subsection 734.2(b)(5)).

Because of the adverse impact that will result from use of a foreign national's country of birth as a criterion for deemed export license requirements, Vought opposes implementation of this proposed change to the EAR. Vought recommends the definition of "Use" be changed and that the EAR include a definition for "foreign national."

Please contact me if you have any questions or desire more information.

Sincerely,

Tony Jones
Manager, Import/Export Compliance
Vought Aircraft Industries, Inc.
(972) 946-2730

From: "Dr. Allen J. Bard" <ajbard@mail.utexas.edu>
To: <publiccomments@bis.doc.gov>
Date: 5/26/2005 3:50:58 PM
Subject: Re "RIN 0694-AD29"

DEPARTMENT OF COMMERCE
Bureau of Industry and Security
15 CFR Parts 734 and 772

Revision and Clarification of Deemed Export Related Regulatory Requirements.

As an academic and active scientist, I strongly oppose implementation of the proposed regulations. The U.S. scientific research enterprise strongly depends on foreign nationals (graduate students, post doctoral fellows, research associates). The new proposal will discourage the very people that have made enormous contributions to our research. They are already plagued by misguided visa requirements and now, being hit by bureaucratic requirements on such things as operation of equipment, they will simply go elsewhere in even greater numbers.

The sad thing is that such regulations will do no good whatsoever. With the highest security and controls, the U.S. was unable to prevent nuclear weapons from spreading, even to third world countries. The same is true of other technologies. All these and other new regulations will do is speed up the decline of science and technology in the U.S.

--
Allen J. Bard
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1 University Station A5300
Austin, TX 78712-0165

Phone (512)471-3761 FAX (512)471-0088

Visit our Web page at http://research.cm.utexas.edu/abard/

From: "Joanne Kramer" <jkramer@II-VI.com>
To: <publiccomments@bis.doc.gov>
Date: 5/26/2005 4:24:43 PM
Subject: RIN 0694-AD29 II-VI Incorporated Comments on Proposed Deemed Export Regulations

Attached letter is from:
Carl J. Johnson, Chairman & CEO
II-VI Incorporated
375 Saxonburg Boulevard
Saxonburg, PA 16056
Phone: 724-352-5220
Fax: 724-352-5299
e-mail: cjohnson@ii-vi.com

CC: "Carl Johnson" <cjohnson@ii-vi.com>, "Dan Waltz" <dwaltz@pattonboggs.com>

II-VI INCORPORATED

II-VI INCORPORATED, 375 Saxonburg Boulevard, Saxonburg, PA 16056
General Offices: 724-352-4455 Sales: 724-352-1504 FAX: 724-352-5299

26 May 2005

Via Email (scook@bis.doc.gov)

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

Re: Comments On Proposed Revocation and Clarification of Deemed Export Related Regulatory Requirements

Dear Ms. Cook:

Please accept this letter as the comment of II-VI Incorporated ("II-VI") on the proposed revision and clarification of deemed export related regulatory requirements discussed and described in a Federal Register Notice published by the Bureau of Industry and Security ("BIS") on March 28, 2005 (70 Fed. Reg. 15607).

II-VI is a leading manufacturer of optical components. It is headquartered in Saxonburg, PA and has several manufacturing facilities located within the United States. It also has manufacturing facilities located outside the United States, however, including in Singapore and China. Some of the thin film coating technology practiced by II-VI is subject to controls under the Export Administration Regulations ("EAR"). Insofar as controlled technology of U.S. origin is practiced at the II-VI facility in Singapore, II-VI has experience in applying for and obtaining licenses authorizing the export of controlled technology to employees of our Singapore facility who are exposed to that technology.

II-VI would like to take this opportunity to comment specifically on the proposed use of a foreign national's country of birth as the basis for determining whether a deemed export license should be required. We at II-VI think this is a very bad idea for several reasons.

First, as a practical matter, we believe that the proposed change could increase substantially the licensing burden on U.S. companies (and BIS itself) without any corresponding increase or improvement to United States national security or the other goals served by our export controls. With respect to our operations in Singapore, for example, II-VI applied for and received a license authorizing the disclosure of controlled technology to employees who are either citizens or permanent residents of Singapore. This authorization covered several individual employees who are citizens of Malaysia, but had been granted permanent resident status by the government of Singapore. Of the labor force available in Singapore, many are citizens of Malaysia but permanent residents of Singapore. We understand that the government of Singapore grants permanent resident status only after a fairly rigorous screening and review process. Under these

circumstances, we see little reason to require that a U.S. company like II-VI apply separately and individually for each such employee. II-VI was obliged to apply for and obtain individual "deemed re-export" licenses for employees at its Singapore facility who are Malaysian citizens but not permanent residents of Singapore. The preparation of these several applications proved extremely time consuming. Likewise the review of these applications required the time and resources of BIS and other reviewing agencies. Ultimately, all of the applications submitted by II-VI were granted.

Second, we note that adoption of a foreign national's country of birth as the criterion for requiring a deemed export license could put non-U.S. companies, including foreign subsidiaries of U.S. companies, in an impossible situation. United States law prohibits discrimination among employees based upon the employees' country of birth. If II-VI were even to ask a job applicant who is a permanent resident of the U.S. about the applicant's country of birth, II-VI might face serious potential liabilities based on allegations that it had unfairly discriminated. The United States is not alone in prohibiting such discrimination. If the EAR were amended to require the use of a foreign national's country of birth as the criterion for determining whether a deemed export license is required, that amendment could put foreign companies, or even U.S. companies, in the uncomfortable position of engaging in discrimination that could be prohibited by other applicable law. For this additional reason, we submit that the proposed change relating to the deemed export requirements should not be adopted.

Third, under the International Traffic in Arms Regulations, disclosure of data either to a U.S. citizen or to a permanent resident of the United States is not considered an export or deemed export of that data. We see no reason why BIS should adopt a different or tougher standard with respect to data relating to "dual use" items than the State Department does with respect to technical data relating to defense articles.

We appreciate BIS' consideration of this comment. Should you require additional information, please do not hesitate to contact us.

Very truly yours,

Carl J. Johnson
Chairman and Chief Executive Officer

cc: Daniel Waltz and Russell V. Randle, Patton Boggs, LLP
Francis J. Kramer, President & Chief Operating Officer, II-VI Incorporated
Herman E. Reedy, Executive Vice President IR Commercial Optics, II-VI Incorporated
Marjorie L. Alquist, Export Control Manager, II-VI Incorporated
Catherine Thornberry, Export Procedures Company

From: "Epstein, Jonathan (Bingaman)" <Jonathan_Epstein@bingaman.senate.gov>
To: <scook@bis.doc.gov>, <skamins@bis.doc.gov>, <alopes@bis.doc.gov>
Date: 5/26/2005 5:35:14 PM
Subject: RIN 0694-AD29

Will be mailed today; please pass to Matt Borman and Peter Lichtenbaum.
Thanks J. Epstein 202-224-3357

CC: "Sonnesyn, Matt (Alexander)" <Matt_Sonnesyn@alexander.senate.gov>, "Muhs, Jeff (Alexander)" <Jeff_Muhs@alexander.senate.gov>

United States Senate

WASHINGTON, DC 20510

May 26, 2005

The Honorable Peter Lichtenbaum
Acting Undersecretary
Bureau of Industrial Security
U.S. Department of Commerce
14th and Pennsylvania Ave., NW
Washington, DC 20230

Dear Undersecretary Lichtenbaum:

We are writing this letter in regards to your advanced notice of proposed rulemaking entitled "Revision and Clarification of Deemed Export Related Regulatory Requirements"; RIN 0694-AD29 dated March 28, 2005. We recognize that your proposal addresses the need to ensure that sensitive technology is not inadvertently transferred to nations or organizations that may be hostile to the United States. However, we are concerned the rule, as it appears to be envisioned, could have wide-ranging unintended consequences.

Our principal concern with your proposed rulemaking is the negative impact it could have on the ability of universities to attract the best and brightest foreign nationals in basic research, and thus, its potential negative impact on the quality or quantity of basic research produced by universities. We are also concerned by its potential impact on federal laboratories.

Universities have traditionally used the fundamental research policy found in National Security Directive 189 as an exemption from the deemed export rule. It is our understanding that the rulemaking being proposed today could require U.S. universities and federal laboratories to file a deemed export license if a foreign national uses any piece of equipment that falls under the Commerce Control Listing even in the conduct of fundamental research. While such a license could be approved, what concerns us is the added expense and time that would entail for the preparation of a license for each foreign national to use multiple pieces of commerce controlled equipment in a single laboratory. Universities are bedrocks of innovation and a seedbed for our national competitive posture; they are not sophisticated industries using professional export control staff with physical access control requirements to their production plants.

In particular, we note that the recent National Academy of Sciences report entitled "Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States" lays out some important figures relative to your proposed rule. The report notes that nearly half the doctoral level staff and 58 percent of postdocs at the NIH are foreign nationals – how will your proposed rule impact NIH's research efforts? For science and engineering occupations, 38 percent of doctorate level employees are foreign born, up from 24 percent in

1990 - how will your proposed rule affect the ability of foreign born graduate students to work at companies such as Intel? Among foreign science and engineering faculty, 19 percent are foreign born, in engineering 36 percent are foreign born - will we have situations where universities must apply for export licenses for new faculty who are not U.S. citizens while under the stress of trying to obtain tenure based upon their ability to conduct research? It would seem to us that the Visa Mantis system may already achieve much of the work this rule is designed for; is the rule duplicative?

We request that you assess the impact of your proposed rule not only on these statistics but the findings of the National Academies report as a whole and publish them in the federal register with the final rule. We also request that you estimate the annual cost to U.S. universities for preparing such export licenses, again published in the federal register so that the public can understand the estimated cost-benefit ratio of the regulation. Finally, we request that you provide in the federal register the estimated increase in licensing officers required to implement this rule.

Our points of contact for this effort are Mr. Jeff Muhs, 202-224-4944 and Dr. Jonathan S. Epstein, 202-224-5521.

Sincerely,

Jeff Bingaman
U.S. Senator

Lamar Alexander
U.S. Senator

cc: The Hon. J.H. Marburger III, Director, OSTP

UCAR

University Corporation for Atmospheric Research

P.O. Box 3000
Boulder, CO 80307-3000

Phone (303) 497-1652
Fax Phone (303) 497-1654

FACSIMILE COVER SHEET

DATE : 27 May, 2005 **TIME:** 7:30 am

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: Department of Commerce ATTN: RIN 0694-AD29

LOCATION: DOC, Bureau of Industry and Security, Regulatory Policy Division

REFERENCE : RIN 0694-AD29

PHONE: **FAX PHONE:** 202-482-3355

FROM Dr. Richard Anthes

LOCATION: Fleischmann Building

PHONE 303-497-1652

COMMENTS:
Comments on the proposed DOC changes affecting existing requirements and policies for deemed export licenses.

WE ARE TRANSMITTING 3 **PAGE(S) OF COPY INCLUDING THIS COVER SHEET. IF YOU DO NOT RECEIVE ALL PAGE(S), PLEASE CALL:**

(303) 497-1652
*********THANK YOU*********

UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH • UCAR OFFICE OF PROGRAMS

Richard A. Anthes
President
P.O. Box 3000 • Boulder, CO 80307-3000
303/497-1652 • fax 303/497-1654
anthes@ucar.edu

May 26, 2005

Via Telefax No. 202-482-3355
ATTN: RIN 0694-AD29
Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW., Rm 2705
Washington D.C. 20230

Re: RIN 0694-AD29

Thank you for the opportunity to comment on the proposed Department of Commerce (DOC) changes that would affect existing requirements and policies for deemed export licenses. As President of the University Corporation for Atmospheric Research (UCAR), I have major concerns with how these changes would negatively affect research in our organization and throughout the universities and research laboratories in the United States. UCAR is a non-profit consortium of over 100 university members and affiliates conducting federally-funded research awarded by science agencies primarily on the basis of merit at the National Center for Atmospheric Research (NCAR). Our researchers and students regularly publish their research results in prestigious national and international scholarly journals. Further, although most of our research is exempt under the fundamental research exception, we are compliant with federal export controls regulations.

NCAR is sponsored by the National Science Foundation (NSF). Other NCAR and UCAR activities are funded by the Department of Energy (DOE), National Oceanic and Atmospheric Administration (NOAA), the National Aeronautics and Space Administration (NASA), the U.S. Department of Defense (DOD), and the Federal Aviation Administration (FAA).

UCAR currently has approximately 1440 employees. Of those employees, there are 118 foreign nationals (some of whom have been granted permanent residence in the U.S.). UCAR maintains an open environment that encourages and supports fundamental research and sharing and collaboration among colleagues both within and outside UCAR. UCAR encourages the results of research to be published and broadly disseminated to best serve society. As a consortium of universities and center for atmospheric research and facilities, UCAR hosts seminars that are open and encourages visitors from around the globe. The success of a national center is indeed the unfettered collaboration among all scientists, and participation in research projects is not limited to those holding U.S. citizenship. This approach serves the nation well, as foreign nationals contribute strongly and in essential ways to UCAR and NCAR programs and hence to society in areas such as improving weather predictions and warnings, understanding and predicting climate and air quality, and understanding the Earth and its relationship to the sun.

The Bureau of Industry and Security (BIS) at the Department of Commerce (DOC) is seeking comments on proposed changes that would affect existing requirements and policies for deemed export licenses.

Possible and potentially extremely damaging implications from the proposed DOC rule change include: "closing" certain seminars and blocking participation by foreign nationals, including our own employees; changing our contracts and procurements to add requirements that limit access by foreign nationals associated with vendors or service providers; and having to establish a process to clear certain "fundamental research" that involves a non-U.S. Person with the government funding agency (and possibly DOC) prior to conducting the research. In fact, implementing the proposed rules could shut down certain projects within UCAR because of the essential leadership role played by these individuals.

The most striking impact to our operations would be changes in the "use" of controlled equipment in field projects and international collaborations where truly fundamental research about the earth's atmosphere and oceans is conducted. Many of these projects, especially the international ones, would grind to a halt if the "use" of every piece of controlled technology (such as radars and other types of weather instruments and equipment) would need to be shielded from foreign nationals, or cleared for use first.

UCAR does not currently track "use" of UCAR physical facilities, equipment, technology, models, software, data sets, computers, or networks (referred to collectively as "Facilities") by foreign nationals on site, in the field, or remotely in the manner suggested by the proposed change. UCAR conducts field projects all over the world and often works with groups from outside the U.S. even when the projects are within the U.S., so individuals would have to be charged with monitoring and tracking the new "use" definition proposed by the DOC in any field project. This would apply to planning meetings, design discussions, and even some aspects of participation in workshops. In the conduct of field experiments, it is often essential to show data, talk about instrument problems and limitations, and discuss the impacts of problems on the experiment. These discussions could be hindered in significant ways if we can't freely show and talk about results in the course of field experiments, either those involving non-U.S. citizens or those conducted outside the U.S.

In addition to field operations, the new "use" definition would greatly affect operations at UCAR's Scientific Computing Division (SCD), which operates one of the largest super computing centers in the country and supports thousands of researchers around the country. Many university professors and their students who work on NSF projects analyze data and perform computational experiments such as numerical simulations of weather and climate systems. The students are important contributors to the resulting publications. The proposed DOC definition changes will thus hamper foreign national graduate students at U.S. universities who are studying in disciplines requiring NCAR's computers and data archives for their thesis work.

In summary, UCAR is strongly opposed to the proposed changes that would affect existing requirements and policies for deemed export licenses. These changes could be extremely damaging to the conduct of fundamental research upon which this country's future depends.

Thank you for the opportunity to comment.

Sincerely,

Richard A. Anthes

Richard A. Anthes
President

From: "Hall, John F. (HQ-ND070)" <john.f.hall@nasa.gov>
To: <publiccomments@bis.doc.gov>
Date: 5/27/2005 10:53:37 AM
Subject: FW: NASA comments to RIN 0694-AD29

From: Hall, John F. (HQ-ND070)
Sent: Friday, May 27, 2005 10:47 AM
To: 'scook@bis.doc.gov'; 'alopes@bis.doc.gov'
Cc: 'Grant, Geoff'; 'mborman@bis.doc.gov'; 'Patrinos, Ari'; william.berry@osd.mil; plichten@bis.doc.gov; Kathie_L._Olsen@ostp.eop.gov
Subject: NASA comments to RIN 0694-AD29

In response to the March 28, 2005, Advance Notice of Proposed Rulemaking regarding the Department of Commerce Office of Inspector General Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.," attached please find NASA's comments to the recommendations described in the ANPR and related matters addressed in the report.

Thank you.

JFH.

John F. Hall, Jr.
Director
Export Control and Interagency Liaison Division
Office of External Relations
NASA Headquarters
Washington, D.C.

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001

May 26, 2005

Reply to Attn of: Office of External Relations

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security, Regulatory Policy Division
14th Street & Pennsylvania Avenue, N.W.; Room 2705
Washington, D.C. 20230

Re: RIN 0694-AD29

Dear Mr. Lopes:

In response to the March 28, 2005, Advance Notice of Proposed Rulemaking regarding the U.S. Department of Commerce Office of Inspector General Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.," NASA is pleased to provide to the Bureau of Industry and Security (BIS) its comments to the recommendations provided therein.

As an initial matter, NASA supports the recommendation that BIS revise the definition of "use technology" in section 772.1 of the EAR, 15 CFR § 772.1, to replace the word "and" with the word "or," or even "and/or," as follows: *"Use". (All categories and General Technology Note)--Means all aspects of "use," such as: operation, installation (including on-site installation) maintenance (checking), repair, overhaul, [or] [and/or] refurbishing.* This appears to be a logical and reasonable recommendation.

The second recommendation urges BIS to amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign persons with access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency. In other words, one of the "home countries" of a foreign person consignee, as described in 15 CFR § 734.2(b)(2)(ii), would be her country of birth, regardless of whether she had ever lived there beyond her nativity or was a resident – or had even acquired citizenship – in another country. NASA is concerned that this recommendation may perhaps be unduly-broad, and could have the untoward result of imposing export license requirements or prohibitions on transfers of dual-use technology to foreign persons with no real nexus to a proscribed state. The recommendation may also contrast with the manner in which U.S. persons, including foreign-born permanent residents and naturalized citizens, are treated under U.S. export control regulations. See, e.g., 15 CFR § 772, 22 CFR § 120.15.

Additionally, the fact that a Syrian-born *permanent resident* of the United States is treated as a U.S. person under U.S. export control regulations, but a Syrian-born *citizen* of Canada should be treated as a Syrian person under those same regulations may raise questions of international comity – upon which the success of multilateral export control efforts must ultimately depend. Finally, in the context of Government-to-Government cooperation, the suggested revision would create a duty to inquire about the country of birth of a foreign government partner's employees, to which inquiries the foreign government may be unable or unwilling to respond, due to foreign privacy laws. Ultimately, such a change could impair intergovernmental agency relations and missions.

NASA concurs in the recommended revision to Question A(4) of Supplement 1 to Part 734 of the EAR, but only to the extent that the prepublication review requirements addressed therein relate to national security, foreign person access, or export controls. In our view, a prepublication review requirement that exists exclusively to ensure that the publication would not compromise proprietary or export-controlled information provided by the Government to the research institution (i.e., "background technology"), or to ensure compliance with Government publication standards (e.g., as to format or usage), would not void the fundamental research exclusion. cf. 41 CFR §§ 1835.070, 1852.235-73 (NASA FAR Supplement clauses on "Final Scientific and Technical Reports", including Alternate 1 on fundamental research).

Finally, NASA agrees with the recommendation to revise Question D(1) of Supplement 1 to Part 734 of the EAR. The fundamental research exclusion runs only to information *arising during or resulting from* basic and applied research in science and engineering, where the resulting information is ordinarily published and shared broadly within the scientific community. 15 CFR § 734.8, 22 CFR § 120.11(8). The exclusion does not relieve a sponsored research institution – or the sponsoring Government agency – from the requirement to otherwise comply with export control limitations governing background technology or general foreign person access restrictions relating to export-controlled technology or hardware used in the sponsored research.

Thank you for the opportunity to comment on these important matters.

Cordially,

John F. Hall, Jr.
Director
Export Control and Interagency Liaison Division

cc: Matthew S. Borman, Deputy Assistant Secretary for Export Administration

From: Brant Johnson <brantj@gmail.com>
To: <scook@bis.doc.gov>
Date: 5/27/2005 11:12:02 AM
Subject: ATTN: RIN 0694.AD29, concerning 15 CFR Parts 734 and 772

To: Department of Commerce
Bureau of Industry and Security,
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTN: RIN 0694.AD29, concerning 15 CFR Parts 734 and 772

Dear Department of Commerce,

Yesterday you were FAXed a copy of the attached letter expressing serious concerns from the RHIC & AGS Users' Executive Committee at Brookhaven National Laboratory about the proposed change in the definition of use with respect to deemed exports. We strongly support the remedy proposed by Brookhaven Science Associates and urge that you adopt it.

We hereby send another copy of our letter by e-mail to (a) increase the probability that you will carefully consider our expressions of concern, and (b) to notify relevant members of the BNL administration (those listed in the "cc:" of the letter) that we have taken this action.

Sincerely, the RHIC & AGS Users Executive Committee:

"Gary Westfall, Chair" <westfall@nscl.msu.edu>,
Michigan State University, East Lansing, MI, U.S.
"Victoria Greene, Past-Chair" <senta.v.greene@vanderbilt.edu>,
Vanderbilt University, Nashville, TN, U.S.
"Brant Johnson, Chair-Elect" <brant@aps.org>,
Brookhaven National Laboratory, Upton, NY, U.S.
Christine Aidala, Columbia University, New York, NY, U.S.
Barbara Erazmus, Subatech, NANTES, France
David Hofman, University of Illinois at Chicago, Chicago, IL, U.S.
Michael Murray, University of KansasLawrence, KS, U.S.
Stephen Pate, New Mexico State University, Las Cruces, NM, U.S.
Michael Sivertz, Brookhaven National Laboratory, Upton, NY, U.S.
Peter Steinberg, Brookhaven National Laboratory, Upton, NY, U.S.
George Stephans, Massachusetts Institute of Technology, MA, U.S.
Glenn Young, Oak Ridge National Laboratory, Oak Ridge, TN, U.S.

CC: <aronsons@bnl.gov>, <bond@bnl.gov>, <chaudhari@bnl.gov>, <lowenstein@bnl.gov>, <ozaki@bnl.gov>, <sakitt@bnl.gov>, UEC Members <rhicagsuec-l@lists.bnl.gov>

May 26, 2005

Department of Commerce
Bureau of Industry and Security,
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTN: RIN 0694–AD29, concerning 15 CFR Parts 734 and 772

To Whom It May Concern:

We are writing to express our serious concerns about the proposed change in the definition of **use** with respect to deemed exports. The focus of these comments is on the word **operation** as contained in the definition of **use**. We strongly endorse the justifications supporting the concerns that were presented by Brookhaven Science Associates (BSA) dated May 11, 2005, some of which are reiterated in this letter. In addition, we strongly support the proposed remedy, namely that "the definition of use be divided into two parts. The first part of the definition should state that the **operation** of export-controlled technology may or may not be a deemed export and that a technical evaluation of the specific technology being **operated** be performed to see if any technology would be released or transferred. The second part of the definition should contain the remaining parts of the proposed definition."

As members of the RHIC & AGS Users' Executive Committee (UEC) at Brookhaven National Laboratory (BNL), we represent 1,600 users from over 272 institutions in 29 countries. Our users are scientists, students, and post-docs who conduct nuclear and high-energy physics experiments, studies of radiobiological effects on humans, and R&D in physics and manufacturing by using one of Brookhaven's user facilities. These facilities include the Relativistic Heavy Ion Collider (RHIC), Alternating Gradient Synchrotron facility (AGS), NASA Space Radiation Laboratory (NSRL), Tandem Van de Graaff, and the Accelerator Test Facility (ATF). Only 250 of our 1600 users are federal employees or contractors. This order would adversely affect 1100 non-US citizens that the UEC represents. The vital contributions of these users are crucial to the success of Brookhaven's scientific programs.

The definition proposed in the Federal Register, is "operation, installation, (including on–site installation), maintenance (checking), repair, overhaul, **and** refurbishing." The proposal is to change the **and** to an **or**. This change would have a significant negative impact on our users and the science being done at Brookhaven's user facilities. As stated by BSA, in the course of doing experiments many users operate export-controlled equipment, but such use would not transfer or release any of the technology contained in that equipment. For example, the operation of a state-of-the-art, export-controlled and commercially-acquired, oscilloscope by a physicist doing a nuclear physics experiment does not result in the physicist having acquired any of the technology inside the oscilloscope box. Only a skilled electronics engineer can produce an advanced oscilloscope.

Foreign collaborators must come to BNL in a timely fashion to actively participate in on-site experiments. We are very concerned about any significant delays that would be caused by the need for export license processing. From an operational standpoint this new proposed rule would make it extremely difficult to optimally utilize the user facilities at BNL, which the UEC represents. Once again, we strongly support the remedy proposed by Brookhaven Science Associates and urge that you adopt it.

Sincerely,

Gary Westfall, Chairman
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East Lansing, MI
(517) 333-6324
westfall@nscl.msu.edu

Victoria Greene, Past Chair
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Oak Ridge National Laboratory
Oak Ridge, TN
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cc: S. Aronson, P. Bond, P. Chaudhari, D. Kovar D. Lowenstein, S. Ozaki

From: Manyuan Long <mlong@uchicago.edu>
To: <scook@bis.doc.gov>
Date: 5/27/2005 12:44:46 PM
Subject: RIN0694-AD29

To Whom It May Concern:

I am very much concerned with your recent considerations as reflected in RIN0694-AD29. By your proposal, each faculty member, post-doc or student from your defined "sensitive countries" would require a license to use each "sensitive technology" including Mac laptop and desktop computers, or mass spectrometers, or Global Positioning Satellite (GPS) equipment. Access to the technologies would have to be controlled and licenses might well be denied.

I think that the consequence of these rules defined by RIN0694-AD29, if applied, is going to be disastrous to the sciences and technology in USA. I here just list a couple of many serious disasters that would be created by RIN0694-AD29. First, this would terminate any possibilities to recruit the best scientists in the world to our universities and research institutes, because many excellent scientists were born in the listed countries e.g. China, India and Russia. It is known that recruitment of the best scientists is the most important premise to the success of sciences and technology. Second, this would expel many of current excellent scientists from these countries working in USA, who have carried out important scientific projects funded by Federal Agencies. e.g., National Science Foundation and National Institutes. Their leaving would end these projects that require the work of the best people, which will consequently destroy the very basis of the scientific practice in US universities and research institutes. It is, thus, an inescapable conclusion that the future of US science would be ended and the present leadership of USA in science would evaporate soon if RIN0694-AD29 passed.

I wish that in the future we would not have to ask: "Who lost the science?" or "Who destroyed the science?"

Manyuan Long
--

Manyuan Long, Ph.D.
Professor of Genetics and Evolution
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Laboratory: 301 and 409 Zoology
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& The Committee on Genetics
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(773) 702 9740 (fax)
http://pondside.uchicago.edu/ecol-evol/faculty/long_m.html

CC: <moffat@cars.uchicago.edu>

From: <michael.rooney@international.gc.ca>
To: <publiccomments@bis.doc.gov>
Date: 5/27/2005 5:07:48 PM
Subject: FW: Comments on proposed changes of Deemed Export Regulatory Requirements

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From: Rooney, Michael -EPE
Sent: May 27, 2005 5:05 PM
To: 'scook@bxa.doc.gov'
Cc: Watson, Lynda -WSHDC -TD; Korecky, Judy -EPE; Koundakjian, Vicken -EPE; Liska, Patrick -EPE; Sabatino, Lynne -EPE
Subject: Comments on proposed changes of Deemed Export Regulatory Requirements

Dear Ms. Cook:

You should already have received by fax today a response by the Government of Canada on the Department of Commerce proposed changes to the Deemed Export Regulatory Requirements. In this regard, I am also providing our submission via email.

Michael Rooney
Director/Directeur
Export Controls Division (EPE)
Direction des contrôles à l' exportation
International Trade Canada
Commerce international Canada
Tel/Tél: 613-992-9166
Email/Courriel: michael.rooney international.gc.ca

International Trade Canada | Commerce international Canada

125 Sussex Drive
Ottawa, Ontario
K1A 0G1

May 27, 2005

Ms. Sharon Cook
Regulatory Policy Division
Office of Export Services
Bureau of Industry and Security
Department of Commerce
14th and Pennsylvania Avenue, N.W.
P.O. 273, Room 2705
Washington, D.C., 20230
U.S.A.
Fax: 1-202-482-3355
E-mail: scook@bxa.doc.gov

RE Federal Register: March 28, 2005 (Volume 70, Number 58)
Bureau of Industry and Security 15 CFR Parts 734 and 772
Docket No. 050316075-5075-01 , RIN 0694-AD29

Dear Ms. Cook:

Enclosed please find a response by the Government of Canada to the Bureau of Industry and Security of the Department of Commerce call for comments on the proposed changes regarding the revision and clarification of deemed export regulatory requirements on industry, academic institutions, government agencies and holders of export controlled technology.

In the preparation of this submission, the Government of Canada has canvassed the views of government departments, industry and academia. Our response reflects directly on the proposed change with regards to the use of a foreign national's country of birth as a principle requirement for a Deemed Export License.

Sincerely,

Michael Rooney
Director
Export Controls Division

Canada

Use of foreign national's country of birth as
Criterion for Deemed Export License Requirement

Canada strongly believes that country of birth is not an indicator of an individual's reliability and/or loyalty to his/her country of citizenship or residency in the case of permanent residents.

Canada believes that the implementation of "country of birth" identification requirements will have a significant impact on industry, academic institutions and government agencies. Such a requirement will disrupt and severely limit the technical exchange between industry, government and research institutions and hinder the ability to advance business and the advancement of technology in North America. In addition, given the nature of privacy and other domestic rules, this measure would be a challenge to implement.

In our view, if implemented, the costs resulting from this licensing process will have to be borne by companies. This impediment could materially result in program delays and affect the ability of entities to deliver on commitments in certain areas or even in program loss. This impact would be felt by all Canadian-U.S. partnerships, and most particularly by Canadian subsidiaries and U.S. parents in terms of their inter-operability.

This requirement could also result in a serious waste of talent and skills, and particularly impact on projects that hinge on the technical expertise of a single or a few individuals who may have been born in a third country.

While it is difficult at this time to estimate the extent to which this proposed change would impact Canada, it could have a negative economic impact on businesses as a result of the highly integrated nature of North American companies. This change could unduly influence companies to make certain decisions related to partnerships, presence and employment.

In the area of research, we understand from our academic and research community that these proposed rules are viewed as overly complicated and that these institutions lack expertise and resources to interpret and implement these rules. There is concern as to how these institutions could manage the significant administrative burden to be compliant. This would have a chilling effect on research between Canadian and American institutions.

We would also remark that the proposed rules for civilian dual-use items would be different from the existing deemed export rules related to military goods. This is simply confusing and would lead to inconsistent outcomes in terms of access to goods depending on whether an item is of dual-use or military nature.

We will make one final observation on the proposed change. For the purposes of U.S. export controls, all U.S. citizens/permanent residents, irrespective of any additional second nationality, are currently treated as a single class (U.S. persons), while citizens/permanent residents of a foreign country are not treated as citizens/permanent residents of that foreign country if they possess a second nationality, notably foreign dual-nationals under Technical Assistance Agreements. The proposed change, whereby the assessment that "deemed export" relates to a foreign national's country of birth while not to a U.S. person's country of birth, would be another measure in U.S. export control rules that places U.S. citizenship/permanent residency on an entirely separate footing than foreign citizenship/permanent residency .

From: "Jonathan E. Hardis" <jhardis@tcs.wap.org>
To: <scook@bis.doc.gov>
Date: 5/27/2005 5:44:02 PM
Subject: RIN 0694-AD29 (Hardis)

I tried -- apparently unsuccessfully -- to file the attached comments through regulations.gov. My address information would not transfer from the screen where it was entered into subsequent screens, and at the end of the transaction an error was reported.

I would be very grateful if you would accept these comments as being timely filed. I do caution that there is a chance that they may be duplicative of ones that might be received via reguations.gov.

Sincerely,
Jonathan Hardis

May 27, 2005

VIA ELECTRONIC FILING

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
1401 Constitution Ave NW, Room 2705
Washington, DC 20230–0001

Re: RIN 0694-AD29, Comments on Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam,

Thank you for the opportunity to comment in advance of a possible rulemaking proceeding regarding the deemed export provisions of the Export Administration Regulations (EAR).

My name is Jonathan Hardis, and I submit these comments as an individual. The issues raised in 70 FR 15607[1] and the IGs' Report[2] that preceded it pertain broadly to the way academic research is conducted in the United States. I can speak from experience in this area, having obtained degrees in Physics from MIT (S.B.) and the University of Chicago (M.S. and Ph.D.).

Summary:

1. The grammatical issue of whether the word "and" or "or" should appear in the definition of "Use [technology]" in EAR §772.1 (15 CFR §772.1) is of little or no substance. No rulemaking should be required to change this definition. However, should BIS decide otherwise, the same grammatical issue is sufficiently pervasive throughout the EAR that extensive changes would be required.

2. The IGs are correct that the answer to Question D(1) in Supplement No. 1 to Part 734 is not complete, and that this may be good cause to clarify the answer. However, in reality, the complete answer should be much closer to the current one than the revision that BIS proposes.

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[1] http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2005_register&docid=fr28mr05-24.pdf

[2] *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.*, Final Inspection Report No. IPE-16176, March 2004 (hereafter, the "IGs' Report"). Available electronically at http://www.oig.doc.gov/oig/reports/2004/BIS-IPE-16176-03-2004.pdf

Definition of "Use"

EAR §772.1 contains within it the definition of "Use" as a list of nouns:

> "*Use*". (All categories and General Technology Note)--Operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing.

The IGs' Report, focusing on how best to make the Export Administration Act enforceable, questions whether the word "and" in this definition should, in fact, be "or." That is, they worry that—as it stands—the EAR might require that all six of these actions must be evidenced before a violation would occur.

First, as a general matter, regulations are not normally allowed an interpretation that renders their key words useless. In this case, the terms "maintenance", "repair," "overhaul," and "refurbishing" are recognizable as a progression in degree of 'fixing the dang thing.' Each of the last three terms subsumes its predecessor in terms of knowledge, skills, and abilities. So, under an interpretation that *all* the elements of the list must be in evidence for enforcement, the words "maintenance," "repair," and "overhaul" would have no import. Consequently, such an interpretation must be rejected. Similarly, would the phrase "including on-site installation" mean that "on-site installation" is a necessary element of "installation" (in turn, a necessary element of "use")? Of course not—no reasonable adjudicator would fail to see that the structure of this definition is to describe a range of activity any of which would fall under the rubric of "use."

This conclusion is further supported by the common understanding that dictionary definitions consist of a list of possible meanings of the defined word, in *different contexts*. The English language would fall apart if *all* valid definitions of a word would be required in *all* its contexts.

Second, by the IGs' own analysis of the issue, the definition of "Use" is used in multiple contexts within the EAR. In the context of licensing, rather than enforcement, a license for "use technology" is normally intended to be inclusive of *all* the items in the list, not just merely one or another. Any supposed 'fix' of the definition in one context would only 'break' it in the other. Making the word "and/or" or leaving it out entirely would do nothing to resolve any ambiguities claimed to be present.

Third, were this to be a real problem, it would not be limited to the definition of "Use." The definitions in §772.1 of "Development" and "Production"—the other types of "Technology"—contain the word "all" rather than "any." Would this not frustrate enforcement for the same reason? I believe that development technology and production technology are usually much more significant for the security of the Nation than is use technology, and that ensuring enforceability of these provisions would be at least as important.

Similarly, does the definition:

> "Spacecraft". (Cat 7 and 9)--Active and passive satellites and space probes.

…mean that a satellite would not be a spacecraft unless it had both active and passive modes of operation?

And noting the words of the Constitution:

> Amendment II. A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

Does this mean that it would not apply to rights of the mere "keeping" or "bearing" of arms, unless both occur together in combination?

These illustrative examples, of which one could easily find many more, lead me to the conclusion that this grammatical issue is of little practical significance. Perhaps airing the question and having it answered on the record will have served a useful purpose. Deconstructing the 1500 pages of the EAR in the vein hope of removing the last vestiges of ambiguity through additional rulemaking would not.

Deemed Exports in Research

Of somewhat greater concern is the finding in the IGs' Report concerning deemed exports in the conduct of scientific research.

According to EAR §734.3(b), "The following items are not subject to the EAR: … (3) Publicly available technology and software … that: … (ii) Arise during, or result from, fundamental research, as described in §734.8 of this part… ." The IGs correctly point out that the term "results from" does not include the technology of the tools used to conduct the research, more specifically the use technology needed by the researchers to operate the tools. Based on this observation, the IGs go on to conclude that "This would mean that many of the academic and Federal laboratories and other institutions would need to seek deemed export licenses for some foreign nationals working with controlled equipment or otherwise restrict their access to such equipment." Further, they point out that the information provided in the EAR under Question D(1) of Supplement No. 1 to Part 734 is at variance with this view—and thus should be changed.

Not surprisingly, major research universities found this "troubling." In a letter to senior White House officials, the Presidents of 22 leading U.S. universities expressed reservations about the IGs' Report.[3] Earlier, administrators at 12 leading U.S. universities wrote that, "the proposed changes would do incalculable harm to the competitiveness of American research universities and to the broader national security interests of the United States."[4] I fully expect these universities to expand upon their previous letters during this comment period.[5]

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[3] Available electronically at http://www.aau.edu/research/Ltr9.9.04.pdf
[4] Available electronically at http://www.aau.edu/research/GastJuster.pdf
[5] Talking points and discussion of intent to comment available online at http://www.aau.edu/research/Export_Controls_Background_5-18-05.pdf

My main reason for submitting these comments is to suggest that neither the IGs' Report nor the University reaction to it is reflective of the EAR when taken in their entirety. BIS leadership is required at this juncture to return this supposed "problem" to the status of virtual non-issue, as it rightly should be.

Part 740 of the EAR, §740.13, sets forth the definition of a useful subset of "use technology":

> "Operation technology" is the minimum technology necessary for the installation, operation, maintenance (checking), and repair of those commodities or software that are lawfully exported or reexported under a license, a License Exception, or NLR. The "minimum necessary" operation technology does not include technology for development or production and includes use technology only to the extent required to ensure safe and efficient use of the commodities or software. Individual entries in the software and technology subcategories of the CCL may further restrict the export or reexport of operation technology.

Virtually all the "use technology" encountered or needed by students (foreign or otherwise) at U.S. universities falls under the definition of "operation technology."

§740.13 sets forth the provisions of a license exception called "Technology and Software—Unrestricted (TSU)." In simplified English, it says that the right or license to export an article also includes the right or license to export its instruction manual ("operation technology"). "Operation software and technology may be exported or reexported to any destination to which the equipment for which it is required has been or is being legally exported or reexported."

This well-considered license exception should be obvious in retrospect. Consider the alternative —if BIS were to separately consider export licenses for articles and their operation technology, what considerations would *ever* lead to the conclusion that one should be granted but not the other?

Yet this is exactly the situation facing international students in the United States today. Having received all necessary Government permissions to legally study in the United States, and to conduct fundamental research using the tools of the profession, what considerations would *ever* lead to a conclusion that license for (deemed) export of operation technology should not attach? If there would be a basis for denying a particular student a license for operation technology, it would be incongruous to allow him or her to study in the United States in the first place.

John Marburger, Director of the Office of Science and Technology Policy, has described a comprehensive system for screening potential foreign students before allowing their entry into the U.S.[6] It would be duplicative and wasteful for BIS to repeat the analysis conducted by these immigration officials for a matter as trivial as operation technology.

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[6] See, e.g., http://www.house.gov/science/hearings/full02/oct10/marburger.htm and http://www.ostp.gov/html/jhmAAASvisas.pdf

According to the letter of §740.13 an underlying export (or reexport) is a prerequisite for the exception to apply. And the definition of "export"—even a deemed one—does not cover an article within the United States. So, the current situation is somewhat analogous to that of a richly featured computer problem where two individually useful features are not quite completely harmonized with each other.

The effect of the IGs' Report is to call attention to the need to either interpret or extend through rulemaking the TSU exception to cover the deemed export of operation technology for articles *legally accessible for use* within the U.S. by foreign nationals.

As the first point in support of this opinion, I call your attention to the definition of "required" in §772.1, which says, in part:

> "*Required*". (General Technology Note) (Cat 4, 5, 6, and 9)—As applied to "technology" or "software", refers to only that portion of "technology" or "software" which is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions.

According to Supplement No. 2 to Part 774 (the General Technology Note), only the portion of technology that is "required" is controlled by the Commerce Control List (CCL). Since operation technology is not "required" to achieve or exceed controlled performance levels, characteristics, or functions, arguably the deemed export provision does not apply to it.

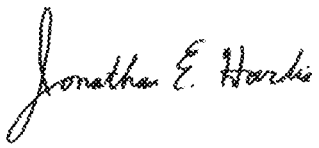
Secondly, the TSU exception does not apply to technology composed of trade secrets. At their core, the function of the technology-release provisions of the EAR is to criminalize certain violations of private agreements to protect certain trade secrets from disclosure. There is no issue in this regard with respect to operation technology.

Based on the foregoing, I disagree with the proposed revision to the answer to Question D(1). Instead, I suggest a revision similar to the following:

> *Question D(1)*: Do I need a license in order for a foreign graduate student to work in my laboratory?
> *Answer*: Usually not. No license is needed provided that work of the student qualifies as "fundamental research" under §734.8 of this part and provided that any technology released to the student constitutes "operation technology" under §740.13 of part 740. A license may be needed, however, before a student garners information about articles (such as research equipment) that would require an export license to their country of nationality, if such information includes technology beyond operation technology. This includes any information subject to a nondisclosure agreement or otherwise held to be a trade secret, any information derived by inspection or analysis as to how an article meets or exceeds (or may be modified to enable it to meet or exceed) an export-control specification, and any information about the operating parameters of the articles in the course of research that either could not or would not be freely published in open literature

(or which is so encumbered by prepublication review as to not qualify as "fundamental research").

Sincerely,



Jonathan E. Hardis
356 Chestertown St.
Gaithersburg, MD 20878--5724

From: Wenbo Yang <yang@rosharon.oilfield.slb.com>
To: <scook@bis.doc.gov>
Date: 5/27/2005 8:05:10 PM
Subject: RIN 0694-AD29

Dear Sirs,

Close door policy is always gad policy and will never work, and this is an excellent example. As a US citizen, I do not want to see this policy going to effect. It will hurt America in the long run, and it is a policy some of the people against US want to see.

Sincerely,

Wenbo Yang, Ph. D.

Project Manager
Perforating Dept.
Schlumberger Reservior and Completions center
14910 Airline Road, Rosharon, TX 77583

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497 Rhodes Hall
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May 31, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Cincinnati (UC) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

UC is one of the nation's top research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Further, we are compliant with federal export controls rules although most of our research is exempt under the fundamental research exception.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

We believe that the burden is on DoC to show that there is a compelling interest in reforming the current export control regime by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, UC recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Dr. Wim J. van Ooij
Professor
Dept. of Chemical and Materials Engineering
University of Cincinnati
Cincinnati, OH 45221-0012
Phone : (513) 556 3194
Email : vanooiwj@email.uc.edu

USC
UNIVERSITY
OF SOUTHERN
CALIFORNIA

May 31, 2005

U. S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W.
Room 2705
Washington, D.C. 20230

Senior Vice President

Re: RIN 069-AD29

To Whom It May Concern:

This statement submitted on behalf of the University of Southern California (USC) addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 percent of the requested deemed export licenses under the current system. While BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime, it has not shown how the IG recommendations would benefit the country without harming the nation's scientific enterprise.

Two of the recommendations from the IG report would particularly affect research universities. The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. In addition, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that would categorize a foreign national by country of birth rather than current citizenship status.

We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

Fundamental research cannot be conducted without using equipment, providing training on appropriate use of equipment or being able to freely manipulate or alter existing equipment to test new theories and discoveries. The IG recommendations would severely hinder that

University of
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Tel: 213 740 7922
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research process because foreign nationals on research teams would need to first obtain licenses to use the equipment in this fashion. This requires a wholesale change in the current open and collaborative research environment, which would undermine one of the research university's greatest strengths. The IG fails to adequately explain the risk that is being addressed by this drastic course of action, particularly given that most items of controlled equipment at universities are readily available without restrictions.

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in U.S. labs. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would further impede the research of those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S.

Based on these concerns, USC recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Todd Dickey

Todd R. Dickey
Senior Vice President and
General Counsel

cc: Mr. Dennis F. Dougherty
Dr. Chrysostomos L. Nikias
Ms. Jennifer Grodsky

CDIA
AIDC

CANADIAN DEFENCE INDUSTRIES ASSOCIATION ■ ASSOCIATION DE L'INDUSTRIE DE LA DEFENSE DU CANADA

31 May 05

Ms. Sharon Cook
Regulatory Policy Division
Office of Export Services
Bureau of Industry and Security
Department of Commerce
14th and Pennsylvania Avenue, N.W.
P.O. 273, Room 2705
Washington, D.C., 20230
Fax: 1-202-482-3355

Reference: Federal Register: March 28, 2005 (Volume 70, Number 102)
Bureau of Industry and Security 15 CFR Parts 734 and 772
Docket No. 050316075-5133-02
RIN 0694-AD29

Dear Ms. Cook,

Enclosed please find a response by the Canadian Defence Industries Association (CDIA) to the Bureau of Industry and Security of the Department of Commerce call for comments on the proposed changes regarding the revision and clarification of deemed export regulatory requirements on industry, academic institutions, government agencies and holders of export controlled technology.

In the preparation of this submission, CDIA has canvassed the views of the Canadian defence industry. Our response reflects directly on the proposed change as regards the use of foreign national's country of birth as a principle requirement for a Deemed Export License.

Executive Summary

CDIA is strongly opposed to the proposed change.

../2/

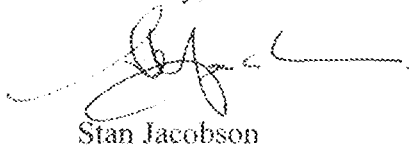
338 rue ouest Somerset St. West, Suite/bureau 4, Ottawa, ON K2P 0J9
Tel/Tél: 613 235 5337 Fax/Télec: 613.235.0784
Web Site: http://www.cdia.ca E-mail/Courrier électr.: cdia@cdia.ca

Rationale For the CDIA Position

CDIA offers the following reasons for our opposition to the proposed change:

1. There is no evidence to suggest that an individual's birthplace is a significant indicator of loyalty or a predictor of adverse behaviour.
2. The fact that an individual has multiple nationalities, or was born in a third-country, should only be used as one of several factors to be assessed in determining an individual's potential risk.
3. The implementation of this proposed change will negatively impact Canadian citizens that have already been subjected to assessments of their reliability and have been specifically cleared.
4. For the purpose of U.S. export controls, all U.S. citizens/permanent residents, irrespective of any additional second nationality, are currently treated as a single class (U.S. persons), while citizens/permanent residents of a foreign country are not treated as citizens/permanent residents of that foreign country if they possess a second nationality, notably foreign dual-nationals under Technical Assistance Agreements. The proposed change, whereby "deemed export" relates to a foreign national's country of birth while not to a U.S. person's country of birth, places U.S. citizenship/permanent residency on a separate footing than foreign citizenship/permanent residency. This inconsistency is prejudicial to our industry's fair access to the U.S. market and constitutes a more effective trade barrier than a security enhancement.
5. The proposed change would further limit the ability of Canadian industry to employ competent and reliable workers to perform work that is beneficial to the Government of the United States.

Sincerely,



Stan Jacobson
VP Export
Canadian Defence Industries Association

From: "Richard Newton" <newton@coe.berkeley.edu>
To: <scook@bis.doc.gov>
Date: 5/31/2005 8:12:22 PM
Subject: RIN 0694-AD29

Please find my comments attached.
Thank you,

/rich

A. Richard Newton
Dean, College of Engineering and
the Roy W. Carlson Professor of Engineering
<<newton_RIN0694-AD29.pdf>>

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO | SANTA BARBARA • SANTA CRUZ

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May 23, 2005

Office of the Inspector General
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW., Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29.

Dear Sir:

I am writing to you to register a comment in the matter of the proposed "Revision and Clarification of Deemed Export Related Regulatory Requirements." (**Docket ID:** [Doc. no. 050316075-5075-01] **CFR Citation:** 15 CFR 734, 772 **Published:** March 28, 2005 [FR Doc. 05-06057].

According to the proposed rulemaking, as recorded in the Federal Register of Monday, March 28, 2005, pp. 15607-15609, I understand this proposal to state that the operation of export-controlled instrumentation by a foreign national working in our College would be considered a "deemed export," even if that person were engaged in basic research. As a consequence, a license would be required for each affected foreign national (student, staff, or faculty member) and for each export-controlled instrument. Moreover, as I understand this proposal, we would be required to apply for a deemed export license for students, employees, or visitors who are foreign nationals and have access to controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

As Dean of the College of Engineering, University of California at Berkeley, I find the proposed rulemaking extremely troubling. It holds the potential for enormous damage to the quality of education in our graduate engineering program and, as a consequence, to the future of the economy in the United States. As one of the top ranked colleges of engineering in the world, and as the University that produces more science and engineering Ph.D. graduates than any university in the United States, we rely upon a rich international constituency to assure diversity and to ensure that we continue to educate world leaders in engineering, technology, and the service to our society. I came to the United States as a foreign student, as did many of my world-class 218 engineering faculty. I believe that the implementation of the proposed rulemaking would slow research significantly and perhaps even completely destroy certain research programs in areas that heavily engage physical and experimental approaches

in pursuit of the new knowledge that they create—areas like bioengineering, nanotechnology and materials sciences in particular.

Therefore, I strongly oppose this proposed rulemaking and urge you not to pursue its implementation.

Sincerely,

A. Richard Newton
Dean and the Roy W. Carlson
Professor of Engineering

Aerospace Industries Association of Canada / Association des industries aérospatiales du Canada

Suite 1200, 60 Queen Street, Ottawa, Ontario K1P 5Y7

Tel: (613) 232-4297 www.aiac.ca Email: info@aiac.ca Fax: (613) 232-1142

1 June 2005

Ms. Sharon Cook
Regulatory Policy Division
Office of Export Services
Bureau of Export Administration
Department of Commerce
14th and Pennsylvania Avenue, N.W.
P.O. 273, Room 2705
Washington, DC
U.S.A. 20230

Dear Ms. Cook:

On behalf of Canadian aerospace and defence companies, I am writing to point out the serious disruption to Canada/United States trade, business partnering and collaborative technology development that will arise from two proposed changes to the Export Administration Regulations (EARs). The first proposed change relates to the use of a foreign national's 'country of birth' as a principle factor in their ability to access technical data and goods listed on the Commerce Control List (CCL) when within the geographic boundaries of the United States. The second is the proposal to remove the exemption on the transfer to Canada of items listed on of Missile Technology Control Regime (MTCR).

Both of the proposed changes run counter to the effective and efficient functioning of the highly integrated aerospace and defence industries of Canada and the United States - annual US aerospace exports to Canada are valued at $6B (Cdn) and imports from Canada at $11B (Cdn). As pointed out in an earlier AIAC letter to you dated February 12th, 2002, the changes will have a direct negative impact on the business interests of companies operating on both sides of the border, including the intra-company activities of American multinationals that have operations in Canada. The consequence will be an erosion of the competitiveness of the aerospace industries of both our countries and the loss of market share in the face of stiff competition from Europe and Asia-Pacific.

It is not clear how the proposed adoption of 'country of birth' as a requirement in respect to 'deemed exports' will enhance the security of the US and its allies. What is evident is that this action would hinder the ability of US and Canadian companies to work in partnership to advance the leading-edge technologies demanded by next generation commercial, defence and space platforms. It could lead to the 'designing out' of US-origin technology from Canadian aerospace solutions and shift its supply chain focus to other nations.

.../2

It is the view of AIAC and its member firms that a nation's national security interests are best protected by processes that assess a 'country's honesty, integrity and reliability'. As you know, such a measure is utilized within the framework of Canada's 'Controlled Goods Program'. Canadian firms requiring access to controlled goods and technologies must register under the CGP and conduct such assessment of their employees. Where appropriate, the CG Program seeks the involvement of Canadian security and intelligence organizations.

The proposed change to the 'deemed export' rule for 'civil dual-use' technology would be different, and more restrictive, than the rules related to ITAR-controlled defence technologies. This would cause further confusion and could inadvertently increase the risk of 'unauthorized transfers'. It would also impose a level of controls on foreign nationals that the US Government does not apply to its citizens and permanent residents. From a Canadian standpoint, the proposed change could potentially place Canadian-based firms, including subsidiaries of US companies, in conflict with human rights and privacy legislation.

In respect to the proposed elimination of the exemption on MTCR transfers to Canada, it is AIAC's view that prior to such an action being taken there should first be a review of all MTCR technologies and products to de-list those that are widely available in the commercial marketplace. This would allow industry on both sides of the border to better work with the US Government to focus on preventing unauthorized access to those technologies that continue to pose a threat to American national security. Perhaps, this action can be encompassed within the work of the "Security and Prosperity Partnership of North America" initiative recently launched by the heads of state of the United States, Mexico and Canada. AIAC has recently proposed to the Government of Canada that exports control be addressed by its "Working Group on Manufactured Goods and Sectoral and Regional Competitiveness".

In closing, AIAC is confident that the US and Canadian governments can, working with their respective aerospace industries, create an environment that promotes trade and business while at the same time protecting the national security of both nations.

Sincerely yours,

Peter Boag
President and CEO

c.c.:
The Honourable James Peterson, Minister of International Trade
The Honourable Pierre Pettigrew, Minister of Foreign Affairs
His Excellency, Frank McKenna, Ambassador to the United States of America
The Honourable David Emerson, Minister of Industry
Mr. John Douglas, President, Aerospace Industries Association of America

From: "Borrelli, John" <john.borrelli@ttu.edu>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 1, 2005 5:16 PM
Subject: RE: RIN 0694-AD29 Revision and Clarification of Deemed Export Related Regulatory Requirements

After reading the proposed changes, I believe the proposed changes would be an extreme hindrance to Graduate Programs and Research at any university. It will be difficulty to have international students from engineering and science work on research projects. Every position would need to be evaluated for the need of export licenses. It would also be extremely time-consuming to obtain the deemed export license. Thanks.

John Borrelli, Ph.D., P.E.

Dean of The Graduate School

Box 41033

Lubbock, TX 79409-1033

Phone 806-742-2781

Fax 806-742-1746

From: Brant Johnson <brantj@gmail.com>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 2, 2005 2:22 PM
Subject: Fwd: ATTN: RIN 0694.AD29, concerning 15 CFR Parts 734 and 772

From: Sharon Scook scook@bis.doc.gov:
I will be on a developmental assignment with ITA until late September 2005, as part of the Executive Leadership Development Program.

If you need immediate assistance call RPD at 202-482-2440.

If you are sending comments to a proposed regulation, please send them to publiccomments@bis.doc.gov

---------- Forwarded message ----------
From: Brant Johnson <brantj@gmail.com>
Date: May 27, 2005 11:11 AM
Subject: ATTN: RIN 0694.AD29, concerning 15 CFR Parts 734 and 772
To: scook@bis.doc.gov
Cc: aronsons@bnl.gov, bond@bnl.gov, chaudhari@bnl.gov, lowenstein@bnl.gov, ozaki@bnl.gov, sakitt@bnl.gov, UEC Members <rhicagsuec-l@lists.bnl.gov>

To: Department of Commerce
Bureau of Industry and Security,
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTN: RIN 0694.AD29, concerning 15 CFR Parts 734 and 772

Dear Department of Commerce,

Yesterday you were FAXed a copy of the attached letter expressing serious concerns from the RHIC & AGS Users' Executive Committee at Brookhaven National Laboratory about the proposed change in the definition of use with respect to deemed exports. We strongly support the remedy proposed by Brookhaven Science Associates and urge that you adopt it.

We hereby send another copy of our letter by e-mail to (a) increase the probability that you will carefully consider our expressions of concern, and (b) to notify relevant members of the BNL administration (those listed in the "cc:" of the letter) that we have taken this action.

Sincerely, the RHIC & AGS Users Executive Committee:

"Gary Westfall, Chair" <westfall@nscl.msu.edu>,
Michigan State University, East Lansing, MI, U.S.
"Victoria Greene, Past-Chair" <senta.v.greene@vanderbilt.edu>,
Vanderbilt University, Nashville, TN, U.S.
"Brant Johnson, Chair-Elect" < brant@aps.org>,

Brookhaven National Laboratory, Upton, NY, U.S.
Christine Aidala, Columbia University, New York, NY, U.S.
Barbara Erazmus, Subatech, NANTES, France
David Hofman, University of Illinois at Chicago, Chicago, IL, U.S.
Michael Murray, University of KansasLawrence, KS, U.S.
Stephen Pate, New Mexico State University, Las Cruces, NM, U.S.
Michael Sivertz, Brookhaven National Laboratory, Upton, NY, U.S.
Peter Steinberg, Brookhaven National Laboratory, Upton, NY, U.S.
George Stephans, Massachusetts Institute of Technology, MA, U.S.
Glenn Young, Oak Ridge National Laboratory, Oak Ridge, TN, U.S.

May 26, 2005

RHIC
AGS
users' group
www.cbv.bnl.gov/users

Department of Commerce
Bureau of Industry and Security,
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTN: RIN 0694--AD29, concerning 15 CFR Parts 734 and 772

To Whom It May Concern:

We are writing to express our serious concerns about the proposed change in the definition of **use** with respect to deemed exports. The focus of these comments is on the word **operation** as contained in the definition of **use**. We strongly endorse the justifications supporting the concerns that were presented by Brookhaven Science Associates (BSA) dated May 11, 2005, some of which are reiterated in this letter. In addition, we strongly support the proposed remedy, namely that "the definition of use be divided into two parts. The first part of the definition should state that the **operation** of export-controlled technology may or may not be a deemed export and that a technical evaluation of the specific technology being **operated** be performed to see if any technology would be released or transferred. The second part of the definition should contain the remaining parts of the proposed definition."

As members of the RHIC & AGS Users' Executive Committee (UEC) at Brookhaven National Laboratory (BNL), we represent 1,600 users from over 272 institutions in 29 countries. Our users are scientists, students, and post-docs who conduct nuclear and high-energy physics experiments, studies of radiobiological effects on humans, and R&D in physics and manufacturing by using one of Brookhaven's user facilities. These facilities include the Relativistic Heavy Ion Collider (RHIC), Alternating Gradient Synchrotron facility (AGS), NASA Space Radiation Laboratory (NSRL), Tandem Van de Graaff, and the Accelerator Test Facility (ATF). Only 250 of our 1600 users are federal employees or contractors. This order would adversely affect 1100 non-US citizens that the UEC represents. The vital contributions of these users are crucial to the success of Brookhaven's scientific programs.

The definition proposed in the Federal Register, is "operation, installation, (including on–site installation), maintenance (checking), repair, overhaul, **and** refurbishing." The proposal is to change the **and** to an **or**. This change would have a significant negative impact on our users and the science being done at Brookhaven's user facilities. As stated by BSA, in the course of doing experiments many users operate export-controlled equipment, but such use would not transfer or release any of the technology contained in that equipment. For example, the operation of a state-of-the-art, export-controlled and commercially-acquired, oscilloscope by a physicist doing a nuclear physics experiment does not result in the physicist having acquired any of the technology inside the oscilloscope box. Only a skilled electronics engineer can produce an advanced oscilloscope.

Foreign collaborators must come to BNL in a timely fashion to actively participate in on-site experiments. We are very concerned about any significant delays that would be caused by the need for export license processing. From an operational standpoint this new proposed rule would make it extremely difficult to optimally utilize the user facilities at BNL, which the UEC represents. Once again, we strongly support the remedy proposed by Brookhaven Science Associates and urge that you adopt it.

Sincerely,

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cc: S. Aronson, P. Bond, P. Chaudhari, D. Kovar D. Lowenstein, S. Ozaki

From: "Finney, Heather (HL)" <hlfinney1@dow.com>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>, "'scook@bis.doc.gov'" <scook@bis.doc.gov>
Date: Thu, Jun 2, 2005 4:49 PM
Subject: RIN 0694 AD29

DOCKET NO. 050316075-5075-01/RIN 0694-AD29
REVISION AND CLARIFICATION OF DEEMED EXPORT RELATED REGULATORY REQUIREMENTS

IMPACT ON THE DOW CHEMICAL COMPANY

Clarification of Use Technology

In the past, The Dow Chemical Company (Dow) has requested deemed export licenses when foreign nationals were going to be exposed (including incidental exposure) to "use" technology for controlled equipment even if the foreign national would only be exposed to one of the areas of use. Changing the definition of "use" as proposed will have no impact on Dow's operations. The revision will also not increase the amount of deemed export licenses it applies for each year.

Use of Foreign National's Country of Birth as Criteria for Deemed Export Licenses

Changing the current regulations to require companies to request export licenses for foreign nationals based on their country of birth would have a significant negative impact on Dow. This change would pose a big challenge for Dow to comply with and will increase the number of licenses it will need to obtain. Dow would require a generous amount of lead time to complete the required action items to comply with proposed regulation. We could also be faced with a situation of removing individuals from their jobs which they are currently performing until the appropriate licenses could be applied for and approved. This could prevent completion of critical projects and cause issues trying to find a temporary placement for the individuals involved, especially if U.S. Legal Permanent Residents are not exempt from the U.S. Export Laws.

Currently our work processes and information technology systems only capture citizenship and permanent residency. We do not have the capability to share information on the country of birth for each individual company-wide to enable compliance with the regulation if it is changed. We would have to change our work processes and update our information systems in order to comply with the law. This would require us to go through thousands of individuals and obtain place of birth information, modify our information technology systems, input the data, then evaluate where licenses will be required.

The cost of changing information systems would be substantial and it could take years to become operational. Financial and people resources are limited, and it will require a significant amount of manpower to modify the information system, go through the birth certificate records, evaluate licensing needs, and apply for the appropriate licenses to enable compliance.

Deemed export licenses could increase drastically if the proposal regulation is passed. We currently have quite a few foreign nationals working in the U.S. and/or who have access to U.S. technology. The workload increase would be significant, because it could easily be in the range of 3,000 to 4,000 clearances. Also, if U.S. Green Card holders are not exempt from the export regulations, then it could be up to another 2,000 clearances.

There are individuals that have been provided access to U.S. technology based on their citizenship outside the U.S. We would have to review files and verify whether licenses are

needed since the clearances were based on latest citizenship and/or latest permanent residency. This would require us to change the way we provide access to databases which will require information systems upgrades and could result in an additional amounts of license requests.

Currently, Dow's policy is to acquire green cards for foreign nationals that are working in the U.S. for long-term assignments because of a special skill or critical need. The change in the regulation to regulate holders of green cards would require our Human Resources Department to consider acquiring U.S. citizenship for the foreign nationals it transfers into the United States which is much more time consuming and may require individuals to "renounce" their citizenship of their family, their birth. In addition, there will be a significant increase in legal costs to Dow.

Also, Dow has experienced reluctance of highly qualified foreign nationals to take positions at Dow because of the restrictions that are placed upon them after their hire. Some perceive it as a discriminating practice and feel they are not valued employees. To ease their concerns, we explain to them it is only temporary until they receive their U.S. Legal Permanent Residency.

If the law changes to include export restrictions on U.S. Legal Permanent Residents, we may have difficulty bringing the necessary skills and talents into Dow. It will be a huge morale problem to go back to the U.S. Legal Permanent Residents that are currently working at Dow and explain to them that they must now adhere to the U.S. Export Controls Laws once again, even though they went through the lengthy legal process of acquiring a Green Card. We could potentially lose highly-skilled employees over this issue which could hinder our ability to compete with our competitors.

Additionally, training and changes of work processes would be required. For example, Dow's security organization is currently asking each person that enters a U.S. facility their citizenship and permanent residency status. Dow would need time to change operating procedures, plus provide training to security employees and contracting agencies.

Alternative Solutions

Regulating based on the place of birth is not efficient and will burden the U.S. Government and many companies. For example, the government will be burdened with an increase in foreign national deemed export licenses for German citizens that received Canadian permanent residency. Germany and Canada are not normally countries of major concern for the U.S. Government. Also, regulating by place of birth across the board to all foreign nationals will place a huge burden on Dow to comply.

If safety and national security are of concern, why not change the regulation for deemed export to pinpoint the countries of concern, versus changing the regulations for countries that are not considered of primary concern. For example:

Corporations must apply for a deemed export license for individuals who are foreign nationals and have access to dual-use controlled technology if they have acquired citizenship or permanent residency status currently, or in the past, for any embargoed country or any country designated for Anti-Terrorism reasons unless they have received U.S. citizenship or U.S. Green Card Status.

Changing the wording to pinpoint countries of concern and still managing a majority of foreign nationals by citizenship (except those that have citizenship or have held permanent residency in terrorist or embargoed countries) will still tighten export control laws, plus allow companies to avoid costs of updating information technology systems and inputting huge amounts of data into systems. It will also effectively allow companies to quickly identify foreign nationals of concern and take the appropriate actions, lessening the amount of time to comply with the regulation

change.

If U.S. Green Card holders are not exempt from the Export Laws in the future, can it further be pinpointed to focus on countries of particular concern? For example, if China is a concern, make the law reflect that Chinese citizens are covered under the Export Control Laws, regardless of their U.S. Green Card status, rather than applying the Export Control Laws to all Green Card holders.

Questions

If questions arise regarding comments made in this document, please contact me.

Heather Finney
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> North America Operations
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http://ischain.intranet.dow.com/ssb/operations/ito/customs/ito_NAexport_import.htm
<http://ischain.intranet.dow.com/ssb/operations/ito/customs/ito_NAexport_import.htm>

From: Anna Wang Roe <anna.roe@vanderbilt.edu>
To: <scook@bis.doc.gov>
Date: 6/4/2005 2:54:19 PM
Subject: [Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export administration regulations: Deemed export licenses; clarification and revision

Attention: RIN 0694-AD29

I am writing to express my concern regarding the proposed "Revision and Clarification of Deemed Export Related Regulatory Requirements". The impact of requiring a 'deemed export license' for every foreign national who 'uses' (operates, installs, maintains, repairs, overhauls, or refurbishes) equipment/technology found on the 2,400+ item Commerce Control List (CCL) would have huge negative impact on scientific research programs throughout the nation.

The numbers of foreign scholars at universities cannot be underestimated. The National Academy of Sciences has reported that nearly half the doctoral level staff and 58% of postdocs at NIH are foreign nationals. In the private industry sector, science and technology Ph.D.s consist of 38% foreign nationals. From my own personal experience, having spent the last 25 years (from undergrad to faculty) at top research universities (including Harvard, MIT, Yale, Rockefeller Unversity, Baylor College of Medicine, and Vanderbilt University), there is no question that foreign nationals form the engine of science and technology in the US. Without them, progress in science, technology, and medicine would slow significantly. In my own experience, three quarters of the personnel (5 out of the 9 graduate students, 7 out of 9 postdoctoral fellows, 1 out of 2 lab technicians, and 4 out of 4 computer programmers) I have supervised have been foreign nationals. In addition each semester, I teach rotating students in my laboratory and students in my laboratory science class on laboratory techniques that require use of scientific equipment; an increasing number of these students are foreign nationals. Furthermore, I have a number of scientific collaborators who are foreign nationals. To require that each of these individuals obtain a deemed export license would be enormously and prohibitively costly and time-consuming. Already academic and research dollars are strained to the limit. To add this burden would in effect drastically diminish the effectiveness of funding that we work so hard to get.

Finally, such regulations would have huge negative impact on the collaborative and creative endeavors that are required for scientific and medical progress. The intellectual freedom of universities in the US is without question a beacon of hope and leadership that is envied throughout the international community. Because of this perceived freedom, we as a nation are able to attract the best and brightest from across the globe. To enforce such a license requirement would unnecessarily place a segregational divide and perception of discrimination on foreign nationals. This would be a dangerous perception to foster, one which would discourage this influx of talent and which would be counterproductive to the leadership role of the US in

fostering international peace and collaboration.

I respectfully urge you to take these considerations to heart. Thank you.

Anna W. Roe, Associate Professor
Department of Psychology
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http://www.psy.vanderbilt.edu/faculty/roeaw/index.html

CC: anna roe <anna.roe@vanderbilt.edu>

From: "Robert V. Kohn" <kohn@courant.nyu.edu>
To: <publiccomments@bis.doc.gov>
Date: Sun, Jun 5, 2005 7:04 PM
Subject: RIN 0694-AD29

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research and technology capacity.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. I do not ask them their citizenship, or indeed, their country of origin, when I invite them into my office. The University ascertains their legality by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required in order to enter into the building in which my office is located, as noted above, the cards do not distinguish among nationalities. To do so would require a major expenditure on NYU's part and would surely further discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative, that is, to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and very time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely but I fear that it could be very serious. I work closely with colleagues in Physics whose laboratories make use of export-controlled equipment.
The need to apply for an export license for foreign nationals who would have access to this equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force them to severely restrict or perhaps even abandon entire lines of research.

United States science and technology has been a major economic driver and it has given our country pre-eminence in many fields. Cutting-edge research can only flourish in the open environment of free exchange. I urge you not to adopt

these revisions.

Yours sincerely,

Robert V. Kohn
Professor of Mathematics
Courant Institute, New York University
email: kohn@cims.nyu.edu
phone: 212-998-3217
web: www.math.nyu.edu/faculty/kohn

CC: <kohn@cims.nyu.edu>

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203 Jesse Hall
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June 6, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
Attn: RIN 0694-AD29

Subject: **Response to Proposed Notice-and-Comment Rulemaking**

Dear Bureau of Industry and Security:

Thank you for the opportunity to provide comments to your notice of proposed rulemaking published in the Federal Register on March 28, 2005, pages 15,607 – 15,609. The proposed changes would affect regulatory requirements pertaining to "deemed exports."

The University of Missouri—Columbia (MU) is a Carnegie doctoral/research-extensive AAU land-grant institution with a faculty of 5,400 scholars and currently enrolling 21,000 undergraduate and 6,000 postgraduate students. Approximately five percent of MU's undergraduates are non-resident internationals, as are about 26 percent of its graduate students and four percent of its professional students. Of the almost 23,000 employees at MU, approximately ten percent are categorized at non-U.S. citizens or non-permanent residents. There are currently more than 6,600 pieces of capitalized equipment in our inventory, and many more items costing less than the $5,000 minimum exist in our laboratories. During the past five years, MU's rate of growth in federally-sponsored research has risen to number one nationally. Our export controls oversight effort at MU is coordinated through the Office of Research and its Office of Sponsored Program Administration with input from the General Counsel's Office at the University System, although export controls regulations apply to activities outside the realm of research.

MU's concerns related to the prospective impact of the aforementioned rules are outlined below. In brief, we are concerned that insufficient analysis has been accomplished by the Bureau of Industry and Security (BIS) to justify the enormous burden that compliance with such proposed rule changes would place on our research operation. Given that MU is but one of many similar universities nationwide, this concern is magnified in the context of the adverse impact across the country. Specifically, no cases-in-point suggest that the current application of export control rules poses a significant threat to our national security. However, as pointed out below, it would be easy to destroy our international competitiveness in the educational marketplace by making compliance so onerous that the best and brightest minds elect to acquire their educations elsewhere.

The U.S. must not be complacent about its role as the educational focal point for the world. International student numbers nationwide have declined over the past several years, and reliable projections indicate that soon the vast majority of science and engineering graduates will be in Asia. Imposing additional barriers will serve to further decrease U.S. international

competitiveness at a time when we should do everything possible to augment it. Not only does MU rely significantly on the intellectual contributions of international scholars, we seek to capitalize positively on the relationships forged as a result of those non-U.S. persons whose opinions of our nation result in large part from their first-hand associations at one or more of our distinguished institutions. Universities have and should continue to function as ambassadors for our nation, and we cannot accomplish this essential task if we close our doors to international colleagues.

Fundamental research is at the heart of the academic enterprise. It is open, collaborative, international and spontaneous where the fewest constraints to scholarship exist. It cannot be accomplished without using equipment and passing information on how to use such equipment. The Fundamental Research Exclusion (FRE) depends for its viability on the ability of researchers to use equipment, including otherwise controlled devices, to modify such equipment as necessary, and to build new equipment. Implementation of the proposed new rules will inevitably result in delays—often fatal—to ongoing research because of the requirement to halt until licenses are granted. To date, we have operated under the assumption that the FRE includes the right of international students and investigators to use, modify and create, and to receive information on how to use, modify and create, controlled equipment while doing fundamental research on the MU campus. If we cannot continue to operate in this fashion, it will adversely impact our favorable research environment. If adopted, the proposed rules will mean, as a practical matter, that most—and probably all—foreign nationals will need to be licensed before being allowed to engage in our research because the possibility of needing controlled equipment or of conveying information on how to use such equipment simply cannot be predicted accurately, controlled or separated from any use itself in the sort of research atmosphere traditionally fostered on our campus.

Should the proposed changes to the "deemed export" rules be effected, technology relating to the use of controlled equipment, regardless of how use is defined, would be subject to deemed export requirements even if the research being done with such equipment is fundamental. This would significantly increase the number of export licenses required and would place a significant burden on our institution absent any showing of increased national security as a result. The University of Maryland-College Park has estimated a cost of approximately $1.5 million to conduct the requisite equipment inventory and I anticipate a like amount for our campus. This is contained in none of our existing budget forecasts.

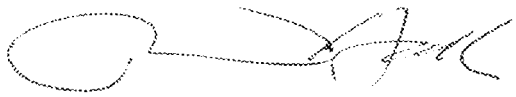
Similarly, the proposed change that would base deemed export license requirements on a foreign national's country of birth rather than on the individual's most recent citizenship or permanent residency would generate a significant administrative burden for MU. Presently, we do not track this information and to do so would require additional staff in both our student admissions office as well as in our human resources department. As with the proposed changes to "use" of equipment, the proposal to base export licensing on country of birth is not accompanied by any compelling evidence that this would result in increased national security. We cannot plan to recover any of the aforementioned costs by adding them into our Facilities and Administrative (F&A) rate: we already exceed the allowable 26 percent cap and thus these costs would have to be covered elsewhere. In fact, the only option presently available for paying such additional costs would be to increase student fees; therefore, the burden of compliance with the proposed changes in export control regulations will be borne by our students. This is neither fair nor wise.

I estimate that compliance with the proposed new Export Control regulations will require an administrative staff at least equivalent to our Health Sciences Institutional Review Board, which

is composed of a Compliance Officer, four Compliance Specialists, and one Administrative Assistant. With our current fringe benefit rate and adding in about $25,000 for supplies, this would amount to an annual requirement for more than $350,000 (recurring funds)—funds which are not in our budget forecast and as explained above cannot be captured from F&A. In addition, it will be necessary to identify the space and accouterments necessary to house and operate such a new effort. This comes at a time when we have been challenged by our Board of Curators to reduce administrative expenses in any manner possible so that all available resources may be deployed in direct support of teaching and research.

Although the prospective administrative burden of compliance with the proposed changes in the EAR is large, it is not entirely new and is not, in our opinion, the most significant burden associated with the proposed new rules. The most significant problems for MU, and indeed for most other research institutions, include the immediate disruption to ongoing research and the inevitable loss of our access to that essential pool of international talent represented by international scholars. As researchers, we simply cannot function in an environment where months-long delays are the norm because of administrative requirements that we categorize all equipment under EAR guides, identify the nationality of each user of these items of equipment, evaluate the relative extent of use of such equipment by any foreign nationals to see if a license is required, and eventually obtain required licenses for individual foreign nationals to use these pieces of equipment. To ensure appropriate compliance with such regulations will, we believe, require a completely new office as enumerated earlier, staffed with new personnel, absorbing space and fiscal resources that we do not have, and this cost will be in addition to the loss of productivity and worldwide capital mentioned earlier. This is not the path we should be taking. Even if we could keep up with the number of export licenses ultimately required, we would need to track the birth nationality of all of our campus researchers, insulate all foreign nationals from the campus community until licensing requirements have been sorted out, and eventually to determine what aspects must be controlled or not. The eventual result will be that the best and brightest non-U.S. talent will redirect to other institutions in other countries where they will not be similarly isolated and constrained. The alternative would be to seek licensing for all equipment on campus which is used by foreign nationals, and this in turn would produce an unenviable burden for BIS/Commerce.

Sincerely,



Robert D. Hall, Ph.D., J.D.
Associate Vice Provost for Research
Director of Compliance

cc: Chancellor Brady J. Deaton
Interim Provost Lori Franz
General Counsel
File

From: Don Weadon <DWeadon@aol.com>
To: Yvette Springer
Date: 6/7/2005 3:32:31 PM
Subject: June 7 RPTAC public comments on Deemed Exports

Ms. Springer: attached are my public comments to enrich today's public session discussion on "deemed exports" at the RPTAC. Due a medical issue, I was unable to personally attend, but I feel that these comments might be helpful to the members of the RPTAC in their discussion of agenda item (6.) Update on the proposed rule on deemed export related regulatory requirements (RIN 0694-AD29).

Best regards,

Don

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International Lawyers
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WEADON & ASSOCIATES

ATTORNEYS AT LAW

MEMORANDUM

To: The Regulations and Procedures Technical Advisory Committee

From: Donald Alford Weadon, Jr.

Date: June 7, 2005

Subj: Implications of the Proposed Deemed Export Rulemaking in light of the Corson Report (1982), Corson Update (1984), the National Counterintelligence Executive (NCIX) National Counterintelligence Strategy of the United States (2005) and Annual Reports to Congress of Foreign Economic Collection and Industrial Espionage] (1995-2004) and the Commerce Department Inspector General's Report (IPE-16176 of March 2004)

I am submitting these observations to the members of the RPTAC to assist in enriching the debate on the proposed rulemaking to enhance the "deemed export" regime.

In determining the "compelling need" for the change in licensing policy embodied in the proposed, it is necessary to review the foundation for U.S. policy in this area. This foundation was established during height of the cold war when significant, active technology acquisition measures were directed against the United States and its companies by the nations of the then-Soviet Bloc.

A preliminary review of open source materials on threat and response militates in favor of a thorough study of the issue by industry, government and academia before further steps are taken which are certain to prove problematic, if not effective. Such studies have been efficiently and expeditiously conducted in the past, and have served to create a strong consensus among all the affected participants, thus ensuring the effectiveness of any subsequent legislation or regulatory action, not to mention its acceptance by our allies.

The proposed rulemaking neither furthers the objectives of repairing a flawed "deemed export" regime, nor does it appropriately respond to the accumulated experience on the nature and mechanisms of the illicit technology acquisition threat.

The RPTAC can exercise significant leadership by calling for another industry/government/academia study to refocus the objectives and methods of U.S. strategic trade controls.

Background

After the establishment of a "dual use" multilateral export control regime at the end of World War II ("CoCom") and the passage of enabling legislation in the United States (Export Control Act of 1949), there was increasing frustration over the efficiency and effectiveness of the structure and administration of the control regime. In 1976, a blue-ribbon Defense Science Board task force chaired by J. Fred Bucy, then-president of Texas Instruments, reported that the primary emphasis of the control system should be placed upon (a) arrays of design and manufacturing know-how (2) keystone manufacturing, inspection and test equipment and (3) products requiring sophisticated operation, application or maintenance know-how. The key was to preserve a significant lead time over adversaries in critical technologies.[1]

In the legislative and policy debate preceding the enactment of the 1979 EAA, it was affirmed that the objective of the U.S. export control system was to balance U.S. technology and economic growth and national security.

The tension between EAA controls upon technology exports and the free exchange of scientific communication led to the formation of a National Academy of Science study, supported by the Defense Department, among others, and chaired by Dale R. Corson, President Emeritus of Cornell University. The panel's report, Scientific Communication and National Security (1982) addressed the issues and established a set of principles to resolve the tension. Primary among their recommendations was that controls upon university research and scientific communications should be significantly limited except in the face of a high potential for significant harm through military utility *and if the United States was the only source for the technology* (an absence of foreign availability as defined in the EAA of 1979).

Two years later, the Corson panel revisited the issues and the steps taken to implement its recommendations (1984). The Panel felt that the implementation steps went well beyond their recommendations in restrictiveness and that there had been "little progress toward an improved objective understanding of the technology leakage problem and the effects of control measures" (Corson II, P.27).

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[1] The 1976 report was entitled An Analysis of Export Control of U.S. Technology - a DOD Perspective. This Report (termed the "Bucy Report") became the operative legislative philosophy of the 1979 Export Administration Act ("EAA") and resulted in the creation and perpetuation of the Military Critical Technologies List ("MCTL").

In 1986, the National Academy of Sciences again empanelled a task force of industry, academic and government experts to address the deteriorating efficiency of export controls, again with the support of the Departments of Commerce and Defense. Under the chairmanship of Lew Allen, Jr., then President of the California Institute of Technology, the Panel published its exhaustive report Balancing the National Interest in 1987. The Allen Report served as the basis for the overhaul of the dual use export control legislative structure in 1988 with the enactment of the Omnibus Trade and Competitiveness Act of 1988 ("OTCA"), the most significant overhaul of the dual use export control structure since the EAA of 1979.

Importantly, the Allen Panel concluded that "...export controls are not a means for controlling espionage, which accounts for a high proportion of the [then identified] successful and significant [foreign] technology acquisition efforts" [Allen Report at p. 154].

Subsequent to the OTCA, the EAA has waxed and waned in and out of lapse, with the present Export Administration Regulations ("EAR") *and* the deemed export regime being supported solely by Presidential Order under the aegis of the International Emergency Economic Powers Act of 1977 ("IEEPA")[2].

Over fifteen years have passed since the issuance of the comprehensive Allen Report, and over two decades have passed since the Corson studies, and it is problematic that there no longer exists a clear legislative, executive or industry/academic consensus on how best to control the exports of goods and technology from the United States in a rapidly changing global marketplace.[3]

What is the Nature of the Threat?

At the outset, it is important to discern the nature of the threat for which the proposed rulemaking will serve as a

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[2] The EAA has been in and out of lapse through the 1990s with the Export Administration Regulations ("EAR") being continued through Executive Order under the provisions of the IEEPA. The EAA was reauthorized by Congress from November 13, 2000 through August 20, 2001, but failing a legislative agreement, lapsed thereafter. The EAR have been (and remain) continued by Executive Order 13222 of August 17, 2001 and successive Presidential Notices.

[3] For an excellent summary of the state of play in the policy debates and the Congressional wrangling over reauthorization of the EAA, see *The Export Administration Act: Evolution, Provisions and Debate* [Congressional Research Service, May 5, 2005 (RL31832)].

solution or deterrent.

Despite an increased expression of concern that foreign governments are targeting U.S. entities for the purpose of illicit acquisition of technology for commercial and military advantage[4], it is questionable that there are any qualitative or quantitative aspects of threat today beyond the threat which pertained when the Bucy, Corson and Allen panels addressed the control issue. In short, it should be asked: has anything changed?[5]

An analysis of the Cox and NCIX reports does not appear to indicate a material difference in threat, perhaps only in the order -- not identity -- of the major players (China is now the principal threat, versus the Soviet Union, but both are stated as the key players). Certainly, there continue to be a variety of initiatives by over 95 nations to illicitly acquire U.S. technology through espionage, but one must keep in mind the Allen Panel's caution that "export controls are not a means for controlling espionage, which accounts for a high proportion of the successful and significant [foreign] technology acquisition efforts." [Allen Report, p. 154].

It is also interesting to note that in the NCIX annual reports, the acquisition and exploitation of publicly available, public domain technology and know-how is emblematic of Chinese technology acquisition efforts. Again, this has never been (nor should now be) restricted by export controls.

What is the Nature of the Proposed Remedy?

The recent Commerce Inspector General's Report on "deemed export" regulation ostensibly catalyzed this rulemaking effort[6]. Despite the detail and language of this Report, it is important to keep in mind that the "deemed export" rule was originally fashioned out of whole regulatory cloth and is not

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[4] E.g., *the Report of the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China* ("the Cox Report", Washington, D.C., GPO 1999), Annual Reports to Congress by the National Counterintelligence Executive ("NCIX") on Foreign Economic Collection and Industrial Espionage 1995- (available at www.ncix.gov), etc.

[5] One obvious change sine 1976 is the increased dependence of our academic and industrial sectors (not to mention the military) upon individuals who come from overseas.

[6] Final Inspection Report No. IPE-16176 of March 31, 2004, *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.* ("the IG Report").

supported by language of legislative mandate, a fact recognized in the Congressional debates over reauthorization of the EAA.[7]

The proposed "deemed export" rulemaking would require U.S. academic institutions, companies and their foreign subsidiaries to shoulder significant costs and brave a thicket of regulatory prohibitions, both at home and abroad, to determine an employee's country of birth for purposes of U.S. Government review of the suitability of that person's employment at home or abroad.[8]

However, the IG report and the instant regulatory initiative lacks as its focus a clear indication of potential diversion other than the country of birth criterion, a criterion not shared by *any* of our multilateral export control allies, either during the highly cooperative CoCom era or in the present, more relaxed Wassenaar Arrangement days. Likewise, none of these nations have a technology export mechanism comparable to the U.S. "deemed export" regime, and it is common knowledge that it would be impossible for the United States to obtain agreement among the Wassenaar allies to actually adopt such a regime.

In short, the United States stands alone among the Waasenaar nations in imposing this form of control and will likely remain so.

In addition to being a disfavored unilateral control[9] , the

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[7] *See*, CRS Report, f/n 3, *supra*, which notes on page 15: "Deemed exports are not expressly mentioned in the 1979 EAA. House versions of [the] EAA in the 107th Congress sought to explicitly define deemed exports as exports falling under the jurisdiction of the act." Thus, deemed exports are not supported by any extant legislation. Moreover, it should be noted that the IEEPA, *op. cit.*, under whose authority the current "deemed export" regime is presently supported, may *not* provide defensible legislative support for even current practice. House Report No. 95-459 of June 23, 1977 indicates that under the IEEPA, Congress's grant of emergency authorities [to the President] "does *not* inculde...the power to regulate purely domestic transactions."

[8] *See*, comments of the participants at the National Academies Roundtable on Scientific communications and National Security, the Program on Science, Technology, and Law, and the Government-University-Industry Research Council *Deemed Export Policy: a Workshop on the Inspector General's Report to the Department of Commerce* of May 6, 2004 ("the NAS Workshop"), notably those of University of Maryland President D. C. Motes, Jr.

[9] *See*, the OTCA, *op. cit.*, where Congress clearly stated -- and legislated -- its disfavor for unilateral controls. Since the demise of the EAA, unilateral controls have proliferated, if one could use that expression, with nary a word from the Congress.

present proposal lacks an empirical basis for identifying legitimate threats to technology acquisition appropriately belonging under the aegis of export controls. To stem espionage, the proper bulwark appears to be a combination of strong visa evaluation and enhanced education of industry, in addition to strong enforcement of violations of existing regulations.

As noted below, the present proposed rulemaking may be an attempt to fashion a better net to sweep what is essentially an empty pond. The fish sought to be snared are to be found elsewhere, and through other means.

The licensing experience with the present "deemed export" regime is illustrative. In F/Y 2004, BIS reported that it reviewed 995 "deemed export" licenses, representing 6% of all licenses submitted to BIS, with 70% of such licenses being for Chinese or Russian nationals.[10] Only 8% of the "deemed export" applications were returned without action for additional information or were rejected: the rejection rate now hovers at 1%.

Based upon this "deemed export" licensing data, it is obvious that only a minor fraction of entities who are subject to the current "deemed export" regime (based upon the technology they practice and the individuals they employ) are identifying the licensing requirement and submitting license applications to BIS for domestic or foreign employees. It is also fair to ponder why the approval rate of such applications – when they *have been submitted* -- is so high when the threat is considered so immense and in alleged to be in need of more stringent application criteria.

A logical conclusion is that the "deemed export" regime may not be the right mechanism to fix the perceived problem, and that to make the regime more onerous will serve no legitimate or beneficial purpose.

As there is no current data publicly available on whether or not any of the individuals for whom a "deemed export" license has been granted have been found to have illicitly transferred technology in violation of the license conditions, the "deemed export" approval quotient may indicate that the *present* regime is more than adequate to address the current problem, and that a more effective solution to illicit technology acquisition lies elsewhere. Or, that possibly there should be no "deemed export" regime at all.

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[10] BIS Annual Report 2004, p. 8.

Does the Proposed Remedy Actually Address the Threat?

The IG's investigation reportedly may not have involved detailed consultations with all the Intelligence Community (*see*, Acting Undersecretary Lichtenbaum's comments at the NAS Workshop, *and* the list of individuals/organizations consulted/interviewed at IPE-16176, p.7[11]). Thus, it would seem a review of the publicly available intelligence is in order to analyze the merit of the proposed enhancement of the "deemed export" process.

Information on technology acquisition efforts is available in various degrees of precision. In 1999, catalyzed by a variety of improper technology transfers to the People's Republic of China, a bipartisan Congressional committee conducted an in-depth review of Chinese technology acquisition efforts, with an emphasis on industrial and military espionage.

As noted in the report of the committee, known as the Cox Report (f/n 4, *supra)*, China had assumed the level of threat to U.S. national security in the pantheon of illicit technology acquisition players comparable to that once occupied by Russia and some of the states of the former Soviet Union. But upon a critical review, the Cox report provides little information or evidence that an expanded "deemed export" regime would provide any greater protection against technology acquisition issues properly in the realm of export controls *than the present regime*. In fact, the most serious leak of dual use technology to the Chinese identified was as a result of admittedly intentional actions by American employees of three U.S. aerospace companies.

Current public information on all attempts by foreign entities or governments to illicitly acquire controlled U.S. or dual use technology is readily available in the annual reports submitted

[11] The IG staff *did* interview and/or consult with the enforcement staffs of the Commerce Department Bureau of Industry and Security ("BIS"), the Treasury Department Office of Foreign Assets Control ("OFAC") and the State Department Directorate of Defense Trade Controls ("DDTC"), as well as the Federal Bureau of Investigation.

to Congress by the NCIX (f/n 4, *supra*)[12] . A review of these reports is instructive, as there are few, if any, reported improper technology acquisitions which would or could have been stemmed by the "deemed export" regime. Running the gamut from inept or clandestine attempts by individuals (both U.S. citizens and foreign nationals) to export sensitive dual use or military commodities all the way to sophisticated industrial and military espionage conducted by both allied nations and countries of concern, the NCIX reports do not identify foreign workers properly admitted to the United States as a conduit for illicit dual use technology acquisition.[13]

In sharp contrast to the IG Report, the NCIX reports do not identify "deemed export" licensing vulnerabilities except in the context of joint ventures, and do not identify an increased stringency in such licensing as a cure to this identified threat. If the critical threat issue is one of joint ventures, then the birth (or even nationality) of the employee of the foreign joint venturer may be immaterial in fashioning a regulatory solution.[14]

Utilizing Defense Security Service ("DSS") and Armed Forces security services data, the NCIX reports aggregate the illicit technology (technical data) acquisitions of more sensitive defense technology into two identifiable groups: state sponsored espionage, and direct requests for information at trade shows, plant visits and the like. Again, the threat of foreign national employees properly in the United States or overseas as employees of U.S. firms was not highlighted.

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[12] In discussions with NCIX management in drafting this report, the Office of General Counsel was unaware of the "deemed export" expansion initiative, and the input of NCIX appears not to have been actively sought for the IG report. The National Intelligence Officer for Economics at NCIX and author of the annual NCIX reports was involved in some of the interagency discussions.

[13] The 1997 National Counterintelligence Center (predecessor of the NCIX) Report *does* address the issue of "cultural commonalities" as being one mechanism of many through which foreign collectors attempt to undertake illicit technology collection efforts as a "potential" concern. However, this report does not indicate that a "deemed export" regime would or could be useful in stemming this potential. Interestingly, this issue of "cultural commonalities" does not appear in subsequent report, nor are there case studies of illicit dual use technology acquisitions where "cultural commonalities" play a significant role.

[14] The Allen and Corson Panels addressed this issue and uniformly observed that the optimal solution would be *contractual* not licensing.

The 2001 NCIX Report states that acquisition of technology companies by foreign entities is "on the rise", but notes that according to DSS "reporting, 88 percent of all reported suspicious acquisition activities involved *third parties*. Third parties are not the actual entities acquiring the technology but are the ultimate end users" [2002 NCIX Report at p. 2].

Throughout the available reports, the compiled and anecdotal information indicates that it is not the nationality but *the illegal or clandestine activity* of the perpetrators, which is the nexus of the harm, and that such activity is violative of the EAA and EAR without reference to the "deemed export" prohibitions.

Moreover, in their analysis of collection efforts by foreign nationals at institutions of higher learning, the NCIX notes that the collection generally involved open source (public domain) information, which does not rise to the stature of technology controlled under any U.S. export control regime.

Conclusion

The old observation about buggy whips is on point: a fabled company kept improving its buggy whip until it was the best designed and most efficiently manufactured buggy whip in the word. Sadly, the automobile had come along making buggies obsolete, and the company rapidly failed.

Thus with "deemed export": a regime commenced with no compelling need, no legislative authority, no industry/academia/government consensus and no evidence of its salubrious effects.[15] The realities of the global technology market may have superseded "deemed export" regulation. The proposed cure may be worse than the perceived affliction.

Lacking a control consensus (what to control, how to control it, and to whom it should be controlled), it is easy to "fly

[15] In discussions with senior counterintelligence officials, it was made clear that the general opinion of the community is that a "deemed export" program will make it *more difficult* for a foreign nation to infiltrate a commercial company in order to engage in industrial espionage. Point well taken -- however industrial espionage is *not one of the activities which export controls are designed to remedy*. Also, in these discussions there appears to be some confusion about what a "deemed export" actually is: application of U.S. technology abroad by visiting U.S. engineers and scientists was considered to constitute a "deemed export" -- which it is not: such events are an export of technology or technical data which have been explicitly defined for many years.

speck" regulations and lose connection with the grand context provided by a dynamic global technology marketplace. And paradoxically, lose control by putting too much emphasis on a dysfunctional regime.

Since the veto of export control legislation in 1991 at the time of Operation Desert Storm, export regulation has been produced on an *ad hoc* in what amounts to a policy and legislative vacuum, with generally unsatisfactory results. Some instances jar one's sensibilities,[16] others lead objective observers to clamor for clarifying legislation.[17]

Is it not time to consider whether we should stop putting more bad patches on a what is essentially a worn tire?

Rather than force industry and government to expend vast amounts of energy and resources to worry this meager bone, it is clear that the pragmatic next step is for BIS to exercise leadership and request both the NAS and the Defense Science Board to come together again to revisit the pressing control issues and seek a meaningful consensus to serve as a well-lit path for thoughtful legislative and regulatory action.

D.A.W.

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[16] When the entire EAR were restructured, rewritten and formally published on March 25, 1996 (61 FR 12714), BIS stated that it had not *and would not* define the critical operative phrase of the EAR -- specially designed -- in the newly rewritten regulations, thus rendering a significant fraction of the Commerce Control List and its included component provisions *devoid of meaning*, a compliance nightmare for exporters whose principal obligation under the EAR is to classify their commodities, software and technology *before* export. Clearly, the need for a government/industry/academia concensus and legislation -- not piecemeal, uncoordinated regulation -- is manifest.

[17] *See*, recent BIS attempts to extend Missile Technology Controls to Canada, long a license free zone (70 FR 29660 of May 24, 2005) arose from materially divergent approaches to the Canadian exemption by BIS and DDTC, and largely as a result of a call for either legislation or regulatory modification from the Government Accountability Office (GAO Report "Regulatory Change Needed to Comply with Missile Technology Licensing Requirements" of May 2001 GAO-01-530).

SYRACUSE UNIVERSITY

OFFICE OF RESEARCH

June 8, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

RE: RIN 0694-AD29

Dear Mr. Lopes:

Thank you for the opportunity to respond to proposed revisions and clarifications of the Deemed Export regulatory requirements proposed in the Inspector General's report, IPE-16176-March 2004.

As a member of the Association of American Universities, Syracuse University values the open dialogue established between the federal government and its agencies and the U.S. university research community. To contribute to this ongoing exchange, we present our current and conservative estimates of the impact the proposed regulations would have on our institution.

Syracuse University shares the Department of Commerce's commitment to national security, and applauds the our nation's efforts to reassess existing policies and regulations designed to preserve our military's advantages over international adversaries, to prevent proliferation of weapons of mass destruction, to advance U.S. foreign policy goals; and to protect the US economy and promote trade. However, we question whether the proposed regulations are a solution to a problem that has not been definitively shown to exist.

Of keen concern is the apparent expansion of the deemed export applicability in that:

> "technology relating to controlled equipment- regardless of how use is defined- is subject to the deemed export provisions (and the requirement to license foreign nationals having access to that equipment) even if the research being conducted with that equipment is fundamental."

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Implementing this requirement, which effectively eliminates the fundamental research exclusion for much of our science and engineering research, will create additional administrative and financial burdens to our institution, with little or no real or perceived benefit to national security. However, the consequences of this expansion of deemed export applicability to technology on research innovation will be far-reaching. In the short-term, it will have a predictable chilling effect on the entire academic research enterprise and so reduce the pace of fundamental scientific and technological innovations in the U.S.; in the longer-term, the long-recognize benefits of research innovation to the U.S. economy will certainly be diminished.

The proposed regulations are counter to Syracuse University's commitment to academic freedom, and the open and transparent exchange of information in research and education. For the approximately 2,400 number of international students and visiting faculty/scholars in science, engineering and technology fields, we will likely presume that their research endeavors will use technology relating to controlled equipment. The analysis of this assumption will introduce delays in research progress, and increase the cost of their participation. The University will also have to modify dramatically our equipment/property inventory systems to incorporate controlled use status and to identify and include those technologies that are less than the cost threshold as well as tracking those that emerge from research versus those used in research. Although we have not yet conducted an institutional assessment, we expect that most if not all of the "controlled" technologies used on our campus, or similar non-US made technologies, are available for purchase virtually anywhere in the world. Consequently, restricting access to such items may not achieve our goals to preserve national security or enhance the US economy. The regulation will no doubt encourage foreign nationals to pursue advance degrees in other countries, a trend that has been observed since the horrific terrorist acts of September 11, 2001.

Syracuse University is staunchly committed to diversity and encouraging and supporting the active participation of international students and scientists in research on our campus. The proposed amendment to "require U.S. entities to apply for a deemed export license for employees or visitors who are foreign nationals and have access to dual-use controlled technology if they were born in a country where the technology transfer in question is EAR-controlled regardless of their most recent citizenship or permanent resident status" undermines the VISA review process, and introduces another layer of scrutiny.

In addition to the proposed regulation's likely deterrent effect on the pace of fundamental research, we are also gravely concerned about any revisions to the EAR education exemption proposed by the IG for information released in catalogue courses and associate teaching laboratories. We would have to exclude foreign students, faculty and others or strictly secure and control the subjects taught or entry into classrooms and teaching laboratories. This is fundamentally counter to the University's mission.

Based on conversations with peer institutions, and University Deans and administrators, we anticipate the following costs associated with implementing and maintaining compliance with proposed rules:

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Initial assessment and design of new enterprise process; modification of current IT systems to accommodate:

Additional staff in various units to analyze needs and process deemed export licenses:

Additional staff to monitor and inventory ongoing technologies and their use:

In conclusion, the proposed regulations will compromise our ability to conduct innovative fundamental research, will impede the open exchange of information, create a culture permissive of discrimination and limit the diversity and richness of our educational institution. We are concerned that the real and intangible costs of these regulatory changes will not offset the benefits gained to national security, foreign policy or commerce.

Again, thank you for the opportunity to share information on the anticipated impact the proposed changes would have on our institution.

Sincerely,

Gina Lee-Glauser, Ph.D.
Associate Vice President for Research

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From: Anand Gnanadesikan <Anand.Gnanadesikan@noaa.gov>
To: <scook@bis.doc.gov>
Date: 6/9/2005 4:49:32 PM
Subject: RIN0694-AD29

Dear Mr./Ms. Cook

I am writing to express my concern about the proposed change in policy under the Export Administration Regulations to include "use" of controlled technology. Here at GFDL (a NOAA lab within the Department of Commerce) we use supercomputers for climate and weather prediction. This is fundamental scientific research, the results are published in refereed journals and many of the codes have been made available for public use. These codes can be run on fast supercomputers (such as we have here at GFDL) as well as commercially available systems throughout the world. My concern centers around the "use" as it relates to supercomputers- whose export has in the past been restricted. If the language in these regulations is interpreted too broadly it could be used to imply that we would have to apply for a license for postdocs and graduate students working at our lab to "use" the supercomputer- by which I mean running publicly available programs on it. This despite the fact that they do not need any knowledge of how to actually operate, install, repair, or maintain the machine to do their science and the fact that the codes are not machine-specific, and that the problems we work on are not at all related to weapons design. Add to this the fact that one can now build a supercomputer using commodity processors (Virginia Tech recently hired a bunch of students to build such a machine faster than ours for about 1/10 the cost). The simple fact is that students running climate models on a supercomputer would be getting no skills that a government couldn't get much more easily and cheaply on the open market and by using the open literature.

The old regulations, which focussed on the details of running machines made it clear that this was not an issue. Essentially, they seem to have said, "as long as you're not developing the skills to build a device that's critical in building a bomb from scratch, it's okay". The new ones however, do not and provide an invitation for overreach and negative impacts on fields which are not even close to being involved with proliferation. Are we going to stop agronomists from working on fertilizer because some nut can mix it with fuel oil and turn it into a bomb? Because computers can be used to design weapons, are we going to say that no foreign graduate student can run a program on a high-performance system, or can't learn FORTRAN? Where is the line drawn? Using "or" rather than "and" in the Section under question seems to move the line too far, given the ubiquitous nature of dual-use technology.

Regards,
Anand Gnanadesikan

--
Dr. Anand Gnanadesikan

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From: "Leff, Lisa L" <lisa-leff@uiowa.edu>
To: <scook@bis.doc.gov>
Date: 6/10/2005 2:41:48 PM
Subject: RIN 0694-AD29

Dear Mr. Lopes - please find attached the University of Iowa's comment letter to the ANPR published in the Federal Register on March 28, 2005 (RIN 0694-AD29).

Thank you for your time.

Lisa L. Leff, J.D.
Assistant Director
Division of Sponsored Programs
University of Iowa
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THE UNIVERSITY OF IOWA

OFFICE OF THE VICE PRESIDENT
FOR RESEARCH

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May 31, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230
ATTN: RIN 0694-AD29

Dear Sir or Madam:

Thank you for considering the following comments from the University of Iowa with respect to the Revision and Clarification of Deemed Export Related Regulatory Requirements [Docket No. 050426075-5075-01] The University of Iowa is a research institution, as classified by the Carnegie Foundation, and provides a full range of teaching, research and service missions in an increasingly global environment. Current total enrollment is 29,745 and last fiscal year the University received over $230 million in federal support. The University comprises 11 colleges, including a major academic health center. The University has vigorous research programs in engineering, the physical and biological sciences and computer science. During the last fiscal year, the University of Iowa received over $330,000,000 in external research funding. We believe that the proposed revision would have a major negative impact on our teaching, research, and service missions.

If the Bureau of Industry and Security (BIS) accepts the suggestions of the Inspector General (IG) report and modifies the existing requirements and policies for deemed export licenses, it will have an immediate and devastating impact on fundamental research on this campus and other research across the nation. The changes would serve to discourage the participation of foreign national students and faculty in current and future research at the University of Iowa and result in lost opportunities for both the researchers and the University. This is in direct conflict with the University mission of an open, international, collaborative and spontaneous research environment.

The Council on Competitiveness recently issued a final report on the National Innovation Initiative (NII). In that report, there was a call for the business, government, labor and academic communities to form a new social and economic compact. The report cited that if the United States is to continue its historic and unique role as a leader among nations, it must champion and lead a new era of openness and competition. The report cautions the U.S. cannot turn inward, nor can it allow its institutions to become overly centralized and risk averse. We believe this would happen if the IG interpretation is implemented in its current form.

The IG believes that technology related to the use of controlled equipment is subject to the deemed export provisions of the regulations (EAR 734.2(b)), even if the research using that equipment is fundamental. The essential nature of University research relies on the ability of research teams to collaborate with each other, visit each other's laboratories, and work with various pieces of equipment as the research progresses. It is difficult, if not impossible for fundamental research to

be conducted without both using equipment, and conveying information about how to use that equipment. In practice, use of equipment and conveyance of use technology are indistinguishable.

The proposed change would require the University of Iowa to track the nationality of our faculty, staff, students and visitors and segregate foreign nationals from other members of the campus community. Faced with this requirement, the University would have two options: either license all of our foreign nationals to ensure that they are able to move freely about the campus and participate in all campus activities as U.S. citizens are able to do, or restrict their activities until we can make a more precise determination as to what is controlled.

Both options will impede research progress.. Either way, there would be a significant delay before a foreign national could participate in research where use technology controlled equipment may be used. The research will not wait for a license to be issued, and the foreign national will lose any opportunity to participate or contribute. Under these circumstances, the best and brightest international talent will have no incentive to study or conduct research here.

Based on an informal survey of just two departments here at the University of Iowa (Physics and Astronomy and the College of Engineering), we estimate that we have upwards of 150 potential pieces of use technology controlled equipment and over 150 foreign nationals involved in research. If the changes suggested by the IG are implemented, there may only be one way for The University of Iowa to maintain an open, international research environment while assuring export control compliance. We would have to supply Commerce with a list of the thousands of pieces of research equipment used on campus and then apply for deemed export licenses for all use controlled equipment for all foreign nationals who may engage in research. For just two departments here at The University of Iowa, that means over 20,000 license applications.

The administrative burden, both to The University of Iowa and to Commerce, must be considered as an additional problem should BIS accept the IG suggestions. In light of so many recent budget cuts and tuition increases, we would be prohibited from undertaking such a huge unfunded burden and do not currently have the staff or funding to begin to absorb the costs. Currently, it already takes a significant amount of time to obtain a license; any additional backlog will only serve to further delay the research process and further encourage foreign nationals to seek other places in which to conduct their research.

Though the immediate impact would be upon university-based research, it would also have a major impact on our education and service missions. Each year thousands of students from other countries come to the University to study. Many of them become involved in research as part of their undergraduate, graduate and postdoctoral training in science and engineering. This key educational mission would be placed at risk without the robust interchange of ideas and information made possible by world-class students drawn from other countries.

At the same time, part of the University's service mission involves the University's contributions to economic development at both the state and national levels. The most powerful contributions we have to offer are: 1) our students who graduate into the scientific and engineering workforce at all levels; 2) collaborative relationships with industry; 3) the creation of businesses through our Technology Innovation Center; and 4) patent and license activity based upon disclosures in our laboratories. Faculty, staff and students at all levels and from all over the world fuel the economic engines of science and technology at our institution and elsewhere in the country.

While we do not dispute the need for thoughtful and meaningful evaluation of the current regulations and interpretations, we feel that the IG report shows little understanding of the

importance of collaborative, international relationships to a university research campus. We also could find no concrete evidence in the IG report that leads to the necessity of this change. If this evidence exists, it would be most helpful to have access to it, so that university communities could review it, discuss it, and propose alternatives to the proposed highly burdensome change.

It is imperative for the future growth of our nation that the University of Iowa and other such research campuses across the nation are viewed as welcoming, desirable, and vital locations to foster research that will include foreign students and researchers. We are asking that you give thoughtful consideration to our concerns and balance them with the concerns raised in the IG report. We also hope that you will read and consider carefully the detailed analysis of each specific provision provided by the Council on Governmental Relations (COGR). We are a member of this organization as are virtually all major research universities in the country. COGR has provided a most thorough and systematic look at this proposed revision. The real, practical effect of implementing the suggested changes is that of irretrievably lost opportunity, both for the University of Iowa and foreign students and researchers, which goes to the very heart of the mission of the University. This cannot have been its intent.

Sincerely,

Meredith Hay
Vice President for Research

Office of the Provost
University of Missouri-Columbia

114 Jesse Hall
Columbia, Missouri 65211
PHONE (573) 882-6596
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June 15, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

To Whom It May Concern:

In my role as provost of the University of Missouri-Columbia, I wish to express our institutional concern with regard the potential harm to unclassified, basic research that may result by expanding additional "deemed" export licensing requirements in the proposed rule changes in response to the DOC IG.

We in the university community are concerned about the impact of this change with respect to our ability to recruit foreign students and scholars, and the considerable disadvantage the absence of these scholars will create for the U.S. These fine scientists and engineers bring new ways of thinking and incredible intellect that have increased the ability of U.S. Universities to remain the world's center of innovation and discovery. In addition, these rule changes create costly systems of enforcement that would detract our resources and energies from the important work of the nation.

I ask that you consider the arguments proposed by my colleagues in the American Association of Universities (AAU) and develop reasonable but less draconian ways to address these issues. The U.S will not benefit by rules which lessen our ability to innovate and compete in the global economy.

Sincerely,

Lori Franz
Interim Provost

LF:td

MU Faculty Council on
University Policy

MU Faculty Council
Conley House
Columbia, MO 65211

June 15, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attention: RIN 0694-AD29

Subject: Response to Proposed Notice-and-Comment Rulemaking

Dear Ladies and Gentlemen,

The Faculty Council on University Policy for the University of Missouri-Columbia ('Faculty Council') represents the all of the faculty at the largest publicly supported university in Missouri. At the request of Chancellor Deaton of the University of Missouri-Columbia, the Faculty Council has reviewed the Department of Commerce Bureau of Industry and Security proposed changes in the 'Deemed Export Related Regulatory Requirements' published in the Federal Registry (Volume 70, number 58, pages 15607-15609). The Faculty Council has also reviewed the May 18th 2005 statement on these proposed changes by the Association of American Universities as posted on their website [http://www.aau.edu/research/traffic.cfm]. Finally, the Faculty Council has reviewed a variety of other documents related to this issue and discussed the matter with the Vice Provost for Research.

We would like you to know that the University of Missouri-Columbia Council fully endorses the attached statement by the Association of American Universities (AAU) as excerpted below:

- The Council concurs with the AAU that: **"Increasing the requirements for [export licenses to allow foreign students and scholars to conduct research] would further discourage top international scientists and engineers from making the United States their destination, prompting them to seek research opportunities overseas."**
- The Council also agrees with the AAU that these "... **recommendations threaten university-based research and are likely to stifle research critical to national and economic security.**" We share the concern of the AAU that if "... **implemented, the recommendations would require that universities restrict the participation of international students in research once they arrive in the United States. Some may have to wait for additional export control licenses to be issued before they can conduct and use equipment essential for the conduct of basic research. Moreover, universities will have to control access to their research laboratories to ensure that individuals without proper licenses are not permitted to enter. This would require costly new systems of access control (e.g. security guards and badges for students) at university research laboratories.**" Furthermore, the Council emphasizes the following concluding comment by the AAU: "**Such actions are antithetical to the longstanding principles of openness and free information exchange that are a hallmark of U.S. research universities and critical to their success and to the nation's international competitiveness and national security.**"

- The Council agrees with the AAU that: "**Once cleared to enter through the visa mantis process, foreign visitors should be free to use equipment required for the conduct of fundamental, unclassified research without additional barriers, background checks and/or licenses.**"
- The Council shares the concern by the AAU that: These recommendations "**will add an additional layer of bureaucracy and inefficiency to the process. Moreover, the** [the Inspector General's recommendations that initiated the proposed changes] **have the potential to create two 'classes' of students on campuses.**"

The Council appreciates federal efforts to ensure public safety. Likewise, the Council is deeply appreciative of the extensive and continuing public support for research and education provided by the Federal government. The Council recognizes the inherent conflict between ensuring safety while promoting education and research; the Council concurs with the AAU that National Security Decision Directive 189 (NSDD 189) is the appropriate approach to resolving this issue.

Thank you for considering our comments in making your deliberations.

Sincerely,

Frank Schmidt, Acting Chair
MU Faculty Council on University Policy

FS:rkh

CC: B. Deaton
L. Franz
J. Coleman
AAU

From: Wolter Boerman <wolter.boerman@philips.com>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 15, 2005 10:53 AM
Subject: RIN 0694-AD29

To:
DEPARTMENT OF COMMERCE
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW., Room 2705, Washington, DC 20230, U.S.A.

Subject:
RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
15 CFR Parts 734 and 772
[Docket No. 050316075-5075-01]

Our ref: 05.151/BIS/WB

Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement
and/or
Evaluating a foreign national's successive citizenship or permanent residency.

Considering that
- Current BIS deemed export license requirements are based on a foreign national's most recent citizenship or permanent residency;

- The OIG expressed concern that this policy allows foreign nationals originally from countries of concern to obtain access to controlled dual-use technology without scrutiny if they maintain current citizenship or permanent resident status in a country to which the export of the technology would not require a license;

- The BIS policy is described in the deemed export guidance provided on the BIS Web site at:
http://www.bis.doc.gov/DeemedExports/DeemedExportsFAQs.html;

- The OIG recommended that BIS amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign nationals and have access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

We would like to bring following argumentation to your attention regarding the proposal of the OIG:

1. Within the existing regulations, the Bureau of Export Administration already has the policy of refusing deemed export license applications if there is an "unacceptable risk that the items in question will be diverted to unauthorized use or users".

This implies that the proposals of the OIG do not have real added value to the policy already in place by your office.

2. Asking the requested information to employees of a company and using the information is to our opinion in conflict with US laws, e.g. the Equal Employment Opportunities Laws,the Civil Rights Act of 1964 (Title VII), etc.

3. Asking the requested information to employees of a company and using the information is in conflict with the Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and is based on this forbidden in all countries of the EC.
Multinational companies (US and non-US) have employed many people of different nationality including both holders of "Green-Cards" or the equivalent 'residence permissions' in other countries, and citizens of the different countries where the company is based.
The proposed changes force companies to either violate the US law or the EC law, but never being able to apply with both laws.

4. Asking the requested information to employees of a company and using the information is in conflict with the law of many countries that have EC-like regulations, e.g. Canada.
The proposed changes force companies to either violate the US law or the local country law, but never being able to apply with both laws.

5. Implementing the rules as proposed by the OIG may hamper the interests of US-companies and non-US companies with important subsidiaries in the USA, as well as US-universities, as "deemed export licenses" will be refused based on the more stringent general rules proposed.
The interest of students to go to universities that refuse "advanced technology" to be part of their education will go down, in the end resulting in an isolated position of US educational and research institutions.
Reducing in this general way the number of persons that can be used for R&D will hamper the commercial and scientific interests of the USA and its allies, without adding extra value to the BIS policies already in place.
The newly proposed rules are however not necessary in their strict form, as BIS can already use the existing policy rule as earlier mentioned under point 1.

The preceding argumentation is equally valid for both US companies with foreign subsidiaries, and for foreign-based companies with US subsidiaries.

On behalf of Royal Philips Electronics,

Peter C.M.Dumoulin, Vice President
Wolter Boerman, Director
Corporate Export Controls and Supply Chain Security
Philips International B.V.
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3M

July 15, 2005

VIA E-MAIL (PUBLICCOMMENTS@BIS.DOC.GOV)

Attn: RIN0694-AD29
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Ave., N.W.
Room 2705
Washington, D.C. 20230

Re: RIN 0694-AD29; Proposed Rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam:

3M is pleased to respond to the Bureau of Industry and Security's (BIS) request for comments on proposed changes to the Export Administration Regulations (EAR) that would affect existing requirements and policies for deemed export licenses.

Of particular concern to 3M is the second proposed change, basing the requirement for a deemed export license on a foreign national's country of birth. Under BIS's current policy, deemed export licensing requirements are based on a foreign national's most recent citizenship or permanent residency. As indicated in the Proposed Rule notice in the March 28, 2005 Federal Register, the OIG expressed concern that the current policy may allow foreign nationals who are born in countries of concern to obtain access to controlled technology by becoming permanent residents or citizens of countries to which the export of the technology would not require a license. As a result, the OIG has recommended that BIS require companies and organizations to submit a deemed export license in those cases where the person that may have access to controlled technology was born in a country where the technology in question would require an export license, regardless of their most recent citizenship or permanent residency.

Requiring U.S. organizations to apply for a deemed export license for employees or visitors that are foreign nationals and have access to dual-use technology and happened to

be born in a country where such technology transfer would require an export license would lead to a significant increase in the number of deemed export licenses, will be difficult to implement and will not materially increase national security. As a result, 3M believes that such a significant change in deemed export licensing policy is unnecessary and should be reconsidered.

Currently, 3M inquires into the current citizenship or permanent residency of such individuals and requests appropriate documentation about their citizenship and permanent residency status. Such documentation is relatively easy to obtain and allows 3M to maintain and implement an effective internal export compliance program. Appropriate licensing decisions can then be made on a case-by-case basis after a review of the documentation. However, to implement the proposed change in deemed export licensing policy, 3M would be required to inquire into the **place of birth of all foreign nationals** employed by the company or for those who might receive controlled U.S. technology. As part of 3M's commitment to due diligence and compliance, 3M would feel it necessary to obtain documentation (*i.e.*, a birth certificate) and keep on file to support a foreign national's response. Birth certificates are often very difficult to obtain. Moreover, 3M's overseas subsidiaries may not be able to legally obtain such information due to privacy laws that prohibit the release of such information to employers.

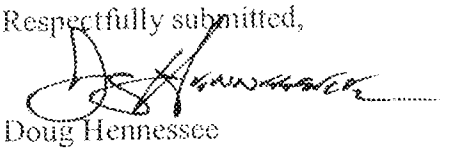
In addition, 3M believes that the proposed change in deemed export licensing policy would greatly increase the licensing burden on industry without materially contributing to or enhancing U.S. national security. As recent world events have shown, the alignment between a person's political agenda, their birth country and their current country of citizenship is often unpredictable. Given that the OIG report provided no specific examples or quantitative data to demonstrate the effectiveness of the proposed licensing rule, 3M believes the costs of implementing the proposed change in licensing policy (increase in number of license applications, etc.) would significantly outweigh the associated benefits of the policy change.

Finally the proposed rule does not address whether both the country of birth and the country of citizenship or permanent residence will be analyzed by BIS to determine licensing requirements or whether the analysis will simply be limited to the person's country of birth. Assuming that the proposed policy change is implemented, 3M believes that the totality of circumstances (*e.g.*, length of most citizenship or permanent residency, contacts with country of birth, etc.) should be considered by BIS before any deemed export licensing decision are made.

* * * *

3M appreciates the opportunity to submit these comments on the proposed changes to the deemed export licensing requirements and policies. We trust that BIS will consider these comments in drafting the notice of proposed rulemaking that will contain the specific changes to the EAR that are contemplated.

Respectfully submitted,



Doug Hennessee
Export Control Analyst
3M Supply Chain Services

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June 16, 2005

U.S. Department of Commerce
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Regulatory Policy Division
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Washington, D.C. 20230

ATTN: RIN 0694-AD29

Re: Comments on Advanced Notice of Proposed Rulemaking regarding the Revision and Clarifications of Deemed Export Regulations (70 FR 15607 of March 29, 2005 as amended by 70 FR 30655 of May 27, 2005)

Dear Sir/Ms.:

We appreciate the opportunity to share our comments on the notice of proposed rulemaking to address the concerns raised in the Commerce Department Office of the Inspector General ("OIG") Report.

While the issue of administrative burden will be more appropriately discussed in detail by academic and industry commentators and their trade associations, and the numerous, problematic legal issues presented by the proposed rulemaking will be thoughtfully addressed by the American Bar Association and the academic trade associations, I felt it appropriate to address the fundamental issue of perceived threat and appropriate regulatory response.

The proposed rulemaking neither furthers the objectives of repairing a flawed "deemed export" regime, nor does it appropriately respond to the accumulated experience on the nature and mechanisms of the illicit technology acquisition threat.

A review of open source materials on threat and response militates in favor *not* of further rulemaking but rather a thorough study by industry, government and academia before further steps are taken which are certain to prove problematic, if not ineffective. Such studies have been efficiently and expeditiously conducted in the past, and have served to create a strong consensus among all the affected participants, thus ensuring the effectiveness of any subsequent legislation or regulatory action, not to mention its acceptance by our allies. BIS should exercise leadership by calling for another

industry/government/academia study to refocus the objectives and methods of U.S. strategic trade.

Background

After the establishment of a "dual use" multilateral export control regime at the end of World War II ("CoCom") and the passage of enabling legislation in the United States (Export Control Act of 1949), there was increasing frustration over the efficiency and effectiveness of the structure and administration of the control regime. In 1976, a blue-ribbon Defense Science Board task force chaired by J. Fred Bucy, then-president of Texas Instruments, reported that the primary emphasis of the control system should be placed on (1) arrays of design and manufacturing know-how (2) keystone manufacturing, inspection and test equipment and (3) products requiring sophisticated operation, application or maintenance know-how. The key was to preserve a significant lead time over adversaries in militarily critical technologies.[1]

In the legislative and policy debate preceding the enactment of the 1979 EAA, it was affirmed that the objective of the U.S. export control system was to balance U.S. technology and economic growth and national security.

The tension between EAA controls on technology exports and the free exchange of scientific communication led to the formation of a National Academy of Science study, supported by the Defense Department, among others, and chaired by Dale R. Corson, President Emeritus of Cornell University. The panel's report, Scientific Communication and National Security (1982) addressed the issues and established a set of principles to resolve the tension. Primary among their recommendations was that controls upon university research and scientific communications should be significantly limited except in the face of a high potential for significant harm through military utility *and if the United States was the only source for the technology* (an absence of foreign availability as defined in the EAA of 1979).

Two years later, the Corson panel revisited the issues and the steps taken to implement its recommendations (1984). The Panel felt that the implementation steps went well beyond their

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[1] The 1976 DSB report was entitled An Analysis of Export Control of U.S. Technology - a DOD Perspective. This Report (termed the "Bucy Report") became the operative legislative philosophy of the 1979 Export Administration Act ("EAA") and resulted in the creation and perpetuation of the Military Critical Technologies List ("MCTL").

recommendations in restrictiveness and that there had been "little progress toward an improved objective understanding of the technology leakage problem and the effects of control measures" (Corson II, P.27).

In 1986, the National Academy of Sciences again empanelled a task force of industry, academic and government experts to address the deteriorating efficiency of export controls, again with the support of the Departments of Commerce and Defense. Under the chairmanship of Lew Allen, Jr., then President of the California Institute of Technology, the Panel published its exhaustive report Balancing the National Interest in 1987. The Allen Report served as the basis for the overhaul of the dual use export control legislative structure in 1988 with the enactment of the Omnibus Trade and Competitiveness Act of 1988 ("OTCA"), the most significant overhaul of the dual use export control structure since the EAA of 1979.

Importantly, the Allen Panel concluded that "...export controls are not a means for controlling espionage, which accounts for a high proportion of the [then identified] successful and significant [foreign] technology acquisition efforts" (Allen Report at p. 154).

Subsequent to the OTCA, the EAA has waxed and waned in and out of lapse, with the present Export Administration Regulations ("EAR") *and* the deemed export regime being supported solely by Presidential Order under the aegis of the International Emergency Economic Powers Act of 1977 ("IEEPA")[2].

Over fifteen years have passed since the issuance of the comprehensive Allen Report, and over two decades have passed since the Corson studies,[3] and it is problematic that there no

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[2] The EAA has been in and out of lapse through the 1990s with the Export Administration Regulations ("EAR") being continued through Executive Order under the provisions of the IEEPA. The EAA was reauthorized by Congress from November 13, 2000 through August 20, 2001, but failing a legislative agreement, lapsed thereafter. The EAR have been (and remain) continued by Executive Order 13222 of August 17, 2001 and successive Presidential Notices.

[3] The Center for Strategic and International Studies just released the report of its Commission on Scientific Communication and National Security entitled "Security Controls on Scientific Information and the Conduct of Scientific Research (CSIS, June 2005). This study offers an enhancement of the Corson recommendations, especially with respect to the impact of National Security Decision Directive 189 (NSDD-189), "National Policy on the Transfer of Scientific, Technical and Engineering Information" of September

longer exists a clear legislative, executive or industry/academic consensus on how best to control the exports of goods and technology from the United States in a rapidly changing global marketplace.[4]

What is the Nature of the Threat?

It is important to discern the nature of the threat for which the proposed rulemaking will serve as a solution or deterrent.

Despite an increased expression of concern that foreign governments are targeting U.S. entities for the purpose of illicit acquisition of technology for commercial and military advantage[5], it is questionable that there are any qualitative or quantitative aspects of threat today beyond the threat which pertained when the Bucy, Corson and Allen panels addressed the control issue.

F/n 3, con't: 21, 1985, and Dr. Condoleeza Rice's policy confirmation letter of November 1, 2001 indicating the continued vitality of the NSDD-189 findings in support of openness in the conduct of scientific research. The CSIS study indicated, not surprisingly, that the OIG recommendations and the proposed rule were inconsistent with NSDD-189 in fundamental areas. Moreover, the CSIS study noted that there was no concrete evidence to support the deemed export "fix".

[4] For an excellent summary of the state of play in the policy debates and the Congressional wrangling over reauthorization of the EAA, see *The Export Administration Act: Evolution, Provisions and Debate* [Congressional Research Service, May 5, 2005 (RL31832)].

[5] E.g., *the Report of the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China* ("the Cox Report", Washington, D.C., GPO 1999), Annual Reports to Congress by the National Counterintelligence Executive ("NCIX") on Foreign Economic Collection and Industrial Espionage 1995 to present (available at www.ncix.gov), etc.

In short, the question should be asked: has anything changed?[6]

An analysis of the Cox and NCIX reports does not appear to indicate a material difference in threat, perhaps only in the order -- not identity -- of the major players (China is now the principal threat, versus Russia, but both are stated as key players). Certainly, there continue to be a variety of initiatives by over 95 nations to illicitly acquire U.S. technology through espionage, but one must keep in mind the Allen Panel's caution that "export controls are not a means for controlling espionage, which accounts for a high proportion of the successful and significant [foreign] technology acquisition efforts." (Allen Report, p. 154).[7]

It is also interesting to note that in the NCIX annual reports, the acquisition and exploitation of publicly available, public domain technology and know-how is emblematic of Chinese technology acquisition efforts. Again, this has never been (nor should now be) restricted by export controls.

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[6] One obvious change since 1976 is the increased dependence of our academic and industrial sectors (not to mention the military) upon highly trained individuals, such as engineers, who come from overseas. Another obvious difference is the remarkable efforts of the Chinese, in particular, to acquire and mobilize a vast quantum of open-source material (the bulk of this effort was undertaken before normalization of relations in 1979). But as a long-time observer of the Chinese equation, both from Beijing and Washington, D.C., I find it difficult to consider China a greater strategic technology acquisition threat than the old Soviet Union but for one element of the equation: the level of economic integration is significantly greater than in the days of the Soviet Union, and many U.S. firms today depend upon Chinese manufacturing in all areas to maintain their bottom line. China is aware of this leverage and often has utilized it to expedite or enhance its technology acquisiton efforts.

[7] One commentator, when asked if he was concerned over the efforts of so many countries to acquire U.S. technology by means fair or foul, responded that he wasn't particularly worried. He felt that the self-interest of U.S. companies to protect their intellectual property was the best bulwark against illegal or improper acquisition, provided that companies were supported in this effort by the resources of the U.S. Government. What would truly worry him to the core of his being, he noted, was "if *no one* was trying to acquire or steal U.S. technology."

What is the Nature of the Proposed Remedy?

The recent Commerce Inspector General's Report on "deemed export" regulation ostensibly catalyzed this rulemaking effort[8]. Despite the detail and language of this Report, it is important to keep in mind that the "deemed export" rule was originally fashioned out of whole regulatory cloth and is not supported by language of legislative mandate, a fact recognized in the Congressional debates over reauthorization of the EAA.[9]

The proposed "deemed export" rulemaking would require U.S. academic institutions, companies and their foreign subsidiaries to shoulder significant costs and brave a thicket of regulatory prohibitions, both at home and abroad, to determine an employee's country of birth for purposes of U.S. Government review of the suitability of that person's employment at home or abroad.[10]

However, the OIG report and the present regulatory initiative lacks as its focus a clear indication of potential diversion other than the country of birth criterion, a criterion not shared by *any* of our multilateral export control allies, either during the highly cooperative CoCom era or in the present, more relaxed Wassenaar Arrangement days. Likewise, none of these nations have a technology export mechanism comparable to the U.S. "deemed export" regime, and it is common knowledge that it

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[8] Final Inspection Report No. IPE-16176 of March 31, 2004, *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.* ("the IG Report").

[9] *See*, CRS Report, f/n 3, *supra*, which notes on page 15: "Deemed exports are not expressly mentioned in the 1979 EAA. House versions of [the] EAA in the 107th Congress sought to explicitly define deemed exports as exports falling under the jurisdiction of the act." Thus, deemed exports are not supported by any extant legislation. Moreover, it should be noted that the IEEPA, *op. cit.*, under whose authority the current "deemed export" regime is presently supported, may *not* provide defensible legislative support for even current practice. House Report No. 95-459 of June 23, 1977 indicates that under the IEEPA, Congress's grant of emergency authorities [to the President] "does *not* inculde...the power to regulate purely domestic transactions."

[10] *See*, comments of the participants at the National Academies Roundtable on Scientific communications and National Security, the Program on Science, Technology, and Law, and the Government-University-Industry Research Council *Deemed Export Policy: a Workshop on the Inspector General's Report to the Department of Commerce* of May 6, 2004 ("the NAS Workshop"), notably those of University of Maryland President D. C. Motes, Jr.

would be impossible for the United States to obtain agreement among the Wassenaar allies to actually adopt such a regime.

The United States stands alone among the Waasenaar nations in imposing this form of control and will likely remain so.

In addition to being a disfavored unilateral control[11] , the present proposal lacks an empirical basis for identifying legitimate threats to technology acquisition appropriately belonging under the aegis of export controls. To stem espionage, the proper bulwark appears to be a combination of strong visa evaluation and enhanced education of industry, in addition to strong enforcement of violations of existing regulations.

As noted below, the present proposed rulemaking may be an attempt to fashion a better net to sweep what is essentially an empty pond. The fish sought to be snared are to be found elsewhere, and through other means.

The licensing experience with the present "deemed export" regime is illustrative. In F/Y 2004, BIS reported that it reviewed 995 "deemed export" licenses, representing 6% of all licenses submitted to BIS, with 70% of such licenses being for Chinese or Russian nationals.[12] Only 8% of the "deemed export" applications were returned without action for additional information or were rejected: the rejection rate now hovers at 1%.

Based upon this "deemed export" licensing data, it is obvious that only a minor fraction of entities who are subject to the current "deemed export" regime (based upon the technology they practice and the individuals they employ) are identifying the licensing requirement and submitting license applications to BIS for domestic or foreign employees. It is also fair to ponder why the approval rate of such applications -- when they *have been submitted* -- is so high when the threat is considered so immense and in alleged to be in need of more stringent application criteria.

A logical conclusion is that the "deemed export" regime may not be the right mechanism to fix a perceived problem, and that to make the regime more onerous will serve no legitimate or

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[11] *See*, the OTCA, *op. cit.*, where Congress clearly stated (and legislated) its disfavor for unilateral controls. Since the demise of the EAA, unilateral controls have proliferated, if one could use that expression, with nary a word from the Congress.

[12] BIS Annual Report 2004, p. 8.

beneficial purpose.

As there is no current data publicly available on whether or not any of the individuals for whom a "deemed export" license has been granted have been found to have illicitly transferred technology in violation of the license conditions,[13] the "deemed export" approval quotient may indicate that the *present* regime is more than adequate to address the current problem, and that a more effective solution to illicit technology acquisition lies elsewhere. Or, that possibly there should be no "deemed export" regime at all.

Does the Proposed Remedy Actually Address the Threat?

The OIG's investigation reportedly may not have involved detailed consultations with all the Intelligence Community (*see*, Acting Undersecretary Lichtenbaum's comments at the NAS Workshop, *and* the list of individuals/organizations consulted/interviewed at IPE-16176, p.7[14]). Thus, it would seem a review of the publicly available intelligence is in order to analyze the merit of the proposed enhancement of the "deemed export" process.

Information on technology acquisition efforts is available in various degrees of precision. In 1999, catalyzed by a variety of improper technology transfers to the People's Republic of China, a bipartisan Congressional committee conducted an in-depth review of Chinese technology acquisition efforts, with an emphasis on industrial and military espionage.

As noted in the report of the committee, known as the Cox Report (f/n 4, *supra)*, China was determined to have assumed the level of threat to U.S. national security in the pantheon of illicit technology acquisition players comparable to that once occupied by Russia and some of the states of the former Soviet Union. But upon a critical review, the Cox report provides little information or evidence that an expanded "deemed export" regime would provide any greater protection against technology acquisition issues properly in the realm of export controls *than the present regime*. In fact, the most serious leak of dual use technology to the Chinese identified was as a result

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[13] An issue clearly noted in the CSIS Commission Study, *op. Cit.*

[14] The OIG staff *did* interview and/or consult with the enforcement staffs of the Commerce Department Bureau of Industry and Security ("BIS"), the Treasury Department Office of Foreign Assets Control ("OFAC") and the State Department Directorate of Defense Trade Controls ("DDTC"), as well as the Federal Bureau of Investigation.

of admittedly intentional actions by American employees of three U.S. aerospace companies.

Current public information on all attempts by foreign entities or governments to illicitly acquire controlled U.S. or dual use technology is readily available in the annual reports submitted to Congress by the NCIX (f/n 4, *supra*)[15] . A review of these reports is instructive, as there are few, if any, reported improper technology acquisitions which would or could have been stemmed by the present or proposed "deemed export" regime. Running the gamut from inept or clandestine attempts by individuals (both U.S. citizens and foreign nationals) to export sensitive dual use or military commodities all the way to sophisticated industrial and military espionage conducted by both allied nations and countries of concern, the NCIX reports do not identify foreign workers properly admitted to the United States as a conduit for illicit dual use technology acquisition.[16]

In sharp contrast to the OIG Report, the NCIX reports do not identify "deemed export" licensing vulnerabilities *except* in the context of joint ventures, and do not identify an increased stringency in such licensing as a cure to this identified threat. If the critical threat issue is one of joint ventures, then the birth (or even nationality) of the employee of the foreign joint venturer may be immaterial in fashioning a regulatory solution.[17]

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[15] In discussions with NCIX management in drafting these comments, the Office of General Counsel was unaware of the "deemed export" expansion initiative, and the input of NCIX appears not to have been actively sought for the IG report. The National Intelligence Officer for Economics at NCIX and author of the annual NCIX reports was involved in some of the interagency discussions.

[16] The 1997 National Counterintelligence Center (predecessor of the NCIX) Report *does* address the issue of "cultural commonalities" as being one mechanism of many through which foreign collectors attempt to undertake illicit technology collection efforts as a "potential" concern. However, this report does not indicate that a "deemed export" regime would or could be useful in stemming this potential. Interestingly, this issue of "cultural commonalities" does not appear in subsequent reports, nor are there case studies of illicit dual use technology acquisitions where "cultural commonalities" play a significant role.

[17] The Allen and Corson Panels addressed this issue and uniformly observed that the optimal solution would be *contractual* -- not licensing.

Utilizing Defense Security Service ("DSS") and Armed Forces security services data, the NCIX reports aggregate the illicit technology (technical data) acquisitions of more sensitive defense technology into two identifiable groups: state sponsored espionage, and direct requests for information at trade shows, plant visits and the like. Again, the threat of foreign national employees properly in the United States or overseas as employees of U.S. firms was not fully addressed.

The 2001 NCIX Report states that acquisition of technology companies by foreign entities is "on the rise", but notes that according to DSS "reporting, 88 percent of all reported suspicious acquisition activities involved *third parties*. Third parties are not the actual entities acquiring the technology but are the ultimate end users" [2001 NCIX Report at p. 2].

Throughout the available reports and literature, the compiled and anecdotal information indicates that it is not the nationality but *the illegal or clandestine activity* of the perpetrators which is the source of the harm, and that such activity is violative of the EAA and EAR without reference to any "deemed export" prohibitions.

Moreover, in their analysis of collection efforts by foreign nationals at institutions of higher learning, the NCIX notes that the collection generally involved open source (public domain) information, which does not rise to the stature of technology controlled under any U.S. export control regime.

Conclusion

The old observation about buggy whips is on point: a fabled company kept improving its buggy whip until it was the best designed and most efficiently manufactured buggy whip in the world. Sadly, the automobile had come along making the horse and buggy obsolete, and the company rapidly failed.

Thus with "deemed export": a regime commenced with no compelling need, no legislative authority, no industry/academia/government consensus and no evidence of its

salubrious effects.[18] The realities of the global technology market may have superceded "deemed export" regulation. The proposed cure may be worse than the perceived affliction.

Lacking a control consensus (what to control, how to control it, and to whom it should be controlled), it is easy to "fly speck" regulations and lose congruence with the grand context provided by the dynamic global technology marketplace, and by so doing paradoxically we lose the control we so earnestly seek by putting too much emphasis on a dysfunctional regime.

Since the veto of export control legislation in 1991 at the time of Operation Desert Storm, export regulation has been furiously produced on an *ad hoc* basis in what amounts to a policy and legislative vacuum (not to mention, with little multilateral support), with generally unsatisfactory results. Some instances jar one's sensibilities,[19] others lead objective observers to clamor for clarifying legislation.[20]

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[18] In discussions with senior counterintelligence officials, it was made clear that the general opinion of the counterintelligence community is that a "deemed export" program will make it *more difficult* for a foreign nation to infiltrate a commercial company in order to engage in industrial espionage. Point well taken -- however industrial espionage is *not one of the activities which export controls are designed to remedy*. Also, in these discussions there appears to be some confusion about what a "deemed export" actually is: application of U.S. technology abroad by visiting U.S. engineers and scientists was cited as an important component of the "deemed export" problem -- which it is not: such events are an actual export of technology or technical data which have been explicitly defined for many years under the EAA and EAR.

[19] When the entire EAR were restructured, rewritten and formally published on March 25, 1996 (61 FR 12714), BIS stated that it had not *and would not* define the critical operative phrase of the EAR -- specially designed -- in the newly rewritten regulations, thus rendering a significant fraction of the Commerce Control List and its included component provisions *devoid of meaning*, a compliance nightmare for exporters whose principal obligation under the EAR is to classify their commodities, software and technology *before* export. Clearly, the need for a government/industry/academia consensus and legislation -- not piecemeal, uncoordinated regulation -- is manifest.

[20] *See*, recent BIS attempts to extend Missile Technology Controls to Canada, long a license free zone (70 FR 29660 of May 24, 2005) which arose from materially divergent approaches to the Canadian exemption by BIS and DDTC, and largely as a result of a call for either legislation or regulatory modification from the Government Accountability Office (GAO Report "Regulatory Change Needed to Comply with Missile Technology Licensing Requirements" of May 2001 GAO-01-530).

Is it not time to consider whether we should stop putting more bad patches on a what is essentially a worn and dangerous tire?

Rather than force industry and government to expend vast amounts of energy and resources to worry this meager bone, it is clear that the pragmatic next step is not to proceed with the proposed rulemaking but rather for BIS to exercise leadership and request both the NAS and the Defense Science Board to come together again to revisit the pressing control issues and to expeditiously seek, as they have so admirably done in the past, a meaningful consensus to serve as a well-lit path for thoughtful legislative and regulatory action in the protection of U.S. national security.

* * *

Thank you for the opportunity to comment upon this Notice of Proposed Rulemaking

Very truly yours,

Donald Alford Weadon, Jr.

DAW:hbs
1940W

From: "Ahlers, Jessica" <JAhlers@nasulgc.org>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Thu, Jun 16, 2005 7:55 AM
Subject: Export Letter

> Please see enclosed letter. It has also been transmitted via Fax and
> postal mail. Thanks!
>
> <<BIS comment ltr (latest draft)-- 6-15-05.doc>>
>
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June 15, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
Bureau of Industry and Security
Department of Commerce
Regulatory Policy Division
14th St. & Pennsylvania Ave., NW, Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Dear Mr. Lopes:

I appreciate this opportunity to submit these comments on behalf of the National Association of State Universities and Land-Grant Colleges (NASULGC) in response to the Advance Notice of Proposed Rulemaking (APRM), published on March 28, 2005, in the *Federal Register* seeking public input on a number of recommendations from the Office of Inspector General (OIG) with respect to deemed exports. More specifically, I write in reference to RIN 0694-AD29 and the recommendations to the Bureau of Industry and Security (BIS) contained in *Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S. (Final Report Number IPE-16176-March* the presidents and chancellors of approximately 215 public universities, many of which are this nation's largest research universities.

In the APRM, the BIS asked for comments from the public on several specific issues:

> 1) the proposed change in the definition of "use technology;"
> 2) the proposed change to a foreign national's country of birth as the criterion for triggering deemed export license requirements; and,
> 3) the proposed clarification of answers to two questions in the *Supplemental Questions and Answers on Government Sponsored Research and Fundamental Research.*

This nation's public research universities are playing a crucial role in promoting national and homeland security. We believe that this nation's academic community is doing its utmost to comply with security requirements. At the same time, however, we are compelled to offer our comments on these proposed recommendations because we believe that many of them would have a long-lasting negative impact on this nation's scientific research enterprise.

<u>Proposed change in definition of "use" technology</u>

In its report, the OIG notes that "use" of equipment included on the Commerce Control List is currently defined as: "operation, installation (including on-site installation), maintenance (checking), repair, overall *and* [emphasis added] refurbishing." One of the arguments put forth by the OIG to change the "and" to "and/or" in the definition is the following: "It is unlikely that

one individual who has access to the technology for the use of a controlled piece of equipment—as is the case with a deemed export—would have the 'know-how' and be assigned the responsibility for undertaking all six of these tasks."

In a number of public forums, the BIS staff has repeatedly stated that mere "use" of controlled equipment during the course of fundamental and non-classified research is not the issue with which the agency is concerned. Rather, it is the issue of "use technology" and its transfer that the agency is attempting to address. We believe that it is critical that the agency clarify and acknowledge that *use* of equipment is *not* equivalent to transfer of technology. Even if equipment may be export controlled, it does not necessarily mean that it is controlled for "use technology." We are concerned that OIG does not see this very important distinction.

Furthermore, many pieces of equipment that are controlled for export are publicly available in different settings and contexts. Under such a scenario, we believe that such technologies would not qualify as "use technology" and that international students and researchers should have access to them. At a minimum, the BIS may wish to consider clarifying "publicly available" technology as technology that is not proprietary or classified and is available on the open market.

In addition, the proposed change from OIG is problematic at an operational level as well. The development of new knowledge lies at the heart of fundamental research. During the course of research, the path to new discovery and new knowledge is not predetermined. The process is very unpredictable, fluid, and often serendipitous. Thus, in many cases, in order to test and pursue new ideas and theories, the research enterprise involves constant innovation, recalibration, and modification of equipment.

The academic community has always understood that, for the fundamental research exemption to be valid and functional, researchers must have the ability to use and alter existing equipment in order to pursue new ideas and develop new knowledge. As noted above, the research enterprise does not always follow a predetermined path. As such, we submit that requiring deemed export licenses for individuals involved in fundamental research activities does not take into account the practices of the scientific community. Furthermore, we at NASULGC would argue that requiring license applications *prior* to research projects would be even less feasible. We are firmly of the opinion that equipment used in the course of fundamental research is covered under the fundamental research exemption. Should BIS adopt the OIG recommendation, we are very concerned that such a change would, in effect, vitiate the fundamental research exemption.

The concerns discussed above lead to the fundamental issue that needs to be addressed by the BIS. We respectfully submit that the agency has failed to clearly articulate the problem that it is attempting to address and resolve. We at NASULGC are concerned that BIS's proposed change is overly broad and would severely cripple the nation's research and scientific enterprise. In order to tackle the problem of the transfer of use technology in the most effective and efficient

manner, we ask that the BIS clearly identify and narrowly delineate the technologies for which export licenses may be required.

Taken in conjunction with the proposed change with respect to requiring licenses based on a foreign national's country of birth (discussed below), we are concerned that the recommendation as proposed could cause irreparable harm to the nation's research enterprise.

"Country of Birth" as criterion for deemed export license requirement

NASULGC finds the OIG recommendation that deemed export license requirements be based on a foreign national's country of birth, as opposed to one's most recent citizenship or permanent residency, problematic in several ways. NASULGC believes that a process to determine the potential risk of foreign nationals is already in place, and we ask that BIS not adopt this recommendation.

First, the individuals in question who enter the United States to pursue academic and research endeavors do so after they are granted visas. In literally thousands of cases, visas are granted only after the appropriate federal agencies, including those involved in national and homeland security efforts, review the visa applications. In countless numbers of cases, these reviews include extended background checks, including the Visas Mantis process. The agencies in the visa process, which include the Departments of State and Homeland Security as well as other security agencies, are fully aware of the nature of the activities in which the applicants in question plan to participate. The applications are fully vetted before they are approved. Based on the OIG recommendation, it appears that we are asked to believe that the current visa application and review processes, which sometimes take months, are ineffective and flawed in determining who should receive a visa to enter the country in the first place. What the OIG is promoting, in effect, is a second layer of background checks to be conducted by entities not equipped to conduct them, namely institutions of higher education. By advocating such an approach, the OIG insinuates and presumes that the current processes are not sufficient. We would beg to differ.

Furthermore, we find one of the underlying assumptions for the OIG recommendation on this front disturbing. The OIG argues that deemed export license requirements based on one's most recent citizenship/permanent residency are not sufficient because, for example, an Iranian-born Canadian citizen could, on the basis of his Canadian citizenship, bypass the license requirements and pass sensitive technology to Iran. The OIG's presumption is that, even though a non-native may have become a Canadian citizen, his loyalty still lies with his native country, which could be a "country of concern." We wholeheartedly agree with BIS' statement in its *Action Plan* that its current policy "reflects the traditional understanding that citizenship denotes a substantial personal connection to a given country."

We believe that, once approved for a visa after background reviews, including a Visas Mantis review, international scholars and students should be free to use equipment to conduct fundamental, non-classified research, without being subject to additional barriers.

In addition, we further believe that the OIG recommendation does not seem to be operationally feasible. In its report, *Open Doors*, the Institute of International Education (IIE) notes that there were approximately 572,000 foreign students in the United States during the 2003-2004 academic year. Statistics from the National Science Foundation (NSF) indicate that over 8,300 foreign students received Ph.D's in science and engineering in 2003. The same IIE report reveals that over 230,000 students were enrolled in fields in which foreign students potentially could be exposed to deemed exports. It is not known exactly how many students and scholars are involved in academic and research projects that could require deemed export license applications as a result of "use" of technology in areas covered by the Export Administration Regulations (EAR). However, we believe that a fairly large percentage of them are involved in such activities.

At a workshop on deemed exports hosted by the National Academies of Science, BIS leadership assured the participants that the agency did not believe that the mere "use" of equipment in research was the concern. NASULGC concurs with that view. However, even given that assertion, the cost implications for changing the licensing requirement from country of citizenship to country of birth as called for by the OIG are potentially staggering, especially for large state universities.

While mere use of equipment is not of interest to BIS, potential access to "use technology" is. The proposed change would bring about the following scenario: In order to determine access to "use technology" by foreign nationals, universities must undertake a number of costly reviews. First, *all* research equipment must be categorized. Next, the list of equipment must be compared to the list of controlled equipment and technologies. Then, from the list of controlled equipment, determinations must be made on those with potential for "use technology." Further, after that step is completed, universities must review access to the "use technology." Campuses would need to determine the country of birth of *all* foreign nationals with access to such technologies. That list must then be cross-referenced with the Commerce Control List to determine whether certain individuals from certain countries should be prohibited from such technologies. BIS staff have acknowledged that, after the completion of such an extensive and potentially costly process, it is very possible that no researcher or student would be prohibited from conducting research with such equipment or technology. One NASULGC member university, a large flagship university, has noted that just a review of the equipment by a commercial contractor would cost approximately $1.5 million. This figure does not include staff time, nor does it include the time and financial costs that would be required to conduct further background checks on foreign nationals in the university's labs and classrooms.

We find this recommendation even more troubling given the OIG's expressed concerns about the lack of resources at BIS devoted to enforcing deemed export license requirements. While the exact cost implications of such a change can be best offered by individual institutions, NASULGC can state that the cumulative administrative and financial burdens on the higher education enterprise would be very costly and tremendously detrimental to the scientific research community.

Moreover, just as important, we believe that the changes being proposed by the OIG could perpetuate negative perceptions around the world created as a result of policies that unintentionally discouraged international students and researchers from pursuing academic and scientific careers in the United States following September 11, 2001. The significance of these negative perceptions is brought into greater focus now as our nation tries to maintain its scientific, economic, and military advantages over other nations. At a time when other nations are redoubling their national efforts to build up their scientific, research, and economic infrastructure, we cannot afford to discourage the brightest and most talented individuals from around the world from viewing the United States as the destination of choice. These talented individuals are one of the vital sources of our innovation and competitiveness.

In public discussions and forums, representatives from the BIS have reiterated on many occasions that they understand the importance of attracting these talented individuals to the United States for a variety of reasons. We hope that they also appreciate the influence that perceptions have on potential students and scholars and that, once negative perceptions are created, they may take years to overcome.

The recommendation with respect to country of birth as the trigger for requiring export licenses would, we submit, create more problems than solve. We respectfully request that BIS that not adopt this misguided recommendation from OIG.

Clarification of Supplemental Questions and Answers

The BIS is also seeking comments on the proposed clarification to Questions A(4) and D(1) in the "Supplemental Questions and Answers." With respect to Question A(4), it is our position that a research project would be exempt from deemed export license requirements if the sponsoring federal agency determines that, upon review, all security compliance controls have been met. NASULGC believes that the sponsoring agency is in the best position to determine whether a project has met the pertinent security controls. We do not agree with OIG's assertion that any sort of national security control, including prepublication clearances, placed on a project would automatically trigger deemed export license requirements. We are certain that national security concerns would be adequately addressed and reviewed by the sponsoring agency. It appears that there is a misunderstanding between what the BIS has stated in response to the OIG report and OIG's interpretation of the BIS response. We support BIS's understanding of the issue.

We oppose the OIG recommendation with respect to Question D(1). We believe that no license is required as long as the "work" in question is covered under the fundamental research exemption.

Conclusion

We at NASULGC appreciate this opportunity to engage in a constructive dialogue on these critical issues. We believe that the issues under consideration are of utmost importance to the research enterprise, as well as to the nation as a whole, and that they deserve to be reviewed very carefully. We look forward to working with you ensure that sensible policies are adopted. Thank you for seeking public comments on this matter.

Cordially,

C. Peter Magrath
President

CPM/sh

From: "Alexandre Telnov" <avtelnov@yahoo.com>
To: <scook@bis.doc.gov>
Date: 6/16/2005 8:30:13 PM
Subject: Re: RIN 0694-AD29 (the "Deemed Exports" amendment)

Dear Sir:

I wish to offer some comments on the proposed changes to the "Deemed Exports" regulations. In general, I support the proposed changes as they fix the existing logical flaws in the language of the regulations. Of course, the manner in which the new version of these regulations are applied and enforced should be such that the additional burden on the universities and national labs that depend on foreign-national researchers be reasonably minimal.

I do, however, have a very strong word of caution regarding the continuing exemption of U.S. permanent residents and refugees/asylees from export controls regardless of their country of origin. I realize that current law equates them with U.S. citizens in all cases that do not require a security clearance. You recognize the obvious fact that a person who was born in, say, China, India, Malaysia, Pakistan, Saudi Arabia, etc., and was able to obtain citizenship of, say, Canada, U.K, or Germany, may be attempting to engage in high-tech or military-tech espionage in the United States.

However, you fail to recognize another painfully obvious fact: the security checks and other safeguards built into the U.S. permanent-residency and refuge/asylum procedures are hardly any better than those employed by other leading industrial nations. It is a widely recognized fact, for example, that up to 80% of all **successful** refugee and asylee applications in the United States are based on totally bogus grounds, but nothing can be done about it because in most cases the information presented to the asylum officers is practically unverifiable.

I therefore recommend that the following additional safeguards be added to the deemed-exports controls:

1) because of the high level of fraud and abuse of the asylum system, asylees and refugees should be subjected to the same export controls as non-immigrants, subject to a waiver.

2) green-card holders should be subjected to export controls unless they have lived in the United States for at least 5 years (which is often the case with people who obtained advanced degrees in the United States or entered the United States on an H-1B visa);

3) people born in certain high-risk countries should be subjected to export controls until they become naturalized U.S. citizens;

4) for certain high-risk countries, the country of origin of the individual's *parents* should be taken into consideration as well. (E.g., a person born in Canada to Chinese-born parents should be considered

Chinese for the purposes of export controls.)

These additional safeguards might sound a bit extreme, but this is just common sense. The way things stand, the United States is too easy a target for industrial spies.

Sincerely,

Alexandre Telnov, Ph.D.
Princeton University

CC: <bkritzer@bis.doc.gov>

From: "Ahlers, Jessica" <JAhlers@nasulgc.org>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Thu, Jun 16, 2005 11:04 AM
Subject: REVISED NASULGC Letter

Please note: This is a revised letter. Please disregard the one sent earlier this morning from NASULGC. I have also faxed a revised letter. Thank You.

<<BIS comment ltr (revised final).doc>>

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CC: "Bolognese, Kerry" <kbolognese@nasulgc.org>, "Robinson, Suzette" <SRobinson@nasulgc.org>, "Han, Sang" <SHan@nasulgc.org>

June 16, 2005

Mr. Alex Lopes
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Bureau of Industry and Security
Department of Commerce
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ATTN: RIN 0694-AD29

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Proposed change in definition of "use" technology

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Furthermore, many pieces of equipment that are controlled for export are publicly available in different settings and contexts. Under such a scenario, we believe that such technologies would not qualify as "use technology" and that international students and researchers should have access to them. At a minimum, the BIS may wish to consider clarifying "publicly available" technology as technology that is not proprietary or classified and is available on the open market.

In addition, the proposed change from OIG is problematic at an operational level as well. The development of new knowledge lies at the heart of fundamental research. During the course of research, the path to new discovery and new knowledge is not predetermined. The process is very unpredictable, fluid, and often serendipitous. Thus, in many cases, in order to test and pursue new ideas and theories, the research enterprise involves constant innovation, recalibration, and modification of equipment.

The academic community has always understood that, for the fundamental research exemption to be valid and functional, researchers must have the ability to use and alter existing equipment in order to pursue new ideas and develop new knowledge. As noted above, the research enterprise does not always follow a predetermined path. As such, we submit that requiring deemed export licenses for individuals involved in fundamental research activities does not take into account the practices of the scientific community. Furthermore, we at NASULGC would argue that requiring license applications *prior* to research projects would be even less feasible. We are firmly of the opinion that equipment used in the course of fundamental research is covered under the fundamental research exemption. Should BIS adopt the OIG recommendation, we are very concerned that such a change would, in effect, vitiate the fundamental research exemption.

The concerns discussed above lead to the fundamental issue that needs to be addressed by the BIS. We respectfully submit that the agency has failed to clearly articulate the problem that it is attempting to address and resolve. We at NASULGC are concerned that BIS's proposed change

is overly broad and would severely cripple the nation's research and scientific enterprise. In order to tackle the problem of the transfer of use technology in the most effective and efficient manner, we ask that the BIS clearly identify and narrowly delineate the technologies for which export licenses may be required.

Taken in conjunction with the proposed change with respect to requiring licenses based on a foreign national's country of birth (discussed below), we are concerned that the recommendation as proposed could cause irreparable harm to the nation's research enterprise.

"Country of Birth" as criterion for deemed export license requirement

NASULGC finds the OIG recommendation that deemed export license requirements be based on a foreign national's country of birth, as opposed to one's most recent citizenship or permanent residency, problematic in several ways. NASULGC believes that a process to determine the potential risk of foreign nationals is already in place, and we ask that BIS not adopt this recommendation.

First, the individuals in question who enter the United States to pursue academic and research endeavors do so after they are granted visas. In literally thousands of cases, visas are granted only after the appropriate federal agencies, including those involved in national and homeland security efforts, review the visa applications. In countless numbers of cases, these reviews include extended background checks, including the Visas Mantis process. The agencies in the visa process, which include the Departments of State and Homeland Security as well as other security agencies, are fully aware of the nature of the activities in which the applicants in question plan to participate. The applications are fully vetted before they are approved. Based on the OIG recommendation, it appears that we are asked to believe that the current visa application and review processes, which sometimes take months, are ineffective and flawed in determining who should receive a visa to enter the country in the first place. What the OIG is promoting, in effect, is a second layer of background checks to be conducted by entities not equipped to conduct them, namely institutions of higher education. By advocating such an approach, the OIG insinuates and presumes that the current processes are not sufficient. We would beg to differ.

Furthermore, we find one of the underlying assumptions for the OIG recommendation on this front disturbing. The OIG argues that deemed export license requirements based on one's most recent citizenship/permanent residency are not sufficient because, for example, an Iranian-born Canadian citizen could, on the basis of his Canadian citizenship, bypass the license requirements and pass sensitive technology to Iran. The OIG's presumption is that, even though a non-native may have become a Canadian citizen, his loyalty still lies with his native country, which could be a "country of concern." We wholeheartedly agree with BIS' statement in its *Action Plan* that its current policy "reflects the traditional understanding that citizenship denotes a substantial personal connection to a given country."

We believe that, once approved for a visa after background reviews, including a Visas Mantis review, international scholars and students should be free to use equipment to conduct fundamental, non-classified research, without being subject to additional barriers.

In addition, we further believe that the OIG recommendation does not seem to be operationally feasible. In its report, *Open Doors*, the Institute of International Education (IIE) notes that there were approximately 572,000 foreign students in the United States during the 2003-2004 academic year. Statistics from the National Science Foundation (NSF) indicate that over 8,300 foreign students received Ph.D's in science and engineering in 2003. The same IIE report reveals that over 230,000 students were enrolled in fields in which foreign students potentially could be exposed to deemed exports. It is not known exactly how many students and scholars are involved in academic and research projects that could require deemed export license applications as a result of "use" of technology in areas covered by the Export Administration Regulations (EAR). However, we believe that a fairly large percentage of them are involved in such activities.

At a workshop on deemed exports hosted by the National Academies of Science, BIS leadership assured the participants that the agency did not believe that the mere "use" of equipment in research was the concern. NASULGC concurs with that view. However, even given that assertion, the cost implications for changing the licensing requirement from country of citizenship to country of birth as called for by the OIG are potentially staggering, especially for large state universities.

While mere use of equipment is not of interest to BIS, potential access to "use technology" is. The proposed change would bring about the following scenario: In order to determine access to "use technology" by foreign nationals, universities must undertake a number of costly reviews. First, *all* research equipment must be categorized. Next, the list of equipment must be compared to the list of controlled equipment and technologies. Then, from the list of controlled equipment, determinations must be made on those with potential for "use technology." Further, after that step is completed, universities must review access to the "use technology." Campuses would need to determine the country of birth of *all* foreign nationals with access to such technologies. That list must then be cross-referenced with the Commerce Control List to determine whether certain individuals from certain countries should be prohibited from such technologies. BIS staff have acknowledged that, after the completion of such an extensive and potentially costly process, it is very possible that no researcher or student would be prohibited from conducting research with such equipment or technology. One NASULGC member university, a large flagship university, has noted that just a review of the equipment by a commercial contractor would cost approximately $1.5 million. This figure does not include staff time, nor does it include the time and financial costs that would be required to conduct further background checks on foreign nationals in the university's labs and classrooms.

We find this recommendation even more troubling given the OIG's expressed concerns about the lack of resources at BIS devoted to enforcing deemed export license requirements. While the exact cost implications of such a change can be best offered by individual institutions, NASULGC can state that the cumulative administrative and financial burdens on the higher education enterprise would be very costly and tremendously detrimental to the scientific research community.

Moreover, just as important, we believe that the changes being proposed by the OIG could perpetuate negative perceptions around the world created as a result of policies that unintentionally discouraged international students and researchers from pursuing academic and scientific careers in the United States following September 11, 2001. The significance of these negative perceptions is brought into greater focus now as our nation tries to maintain its scientific, economic, and military advantages over other nations. At a time when other nations are redoubling their national efforts to build up their scientific, research, and economic infrastructure, we cannot afford to discourage the brightest and most talented individuals from around the world from viewing the United States as the destination of choice. These talented individuals are one of the vital sources of our innovation and competitiveness.

In public discussions and forums, representatives from the BIS have reiterated on many occasions that they understand the importance of attracting these talented individuals to the United States for a variety of reasons. We hope that they also appreciate the influence that perceptions have on potential students and scholars and that, once negative perceptions are created, they may take years to overcome.

The recommendation with respect to country of birth as the trigger for requiring export licenses would, we submit, create more problems than solve. We respectfully request that BIS that not adopt this misguided recommendation from OIG.

Clarification of Supplemental Questions and Answers

The BIS is also seeking comments on the proposed clarification to Questions A(4) and D(1) in the "Supplemental Questions and Answers." With respect to Question A(4), it is our position that a research project would be exempt from deemed export license requirements if the sponsoring federal agency determines that, upon review, all security compliance controls have been met. NASULGC believes that the sponsoring agency is in the best position to determine whether a project has met the pertinent security controls. We do not agree with OIG's assertion that any sort of national security control, including prepublication clearances, placed on a project would automatically trigger deemed export license requirements. We are certain that national security concerns would be adequately addressed and reviewed by the sponsoring agency. It appears that there is a misunderstanding between what the BIS has stated in response to the OIG report and OIG's interpretation of the BIS response. We support BIS's understanding of the issue.

We oppose the OIG recommendation with respect to Question D(1). We believe that no license is required as long as the "work" in question is covered under the fundamental research exemption.

Conclusion

We at NASULGC appreciate this opportunity to engage in a constructive dialogue on these critical issues. We believe that the issues under consideration are of utmost importance to the research enterprise, as well as to the nation as a whole, and that they deserve to be reviewed very carefully. We look forward to working with you ensure that sensible policies are adopted. Thank you for seeking public comments on this matter.

Cordially,

C. Peter Magrath
President

CPM/sh

UNIVERSITY OF MARYLAND
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES
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June 17, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

SUBJECT: Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005 Federal Register

Dear Mr. Lopes:

I am writing as both a faculty of the University of Maryland and as a citizen of the United States to express my concerns regarding the potential impact on universities if the Bureau of Industry and Security implements the recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

These comments are provided based on my background and experience working in a University setting. I am an associate professor and regularly conduct research in the area of food safety. The proposed regulations could directly affect my ability to conduct research in the future regarding the safety of our food supplies.

I find myself wondering if all this is necessary. It remains difficult for those of us deeply enmeshed in research to see that it is. I recognize that maintaining the security of the country is a number one priority for all of us and that compromise is necessary for purposes of national security. However, the sacrifice of U.S. innovation, U.S. competitiveness, and our national research and technology strengths must be balanced with our need for national security, so that we are not sacrificing our security in the name of security. I also have grave concerns regarding the potential compromise to our academic freedom, which is both vital to our nation's technology progress and a cornerstone of democracy. Before regulatory changes are made, a risk analysis must be conducted. It should weigh the real threats and the real costs to our nation's universities.

The threat to our national security from international students and scholars who have been cleared through the visa and visa mantis procedures is not clear and has not

been demonstrated in the materials made publicly available. I really can not emphasize enough the contributions these foreign national students and postdoctoral fellows make to developing and sustaining my and the significant cost which would be imposed in terms of stifling my research if the IG recommendations are adopted. A look at the number of foreign national students and postdoctoral fellows, who serve critical roles in the innovation taking place in my laboratory, should give you an idea of the importance of these scholars. Currently, out of five students and post-docs, four are foreign nationals.

Do not exacerbate the trend we are already seeing. U.S. universities have seen a drop in international applications again this year. Nationally the numbers were down 28% last year with a loss of an additional 5% this year. International applications at the University of Maryland were down 37% last year and another 5% this year. Foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields and are heavily recruiting international students. As a result, the number of U.S. students seeking post-undergraduate S&E degrees is decreasing while the number of foreign students seeking such degrees outside the U.S. is increasing. Therefore, extreme caution should be used when imposing unnecessary barriers to participation by these scholars or they will chose to study elsewhere.

History has shown that a large majority of our foreign graduate students remain in the U.S. and that they contribute a very significant share of the innovation which keeps the nation ahead of the world. The costs of the IG recommended changes are high relative to the perceived risk expressed in the report. In a time where government and industry is looking to academia to perform research and groom the next generation of scientific and technological experts, the imposition of barriers on the ability of these foreign students and post-docs to freely participate in the academic process will adversely affect both my research and the nation's scientific and economic superiority.

Before implementing a regulatory program that will cause significant and permanent damage to both the university research enterprise and the nation's future economic and scientific leadership, there must be more thought and open dialogue with the academic community. Speaking as one cog in the giant wheel, I can offer this comment -- we can not sustain our technologic superiority if the proposed regulatory measures are implemented. I thank you for this opportunity to provide input.

Sincerely,

Hanghong Meng
Associate Professor

cc: C. D. Mote
J. Gansler
A. McKeown

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June 17, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

SUBJECT: Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005 Federal Register

Dear Mr. Lopes:

I am writing as a member of the faculty of the University of Maryland and as a permanent resident of the United States to express my concerns regarding the potential impact on universities if the Bureau of Industry and Security implements the recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

These comments are provided based on my background and experience working in a University setting. I am professor of physics and regularly conduct research in the area of physics. The proposed regulations could directly affect my ability to conduct research in the future.

I find myself wondering if all this is necessary. It remains difficult for those of us deeply enmeshed in research to see that it is. I recognize that maintaining the security of the country is a number one priority for all of us and that compromise is necessary for purposes of national security. However, the sacrifice of U.S. innovation, U.S. competitiveness, and the national research and technology strengths must be balanced with our need for national security, so that we are not sacrificing our security in the name of security. I also have grave concerns regarding the potential compromise to our academic freedom, which is both vital to the nation's technology progress and a cornerstone of democracy. Before regulatory changes are made, a risk analysis must be conducted. It should weigh the real threats and the real costs to our nation's universities.

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Do not exacerbate the trend we are already seeing. U.S. universities have seen a drop in international applications again this year. Nationally the numbers were down 28% last year with a loss of an additional 5% this year. International applications at the University of Maryland were down 37% last year and another 5% this year. Foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields and are heavily recruiting international students. As a result, the number of U.S. students seeking post-undergraduate S&E degrees is decreasing while the number of foreign students seeking such degrees outside the U.S. is increasing. Therefore, extreme caution should be used when imposing unnecessary barriers to participation by these scholars or they will chose to study elsewhere.

History has shown that a large majority of our foreign graduate students remain in the U.S. and that they contribute a very significant share of the innovation which keeps the nation ahead of the world. The costs of the IG recommended changes are high relative to the perceived risk expressed in the report. In a time where government and industry is looking to academia to perform research and groom the next generation of scientific and technological experts, the imposition of barriers on the ability of these foreign students and post-docs to freely participate in the academic process will adversely affect both my research and the nation's scientific and economic superiority.

Before implementing a regulatory program that will cause significant and permanent damage to both the university research enterprise and the nation's future economic and scientific leadership, there must be more thought and open dialogue with the academic community. Speaking as one cog in the giant wheel, I can offer this comment – we can not sustain our technologic superiority if the proposed regulatory measures are implemented. I thank you for this opportunity to provide input.

Sincerely,

Luis A. Orozco
Professor of Physics

cc: C. D. Mote
J. Gansler
A. McKeown

Vanderbilt University Medical Center

Vice-Chancellor for Health Affairs

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June 17, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

RE: RIN 0694-AD29

Dear Mr. Lopes:

I write on behalf of Vanderbilt University Medical Center in response to the Advance Notice of Proposed Rulemaking published in the Federal Register on March 28, 2005 asking for comments on the recommendations of the Department of Commerce Inspector General regarding "deemed exports" in the context of university fundamental research.

We believe the changes recommended by the Commerce Department Inspector General report (IPE-16176) are based on misunderstandings of the nature of university fundamental research, and if implemented would adversely affect university research and impose very significant burdens that would far outweigh any intended benefit. While Vanderbilt is committed to helping protect this nation against potential threats, we caution against imposing new requirements recommended by the IG that could adversely affect this nation's leadership in higher education, research and innovation.

Vanderbilt University Medical Center is one of the nation's leading centers of biomedical research. Last year, our researchers conducted $292 million in sponsored research that was enhanced by the use of a broad array of research technology and enriched by the participation of over 700 talented foreign students, post-doctoral candidates and faculty members. Our concerns and comments about the IG recommendations are summarized below.

1. Implementation of the IG recommendations will adversely affect U.S. economic competitiveness and national security since American universities will be perceived as (and in fact will become) less welcoming to foreign students and researchers. The contributions of foreign students and scholars are critically important to the quality of scientific research in the U.S.

2. Screening of foreign nationals for those who may actually threaten U.S. security should continue to be placed primarily on the existing visa process, and the existing

classification process should continue to be used for the limited subset of university research that may pose real security threats.

3. We do not agree with the IG's premise that the products of fundamental academic research and the process for obtaining the research results are distinguishable. The use of equipment and the conveyance of technology on how to use equipment are inseparable in academic research. The only reasonable interpretation of the fundamental research provision in the Export Administration Regulations (EAR) is that it must include the right for foreign students and researchers to use, alter and create, and to receive publicly available information on how to use, alter and create, controlled equipment while conducting fundamental research. We believe that the IG position would eviscerate the fundamental research exclusion and is erroneous.

4. The open collaborative campus research environment geared towards fostering discovery and wide dissemination of new knowledge is different from that which characterizes most corporate research, and security measures appropriate for the university environment are different from those suitable for industry. Regardless of the number of deemed export licenses actually required, acceptance of the IG recommendations would alter the university fundamental research in critical ways. They would restrict or preclude members of research teams and their colleagues in the university community from freely visiting each other's laboratories, from participating in the spur of the moment work with equipment, and from conveying ideas and information without constraint. All these activities have been demonstrated to be critical for innovation. Implementation of these recommendations would limit a university's ability to maintain an open, international and collaborative research environment.

5. The requested projection of how much equipment with sensitive technologies would be subject to licensing at universities is complicated by the lack of clarity in the current regulations on "use technology." In addition, universities cannot fully define in advance the specific roles individuals will play in research or when or how they may receive controlled technology. Given the open spontaneous campus research environment, universities may need to assume that any foreign student or researcher may receive controlled technology at any time. While it remains impossible to precisely quantify the number of deemed export licenses that would be required under the IG's interpretation, it is evident that the large number of foreign students and scholars and the quantity of research equipment at our institution would result in a substantial increase in license applications.

6. Assessing the administrative burdens and costs on our institution will require assembling the inventory of potentially sensitive equipment and determining whether each item of equipment to be used in research would be controlled for use technology. Our institution has thousands of pieces of research equipment in its inventory, and hundreds if not thousands of new pieces are acquired each year. Each item of equipment would need to be evaluated for controls in relation to each foreign student and researcher on campus unless our open research environment is profoundly altered.

7. The IG report appears to confuse "use" of equipment with access to technical information covered by the deemed export control regulations. It is not the nature of the use of the equipment but the transfer of certain use technology that is the focus of deemed export concerns. Mere operation of equipment without any transfer of controlled use technology should not require a license.

8. Changing "and" to "and/or" in the EAR Part 772 definition of "use" as proposed by the IG will not address the issue of what constitutes "use technology." The EAR itself does not clearly define "use" technology but clarification is necessary to establish clear compliance standards. Controlled "use technology" within the context of university fundamental research should be defined to encompass only information that is not generally available to the public in the U.S. Technology (including information in user manuals) that is generally available without significant restrictions to anyone in the U.S who is willing to pay for it should be considered publicly available for purposes of being excluded from deemed export licensing requirements. The EAR 734 Supplement No. 1 "Qs & As" implies this understanding, which needs to be confirmed either through a modification of the current Q's and A's or a specific definition in the EAR.

9. The IG's recommendation that deemed export license requirements be based on a foreign national's country of origin rather than on the individual's most recent country of citizenship or permanent residency should be reconsidered. It is based on the erroneous assumption that individuals retain a lifelong allegiance to their countries of birth that will always take precedence over their adopted countries, and that a foreign-born person is more likely to export technology. Universities do not presently track this information, and would incur significant costs and burdens in doing so.

Thank you for considering our views.

Sincerely,

Harry R. Jacobson, M.D.

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Vice Chancellor for Research

Fourth Floor Swanlund Building
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June 17, 2005

Matthew S. Borman
Deputy Assistant Secretary for Export Administration
U.S. Department of Commerce, Bureau of Industry and Security,
Regulatory Policy Division, 14th and Pennsylvania Avenue, NW, Room 275,
Washington DC 20230; Attn. RIN 0694-AD29

Dear Mr. Borman:

On behalf of the research community at the University of Illinois at Urbana-Champaign, I am writing to comment on the "Revision and Clarification of Deemed Export Related Regulatory Requirements RIN 0694-AD29", proposed revisions to15 CFR parts 734 and 772, published March 28, 2005.

If adopted by the Commerce Department, these revisions would require colleges and universities to obtain deemed export licenses for international faculty, staff and students or visitors from countries of concern, such as the People's Republic of China, who need access to equipment embodying dual-use controlled technology to perform research, even if the underlying work is "fundamental research" and exempt from export control restrictions. Further, such determination would require use of a foreign national's country of birth, rather than most recent citizenship or permanent residency, to determine whether a deemed export license is required. Obtaining such information would be highly burdensome.

This policy would create a hostile and intimidating environment, not only for those international visitors at whom it is targeted, but for all of our foreign scholars, thus diminishing my University's capacity to deliver on our mission of education and scholarship. The resulting environment will threaten the long term economic stability of this nation by sapping our ability to attract and keep the very best minds, who continue to provide the technological leadership on which much of our economy is based.

If this policy were enacted, it would create serious barriers to conducting our leading-edge research – research on which our country depends for advances in technology, quality of life, and economic development. The attached communication from Professor Marc Snir, the Head of our Department of Computer Science, details the potential negative impact of the proposed revision on our programs in computer science and other University units.

telephone 217-333-0034 • *fax* 217-244-3716

Illinois currently has over 2000 international graduate students conducting research in areas of science, engineering and mathematics where the use of controlled technology is potentially an issue. This is especially true in that such items as mass spectrometers, laptop and desktop computers, and GPS equipment may fall under the definition of controlled technology, even though they are widely available to international visitors outside of the University. Indeed, the global nature of science and the pervasiveness of such technology suggests that the definition of and application of the term controlled technology is sadly out of date with the world in which we live. There is no doubt that those technologies that are sensitive should be kept from those who may harm our interests. However, there is a fundamental difference between that which is sensitive and that which is commonly available for purchase on the web in any country in the world.

In the proposed process of licensing controlled technology to a student or visitor from a country of concern, an application would be sent to the Commerce Department. Recent studies by the University of Maryland suggest that the process of identifying the students and visitors requiring export licenses and processing those licenses would cost a University of our size *at least $1.5 million* per year. The cost of such an unfunded mandate saps our nation's ability to maintain our vibrant research environment and, as indicated above, this threatens the economic base of our economy.

In addition to substantial financial cost, this revision would lead to delays in some of our most advanced research projects. Highly talented students, recruited from around the world to Illinois, would be prevented from initiating research in areas such as electrical and computer engineering, computer science, chemical sciences, aerospace engineering and the life sciences. Forty graduate students in the College of Engineering are from Iran. 17% (100) of our graduate students in Electrical and Computer Engineering are Chinese. 12% (70) are from India. Following their education here, many of them will enhance the U. S. work force with their skills and intelligence. While here, we rely on them to contribute to federally funded research in areas of critical national need.

As a result of the intimidating environment created by onerous visa review processes and foreign student tracking through the Student Exchange and Visitor Information System (SEVIS), our international graduate applications have declined substantially post-9/11. For example, applications from China and India declined 12% from Fall 2004 to Fall 2005. Applications of international graduate students in Engineering declined 13% during this period, and those in Life Sciences declined 8%. Without access to leading edge technologies, the education we offer foreign students and visitors is not competitive. As a result, if the proposed revisions to 15 CFR parts 734 and 772 are implemented, we can expect a further decline in applications, diminishing of the capacity of our Universities to be internationally competitive.

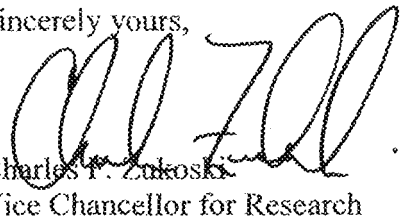
In charting its course of action, I ask the Department of Commerce to consider that no case has been made that security risks are being improperly managed by universities. Classification remains the appropriate route to protect research that is truly considered to bear on national security. The life we enjoy in the U. S. and our competitive position internationally are testimony to the benefits that come to our citizens through the open,

international nature of our universities and their freedom to exchange information. I urge that the Department take these benefits into consideration as it determines whether to revise 15 CFR parts 734 and 772.

international nature of our universities and their freedom to exchange information. I urge that the Department take these benefits into consideration as it determines whether to revise 15 CFR parts 734 and 772.

Thank you for the opportunity to comment on the proposed revisions. I would be happy to provide further information to you if it is helpful. Please feel free to contact me via email to czukoski@uiuc.edu or by telephone to (217) 333-0034.

Sincerely yours,



Charles F. Zukoski
Vice Chancellor for Research

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Department of Computer Science
2248 Siebel Center, MC-258
201 North Goodwin Street,
Urbana, IL 61801-2302

TO: Melanie Loots
FROM: Marc Snir
SUBJECT: Proposed changes in deemed export regulations
DATE: 6/14/2005
CC: Ilesanmi Adesida

Dear Melanie:

Below are my comments concerning the proposed changes in the Export Administration Regulation (EAR) regulations on deemed exports.

Background:

The Inspector General of the Department of Commerce, March 2004, published a report claiming that "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S. (Final Inspection report No. IPE-16176). As a result, the Bureau of Industry and Security (BIS), March 2005, published a proposal for "Revision and Clarification of Deemed Export Related Regulatory Requirements." The public may comment on these new rules until June 27, 2005.

The proposed revision restricts the "fundamental research exemption" of the deemed export regulations by stating that the use of export restricted equipment by foreign nationals in the U.S. is deemed export, even when the equipment is used for fundamental research; "use" is defined as "operation, installation, maintenance (checking), repair, overhaul, or refurbishing." The proposed revision also states that the status of a foreign national is determined not by his nationality or country of residence, but rather by his country of birth.

The proposed changes and reasonable expectations for stricter enforcement of the deemed export rules could have a significant negative impact on the Department of Computer Science and on many other campus departments. As the penalties for violating export controls can be very significant, it is likely that universities will interpret these regulations in a conservative manner. Due to the political climate, one can also expect a restrictive interpretation from BIS. The effect could be devastating. On the other hand, many of the restrictions will apply to technologies that are widely available in any shopping mall in the U.S. and in almost any country abroad. It would seem that the University will be heavily burdened by rules and regulations that will not achieve any useful purpose and are discriminatory.

The change from country of residence to country of birth means, for example, that a person who was born in China but immigrated to Canada as a baby would be considered Chinese, not Canadian. If the parents immigrated before the birth, then he or she would be considered Canadian.

This is patently unfair; it might be very hard to explain to Canadian citizens why they are discriminated against according to their country of birth. It is hard to know how many students would be affected as we do not now track country of birth.

I shall focus on two technologies: computers and encryption. Restrictions on other technologies, such as communication technology, sensors, and fingerprint recognition devices are also likely to affect us.

Export restrictions under EAR are based on the type of technology and on the country to which the technology is exported. I shall focus on two groups:

- Group D, which includes China, India, and several other countries. The large majority of our foreign graduate students and a significant number of faculty are born in group D countries and are not permanent U.S. residents, hence are considered to be group D foreign nationals for the purpose of EAR.

- Group E, which includes embargoed countries such as Iran or Syria. A number of graduate students in our department are from Iran.

Essentially no technology exports are allowed to group E countries; one may not export a laptop or even a ten year old PC to Iran (EAR 746.7, 774 supplement 1). This implies that operation, installation, maintenance (checking), or refurbishing of a PC by an Iranian citizen is deemed export. In addition, EAR restricts export of encryption software that uses keys of more than 64 bits, even when it is a mass market encryption commodity, to group E countries (EAR 742.15). Any laptop sold in the U.S. carries such encryption software. A strict interpretation of the rules seems to imply that the University may not buy a laptop for an Iranian born foreign student without an export license. Since the Inspector General's report expresses a strong opinion that export licenses to Iran should be denied with few exceptions, there is a good probability that requests for such export licenses will be turned down. In other words, there is a strong probability that U.S. universities will not be able to accept foreign students born in embargoed countries such as Iran.

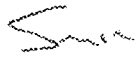
EAR restricts export of computers with a "Composite Theoretical Performance" exceeding 190,000 million theoretical operation per second (MTOPS) to countries in group D. Without going into the arcane algorithm used to compute MTOPS, let me point out that the forthcoming IBM Cell processor, to be marketed next year in the Sony PlayStation 3, exceeds this threshold; a cluster with two dozen PC processors that can be purchased for less than $50,000 will also exceed this threshold. High-performance computers, as defined by BIS, are not large machines to be found only in large computer rooms, but fairly small servers that can be found in many departments and laboratories. There may well be a dozen broadly accessible labs and machine rooms in the Siebel Center for Computer Science that host systems with performance that exceeds the threshold. There may be many tens and perhaps hundreds of systems deployed on campus that are above the threshold and will continue to be above the threshold even if the threshold is moderately increased. Any foreign national born in China or India, who is deemed to "use" such a system, will need a license. Of course, "use" is ambiguous. A BIS officer verbally expressed the opinion that the mere use of a computer to run a job does not involve "operation, installation, maintenance, or refurbishing" and will not trigger the deemed export clause; only access to proprietary information as part of the

operation of a system would trigger the clause. However, a verbal assurance does not undo the damage of ambiguous regulations. Furthermore, most of the tens or hundreds of "high performance computers" on our campus do not have dedicated operators and are managed by the research team that uses them. It is likely that many faculty and students will not only run jobs on such systems, but will also "install" the clusters or install new software on the clusters; will "operate" them; will "check" them when they fail; and will diagnose the cause for their failures. Furthermore, many such systems come with proprietary documentation installed on their disks, and the documentation is accessible to any user of the system but is not in the public domain. Thus, a strict interpretation of the rules will imply that an export license will be needed for any nonresident student or faculty born in a group D country that has free access to a modest cluster. The absurdity is compounded by the fact that export restrictions on clusters are useless, since the hardware components needed to assemble a cluster can be exported with no restrictions to group D countries and the software needed to assemble clusters is readily available on the Web.

EAR 742 supplement 3 has a six page list of requirements that "may be imposed by BIS to certain destinations". These include physical security, round-the-clock supervision, daily logs, presence of the exporter representative when new accounts are added, etc. These also include prohibiting computational access to nationals of embargoed countries. The Inspector General, in the report, is pushing BIS to have compliance programs that include on-site inspections: "In particular, all potential points of access to the controlled technology should be reviewed for appropriate safeguards and technology control plan implementation to ensure compliance with license conditions." Thus, it is a safe bet that if export licenses will be required for the use of equipment such as clusters in labs, then the hassle will not end with the export license process: The University will be required to have a control plan that includes an auditable trace for accesses to the equipment. A bureaucracy as encumbering as the one needed to monitor human subject experiments will be needed and access to any physical lab that contains such equipment by foreign faculty or students will have to be restricted. Basically, it will be impossible to have a modest sized cluster in an open lab and each such cluster will need to be managed by CISE, our central IT organization.

In summary, a strict interpretation of the proposed changes will impose major burdens on the department and the campus. It will force us to stop accepting nonresident students born in embargoed countries; it may seriously hamper the research of some faculty who are not US residents; it will create two tiers of students in our department, with significant access restrictions imposed on nonresident students born in group D countries. It will add significant costs to our research as well as slow it down, if not stop it altogether, in some cases; however, it will not have any positive impact on the security of our country.

Sincerely,



Marc Snir

ABA Section of International Law Letterhead

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Re: Comments on Advance Notice of Proposed Rulemaking Concerning Revision and Clarification of Deemed Export Related Regulatory Requirements

Ladies and Gentlemen:

We are writing on behalf of the Section of International Law of the American Bar association in response to the Advance Notice of Proposed Rulemaking concerning the Revision and Clarification of Deemed Export Related Regulatory Requirements published the U.S. Department of Commerce, Bureau of Industry and Security (BIS), on March 28, 2005 (70 Fed. Reg. 15607) (the "Notice"). The views expressed herein are presented on behalf of the Section of International Law. They have not been approved by the House of Delegates or the Board of Governors of the American Bar Association and, accordingly, should not be construed as representing the policy of the American Bar Association.

As outlined below, we believe the proposed changes described in the Notice would have a significant effect on the burden of the regulated community and may not be properly tailored to address the threat of terrorism and weapons proliferation the changes are designed to solve.

Moreover, we respectfully suggest that before any changes are made to the deemed export rule, a concentrated effort should be undertaken by BIS, in consultation with the other relevant national security authorities, the regulated community, academia, and the bar, to generate a consensus concerning the nature of the threat and the appropriate role of deemed export controls in response to that threat. The Section of International Law would be pleased to assist in that effort.

We are grateful to BIS and the Department of Commerce for this opportunity to provide comments. The Section of International Law, along with the exporting community, strongly supports the goal of preventing terrorism and the proliferation of weapons of mass destruction through effective controls on exports. To the extent the deemed export regulations currently further this goal, we believe that greater education of the regulated community would engender greater compliance with those regulations. But, based on our

review, the proposed rules described in the Notice do not appear to be appropriate or sufficient to further the goal of effective export controls.

1. Background

The Notice states that BIS is reviewing the recommendations contained in the U.S. Department of Commerce, Office of Inspector General (OIG) Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004). In its report, the OIG concludes that existing BIS policies under the Export Administration Regulations (EAR) could enable foreign nationals from countries and entities of concern to access otherwise controlled technology. The OIG recommends certain regulatory changes that would affect existing requirements and policies for deemed export licenses.

2. Further review is required to determine the need for any changes in deemed export licensing policy or procedure, and to establish a consensus in favor of any such changes.

In determining the need for any change in deemed export controls, we believe it would be counterproductive to take any action not supported by a clear connection between the proposed rule and the anticipated benefit. Here, no such connection is articulated, either in the OIG report or in the BIS Notice. Any change in the rules not supported by such a showing may be susceptible to legal challenge, and my not generate adequate support from the regulated community or U.S. allies. Courts have held that agency action under the International Emergency Economic Powers Act (IEEPA) is subject to the judicial review provisions of the Administrative Procedures Act.[1] Under this line of cases, regardless of the APA standard applicable to rulemaking under the EAR as continued under IEEPA,[2] the proposed provisions must be supported by evidence in order to survive judicial review.

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[1] *See Milena Ship Management Co. v. Newcomb*, 804 F. Supp. 846 (E. D. La. 1992) *sum. judgment denied*, 804 F. Supp. 859 (E.D. La. 1992) (holding that Section 701 of the APA provided for judicial review of an agency action under sanctions regulations promulgated under IEEPA) *aff'd*, 995 F. 2d 620 (5th Cir. 1993), *cert. denied*, 510 U.S. 1071 (1994); *see also Nuclear Pacific, Inc. v. U.S. Dept. of Commerce*, No. C84-49R, 1984 U.S. Dist. LEXIS 16060 (W.D. Wash. 1984) (holding that the APA provided judicial review of EAR provisions that were continued in force under IEEPA); *see generally* John Ellicott, Peter Flanagean, Gregory Williams, "Judicial Review of Administrative Actions Under Export Laws," *Coping with U.S. Export Controls* (Practising Law Institute 2002) at 713.

[2] The EAA lapsed several times during the 1990s with the EAR being continued through Executive Order under the provisions of IEEPA. The EAA was reauthorized by Congress from November 13, 2000, through August 20, 2001, but failing a legislative agreement, lapsed thereafter. The EAR have been (and remain) continued by Executive Order 13222 of August 17, 2001, and successive Presidential Executive Orders. Consequently, the present Export Administration Regulations (EAR), including the current deemed export regime, are supported solely by Presidential Executive Order under the aegis of IEEPA.

Moreover, in this circumstance, there does not appear to be any consensus in government, academia, the bar, or the regulated community that the increased deemed export controls proposed in the Notice properly addresses the threat of technology acquisition by adversaries of the United States.

Our review of publicly available materials on the threat of technology exports, and the proper response to that threat, militates in favor of a thorough study of the issue by the government, academia, the bar, and the regulated community before further steps are taken that may not properly address the threat and may not achieve the proper balance between protection of U.S. national security and the maintenance of the culture of free exchange of ideas that is one of the principal strengths of the U.S. economy. Those materials include the following: (1) the report of the 1976 Defense Science Board task force chaired by J. Fred Bucy, then-president of Texas Instruments;[3] (2) a study by the National Academy of Science, which was supported by the U.S. Defense Department, among others, and chaired by Dale R. Corson, President Emeritus of Cornell University;[4](3) a follow-up report by the Corson panel addressing the issues and the steps taken by the U.S. government to implement its recommendations;[5] and (4) the 1986 report of the National Academy of Sciences task force, supported by the Departments of Commerce and Defense, chaired by Lew Allen, Jr., then President of the California Institute of Technology;[6]

Importantly, the Allen Report concluded as follows: "The panel reviewed a substantial body of evidence – both classified and unclassified – that reveals a large and aggressive Soviet effort to target and acquire Western dual use technology through espionage, diversions, and to a lesser degree legitimate trade. There is limited but specific evidence on the means by which Soviet acquisitions are accomplished; there is also evidence to support the conclusion that such acquisitions have in some cases played an important role in upgrading or modernizing Soviet military systems. Effective, internationally coordinated export controls are necessary to counter the use of diversions and legitimate trade for such purposes. However, export controls are not a means for controlling espionage, which accounts for a high proportion of the successful and significant Soviet technology acquisition efforts. Thus, export controls must be viewed as one component in a more comprehensive program for controlling technology losses."[7]

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[3] The 1976 report was entitled *An analysis of Export Control of U.S. Technology—a DOD Perspective.* This report (termed the "Bucy Report") became the operative legislative philosophy of the 1979 Export Administration Act ("EAA") and resulted in the creation and perpetuation of the Military Critical Technologies List ("MCTL").

[4] Scientific Communication and National Security (1982).

[5] Scientific Communication and National Security: The Issues in 1984, Staff Report to the Corson Panel by Mitchel B. Wallerstein and Lawrence E. McCray, January 31, 1984.

[6] Balancing the National Interest (1987) (known as the "Allen Report). The Allen Report served as the basis for the overhaul of the dual use export control legislative structure in 1988 with the enactment of the Omnibus Trade and Competitiveness Act of 1988 ("OCTA"), the most significant overhaul of dual use export control structure since the EAA of 1979.

[7] The Allen Report, at p. 154.

Over fifteen years have passed since the issuance of the Allen Report, and over two decades have passed since the Corson studies, and it appears that there no longer exists a clear consensus among the various affected parties (including government, industry, academia, and the bar) on how best to control the exports of technology from the United States in a rapidly changing global marketplace.[8]

More recently, the Report of the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China (the "Cox Report"), and the Annual Reports to Congress by the National Counterintelligence Executive (NCIX) have expressed increased concern that foreign governments are targeting U.S. entities for the purpose of illicit acquisition of technology for commercial and military advantage.[9] However, both the Cox Report nor the NCIX reports focus heavily on the threat of espionage, and nothing in those reports (nor anything in the OIG Report that is the basis of BIS's Notice) demonstrates that increased deemed export controls are a proper or effective means for controlling espionage. Indeed, as noted above, the Allen Report stated as one of its key findings that "export controls are not a means for controlling espionage, which accounts for a high proportion of the successful and significant" foreign technology acquisition efforts."[10]

By contrast, there are several other U.S. government activities and statutory regimes designed to address the threat of espionage, U.S. including counterintelligence activities, immigration enforcement, and enforcement of the Economic Espionage Act of 1986, 18 U.S.C. §§ 1831, 1832. In any event, the proper approach to the broader technology export threat must encompass a combination of those processes, along with enhanced education of industry and academia, in addition to strong enforcement of current deemed export regulations.

We would also note that the NCIX annual reports also focus heavily on the acquisition and exploitation of publicly available, public domain technology and know-how as a major component of Chinese technology acquisition efforts. As with espionage, the control of open source technology has never been the proper domain of export controls.

In summary, neither the Notice nor the OIG report demonstrates any compelling link between the proposed revisions to the deemed export regulations and the threat posed by foreign technology acquisition efforts. In these circumstances, we respectfully propose that there should be a process of review and recommendation, prior to the BIS

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[8] For a summary of the history of attempts to reauthorize of the EAA, see *The Export Administration Act: Evolution, Provisions, and Debate,* Congressional Research Service, May 5, 2005 (RL31832).

[9] E.g., *the Report of the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China* (the "Cox Report", Washington, D.C., GPO 1999), Annual Reports to Congress by the National Counterintelligence Executive (NCIX) on Foreign Economic Collection and Industrial Espionage 1995- (available at www.ncix.gov).

[10] The Allen Report, at p. 154.

rulemaking process, designed to better understand the threat posed by foreign technology acquisition efforts, and to assess the appropriate role of export controls in fashioning a response to that threat. That review should be undertaken in consultation with BIS and the other relevant national security authorities, the regulated community, academia, and the bar. The Section would be pleased to facilitate that process in any appropriate way.

3. The Current Deemed Export Licensing Process

Under the current process, deemed export licenses are submitted to BIS, and BIS submits all such applications to three referral agencies (the Departments of Defense, Energy, and State). In addition, the Department of Commerce refers all deemed export applications to the FBI for a name check review. The OIG report states that the FBI has received derogatory "hits" based on its review of foreign nationals subject to deemed export license applications, although the nature and resolution of these derogatory "hits" is not explained.[11]

Also according to the OIG Report, since October 2001, the Central Intelligence Agency's Weapons Intelligence, Nonproliferation and Arms Controls Center (WINPAC) has declined to review deemed export license applications, because of the lack of derogatory "hits" they have obtained from this exercise in the past. However, in an attempt to conduct some type of intelligence review for these applications, BIS arranged to have the CIA send BIS an updated CD-ROM of end-user reports that are connected to some element of the foreign national's past (e.g., the university where the foreign national received his/her degree or any foreign entities which the foreign national has had contacts or association) on a monthly basis. The OIG report noted that BIS officials have not received any derogatory hits against this database since this type of review began.[12] It is instructive that the CIA found its participation in deemed export reviews to be a poor use of its time. The proposed changes appear also to create even lower value targets for industry and an overburdened bureaucracy to chase with little expectation of a useful national security return on the investment.

Referencing earlier reports on export controls, the OIG found that compliance with deemed export regulations by U.S. companies and federal agencies remains low. However, it concluded that the reasons for noncompliance were "that the deemed export control regulations were ambiguous and deemed export control policy ill-defined." The OIG had recommended that BIS work with the National Security Council to ensure that the deemed export control policy and regulations are clear and to not provide loopholes that could be deliberately or inadvertently be used by countries and entities to obtain controlled U.S. equipment and technologies. The OIG also recommended that BIS be more proactive and increase its outreach to high-technology companies, industry associations, and federal agencies to educate them about deemed export regulations and

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[11] U.S. Department of Commerce, Office of Inspector General, Final Inspection Report No. IPE-16176, at 3 (March 2004).

[12] *Id.*, at 3.

to help assure compliance with the deemed export rule.[13] We commend BIS for having conducted much more extensive outreach in the last year on deemed export issues, particularly with parties that have not previously addressed the deemed export rule.

The deemed export rule was originally fashioned only in 1994 out of whole regulatory cloth and is not supported by legislative language, a fact recognized in the Congressional debates over reauthorization of the EAA.[14] The rule did not exist during the Cold War, and no agency has shown that the nation is safer as a result of it. Nevertheless, after several years of having to deal with the current deemed export licensing system, many companies that obtain such licenses are familiar with the regime, and have implemented at some cost internal control plans in order to monitor compliance with the terms and conditions of these licenses and to restrict foreign nationals from access to equipment and technologies not authorized under license or License Exception. The proposed revisions contained in the Notice do not address the OIG's stated goals of increased compliance with existing regulations, increased clarity of policy, and increased educational outreach.

The OIG report and the regulatory initiative described in the Notice lack any clear indication of potential diversion that would warrant changing the criteria for nationality to the country of birth criterion, a criterion not shared by any of our multilateral export control allies in the Wassenaar Arrangement. Likewise, none of our Wassenaar allies have a technology export mechanism comparable to the U.S. deemed export regime. It is common knowledge that it would be impossible for the United States to obtain agreement among the Wassenaar allies to adopt such a regime. Hence, the United States stands along among the Wassenaar nations in erecting this form of control and will likely remain so. As a result, attempts to promulgate and enforce such rules outside the United States may not generate the support of key U.S. allies in the struggle against terrorism and proliferation and could undercut such support.[15]

In addition to being a unilateral control that is difficult or impossible to enforce abroad, the country of birth proposal lacks an empirical basis for identifying legitimate threats to technology acquisition based on country of birth, and fails to state the basis for addressing any such threat under the aegis of export controls.

BIS licensing experience under the present deemed export regime may be illustrative in this connection. In F/Y 2004, BIS reported that it reviewed 995 deemed export license applications, representing 6% of all licenses submitted to BIS, with 70% of such licenses

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[13] *Id.*, at p.6.

[14] *See*, CRS Report, *supra*, which notes on page 15:

"Deemed Exports are not expressly mentioned in the 1979 EAA. House versions of the EAA in the 107th Congress sought to explicitly define deemed export as exports falling under the jurisdiction of the act."

[15] *See* Report and Recommendation of the ABA Section on International Law regarding export controls. http://www.abanet.org/intlaw/regulation/export_rec.html. (Enforcing a requirement to obtain an export license to transfer technology within another country to a person located there when doing so does not affect the host country laws is a major offense to the sovereignty of the host country.).

being for Chinese or Russian nationals.[16] Only 8% of the deemed export applications were returned without action for additional information or were rejected (the reasons for rejection are not disclosed). The rejection rate now hovers at 1%.

Based on the foregoing figures, it appears that only a small fraction of license applications represent a risk. Moreover, it also appears that only a fraction of the entities that are subject to the current deemed export regime (based upon the technology they export and the individuals to whom they export it) currently understand the licensing requirement and submit deemed export license applications to BIS. This would appear to underscore the need (identified by the OIG but not addressed in the Notice) for enhanced education of the regulated community about the existing deemed export rule.

As there are no current data publicly available on whether any individuals having received deemed exports as authorized by license under the current regime have been found to have illicitly transferred technology in violation of the license conditions, the high license approval rate under the current regulations may indicate that the present regime is adequate to address the current problem, and that a more effective solution to illicit technology acquisition lies elsewhere.

Most important, the deemed export rule as it exists now is constitutionally suspect as an impermissible prior restraint on speech that violates the First Amendment to the Constitution. The proposal does not address this important point. First, the rule imposes broader curbs on speech than necessary to further the government's national security objectives. Some evidence of this is found in the pre-1994 rule, which was far narrower in scope but was not claimed to be too narrow to serve its purpose. Second, the procedures under the rule do not satisfy the prior restraint criteria: The restraint is not brief, judicial review is not expeditious (and indeed may be unavailable), and the burden of justifying the restraint is not placed upon the government entity imposing the restraint. The assertion of national security and foreign policy bases for restricting speech from one person in the United States to another have not been sufficient by themselves to overcome these constitutional restrictions. (New York Times Co. v. U.S., 403 U.S. 713 (1971). As recognized by the Ninth Circuit in Bernstein v. United States, the EAR's export licensing system "allow[s] the government to restrain speech indefinitely with no clear criteria for review." Bernstein v. United States, 176 F.3d 1132, 1145 (1999).

The deemed export rule is a poor tool to combat espionage, but it is not the only tool available to the BIS. The stated concern of the OIG in its report, and in its previous reports on deemed exports, has been that the deemed export rule needs to be somehow strengthened to prevent alleged transfers of sensitive U.S. technology abroad. Trying to use the deemed export licensing process to prevent this sort of industrial or economic espionage is inappropriate, since it is extremely unlikely that unauthorized transfers will be prevented through the licensing process. This is primarily because a person's country of origin and employment history are poor predictors of their predilection to steal technology. The motive to steal and export dual-use trade and technology secrets can be

[16] BIS Annual Report 2004, p. 8.

predominantly financial, and U.S. citizens can be similarly motivated to steal sensitive U.S. technology and export it.

The EAR already contain better enforcement tools that are agnostic as to the nationality of the offender. General Prohibition 10 and EAR 764.2(e) prohibit releases of technology if the releasing party knows or has reason to know that it will be illegally exported, and similarly penalize any person – regardless of nationality, place of permanent residence, or place of birth - trying to steal and export technology abroad in violation of the EAR. Every one of the recent enforcement cases involving deemed exports could have been made by reference to violations of these provisions instead of the deemed export rule.

Similarly, prosecution of thefts of technology though the Economic Espionage Act and Trade Secrets laws present effective enforcement tools without imposing administrative burdens on companies seeking to employ foreign nationals. Given that the shortfall of qualified technical experts in software and high-tech industries is in the hundreds of thousands, the ability to effectively and efficiently hire foreign nationals to work in the high-tech sector is crucial to U.S. competitiveness.

The deemed export rule only came into being in 1994. The United States won the Cold War without a deemed export rule, and nobody has been able to demonstrate that the world is safer now because of the deemed export rule.

4. The Definition of "Use" Technology.

4.1 Proposed Change

The OIG report raises two linked issues relating to the definition of "use" technology in the EAR. The first issue concerns the use of the word "and" in the definition. Specifically in Section 772.1 of the EAR, the term "use" currently is defined as "Operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing." The OIG expressed concern about the presence of the word "and" in the definition being interpreted to mean that all of the activities enumerated in the definition must be present in order to constitute "use."

The OIG Report suggested that BIS revise the definition of "use" in Section 772.1 to replace the word "and" with the word "or," as follows: "'Use' (All categories and General Technology Note)—Means all aspects of 'use,' such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, or refurbishing."

Separately, the OIG Report also recommends that guidance regarding the definition of "use" technology be revised to make it clear that the fundamental research exception to the deemed export rule does not apply to "use" technology for equipment used in conducting such research.

4.2 Comments

We do not foresee any problem with the proposed change from "and" to "or" in the wording of the definition of "use" technology, since the current form of the definition could reasonably be interpreted to be an illustrative list of activities constituting "use." Any interpretation that required all of the items to be fulfilled would be strained, and is not likely to be used as a basis for contending under the current rule that an activity not fulfilling all elements is not considered "use" technology. A change from "and" to "or" in this provision does not raise concerns.

By contrast, however, we have serious concerns about second issue raised related to "use" technology. Specifically, the assumption inherent in the comment in the OIG Report is that mere access to EAR-controlled equipment by foreign nationals would necessarily constitute a deemed export of "use" technology. This is incorrect.

First, access to equipment is not prohibited by the deemed export rule. There is no deemed export rule for hardware or object code software, only for source code and technology. *See* 15 C.F.R. § 734.2(b)(2). Accordingly, any use technology gained from viewing and operating without instruction a product that can be viewed by the public is in the public domain, and thus not subject to the EAR under 15 C.F.R. Part 734. Second, most other "use" technology, such as published manuals for controlled machines, tends to be in the public domain (e.g., are freely available on the internet, available in a library, or available to any interested user through other prescribed channels), and thus not subject to the EAR under Part 734.

Even if some "use" technology is not in the public domain and is otherwise "subject to the EAR," most technology categories in the EAR that are based on Wassenaar controls do not actually control "use" technology.

Even for those Export Control Classification Number (ECCN) categories where the EAR controls the "use" technology, the General Technology Note provides that technology is controlled only if it is "required" to achieve the relevant control parameter. 15 C.F.R. Part 774, Supp. No. 2. "Use" technology would rarely provide information regarding the technology of a piece of equipment required to achieve specific performance parameters – this is generally more typical of development and production technology.

Even to the extent that "use" technology is not in the public domain, and is controlled by an ECCN that would require a license to the home country of a foreign national, BIS policy since 1994 has been that License Exception TSU would authorize the export of the minimum necessary operations technology for the product.[17] Again, there is no license

[17] *See* Christensen, *Technology and Software Controls under the Export Administration Regulations under the Export Administration Regulations*, Practicing Law Institute, Coping with U.S. Export Controls 1999, 433, 454 (1999) citing six prior versions of the same article, each of which sat that "[o]ther License exceptions may also be used [for deemed exports] including the four different authorities of License Exception TSU." Mr. Christensen wrote the original versions of these articles when he was Director of the Regulatory Policy Division of BIS. *See also* Howe, *Exporting Technology and Software, Particularly*

requirement to provide a foreign national access to EAR-controlled equipment in the United States (i.e., no deemed export of hardware). Thus, basic operations and maintenance technology would be for "commodities or software that are lawfully exported or reexported under a license, a License Exception, or NRL [No License Required]." 15 C.F.R. § 740.13 (a). While it might be argued that TSU should not apply because there is no export or reexport upon which the TSU License Exception can rely, such an interpretation would make little sense. The logic and policy behind this TSU provision (which existed long before the deemed export rule) is that if the item can be accessed, the minimum necessary technology to operate the item should be accessible. That applies in the United States as well as outside the United States. To follow a more restrictive reading of this regulation would mean that, for example, if a license exception authorized export of the item to India, then related operations technology could accompany it and be received by Indian nationals there, while the same technology could not be given to an Indian national employed to operate the same machine in the United States. That type of logic would make the artificial deemed export rule a farce.

Moreover, in our experience, most companies have built compliance programs around the BIS long-standing policy that TSU would apply to deemed exports of basic operations technology, so have not attempted to classify technology related to basic operations and maintenance of equipment that employees use but do not design or develop. To do otherwise would be to create an administrative nightmare of work, that we believe in the end would still control virtually no technology.

As a result of the foregoing, it appears that the portion of the OIG Report focused on "use" technology is concerned with a level of technology rarely if ever controlled or worthy of attempting to control. In these circumstances, we respectfully recommend that any amended guidance regarding "use" technology clearly indicate that the deemed export rule only applies to such "use" technology that is both (a) subject to ECCN controls, and (b) required for the equipment to achieve controlled performance parameters. We also recommend that BIS make clear that License Exception TSU applies to the basic operation and maintenance technology even in those rare instances where "use" technology is controlled. We further recommend that any such amended guidance should not state or imply that such "use" technology is generally not subject to the "fundamental research" exemption.

5. Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

5.1 Proposed Change

Encryption, Practicing Law Institute, Coping with U.S. Export Controls 2004, 249, 277 (2004) (describing applicability of TSU; author is a longstanding member of Regulations and Procedures Technical Advisory Committee to the Secretary of Commerce, including its Deemed Export Working Group, and Vice Chair of the ABA Committee on Export Controls and Economic Sanctions).

The OIG report expresses concern that current BIS deemed export license requirements are based on a foreign national's most recent citizenship or permanent residency. According to the OIG, this policy allows foreign nationals originally from countries of concern to obtain access to controlled dual-use technology without scrutiny if they maintain current citizenship or permanent resident status in a country to which the export of the technology would not require a license.

The OIG recommends that BIS amend its policy to require a deemed export license applications for foreign nationals who have access to dual-use controlled technology if they were born in a country where the technology export in question would require an export license, regardless of their most recent citizenship or permanent residency.

5.2 Comments

5.2.1. The OIG recommendation is not adequately supported by the OIG's own analysis.

In reviewing the section of the OIG Report recommending a "country of birth" approach to deemed exports, we are not persuaded that the OIG recommendation is related to the analysis preceding it. This disjunction between analysis and recommendation may result in part from a lack of rigor in the application of terminology. For example, the header in the Report uses the term "nationalities." Then in the first paragraph, the Report highlights the situation of individuals with "dual citizenship" and uses the terms "citizen," "permanent residents," "country of origin," and "a person born in." The OIG's use of these terms is unclear and inconsistent, and the Report does not anywhere define what the OIG means by the term "country of origin." Similarly, in the second paragraph the Report discusses "foreign nationals who originate" from countries of concern." However, it is not clear what the OIG means by the term "originate." Finally, the Report favorably cites the State Department's policy to consider "all current nationalities," and "dual citizenship" in addressing technical data exports.

While many of these terms have distinct legal meanings, it does not appear that the OIG was sensitive to their differences. For example, under the law of many countries, there is a distinction between nationals and citizens. In the United States, while expressions of "citizenship" and "nationality" are often used interchangeably, the term "citizen" is, as a rule, employed to designate persons endowed with full political and personal rights within the United States, while some persons – such as subjects of territories and possessions which are not among the states forming the Union – are described as "nationals." "Nationals" owe allegiance to the United States, but do not possess full rights of citizenship in the United States.[18] From the statements made in the Report, it appears that the OIG intends for the BIS to adopt a policy in line with that of the Department of State, which is described as taking into account current dual citizenship status; however, the final OIG recommendation, which is based on "country of birth," bears no relation to the Department of State, which is based on citizenship.

[18] 8 U.S.C. 1101(a)(22)

5.2.2. The proposal would undermine the role of nationality and nationality decisions in international law.

There are potential legal impediments and foreign policy repercussions to implementing the recommendations in the OIG Report. The nationality of an individual is his/her quality of being a subject of a certain state, and is a cornerstone of international law. Nationality has its origins in the notion of allegiance owed by the subject to his king, and traces of that underlying notion remain.[19] Nationality is the basis for many fundamental principles of international law, including the right of a State to exercise diplomatic protection, or espousal, on behalf of its nationals and the right of a national to turn to his/her State for protection of his/her rights and property; and the obligation of a State to prevent and punish acts or omissions that violate the customary law of war and neutrality.[20] While decisions regarding nationality are generally considered to be within the domestic jurisdiction of a State to determine who is, and who is not, its national[21], States are required to adhere to standards of international law in making such determinations.[22] As an example, it is not permissible for a state which has deprived a person of his/her nationality to reimpose its nationality upon that person against that person's will, especially if he/she resides abroad.[23]

Under international law, there is a duty to recognize foreign nationality determinations as long as they comport with these international standards.[24] Moreover, under international law there is a presumption of the validity of naturalization status.[25]

Because nationality and citizenship are so fundamental to international discourse, they form the basis of many treaties and conventions. To abandon these principles in favor of a rule based on "country of birth" would confound the paradigm of these agreements. For example, the Memorandum of Understanding (MOU) between the U.S. Joint Forces Command the Department of National Defense of Canada regarding liaison officers, which entered into force on January 31, 2003, outlines a framework for the exchange of military officers between the United States and Canada. This agreement contemplates the liaison officers having access to "classified" and "controlled unclassified information." "Controlled unclassified information" includes information that is exempt

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[19] Jennings and Watts, Oppenheim's International Law, Vol. 1, 9th Ed (1996), pp. 851-852.

[20] Brownlie, Principles of Public International Law, 5th Ed. (1998) pp. 385-6.

[21] Jennings and Watts, at p. 852.

[22] *Id.* at p. 389.

[23] Jennings and Watts, at p. 83, f/n 8.

[24] The Convention Concerning Certain Questions Relating to the Conflict of Nationality Laws, League of Nations Treaty Series, vol. 179, p. 89, in force 1 July 1937; the European Convention on Nationality, European Treaty Series No. 166, Council of Europe (done at Strasbourg, Nov.6,1997).

[25] Brownlie at p. 403, citing the *Nottebohm Case*, ICJ Reports (1955). (In that case, The International Court of Justice refused to recognize the nationality state's right of diplomatic intervention when the bond between the individual and the state of nationality was too flimsy.)

from public disclosure or subject to export controls. Under the framework of this MOU, the liaison officer is to be a national of the sending country. The sending country is to give security assurances to the receiving country that its national will comply with all reasonable security measures with respect to any information to which he or she has access. Also under the MOU, information given to a liaison officer is to be considered given to the government of that liaison officer, not to the government of his or her "country of birth." Identical or similar language exists in a number of other technical and military cooperation agreements to which the United States is a party[26].

The enactment of a deemed export rule based on country of birth would prevent the United States from being able to fulfill its obligations under the framework of these agreements. In the U.S.-Canada MOU example, in circumstances where the Canadian representative is a national of Canada but was born in a different country, the U.S. military would be prohibited under the proposed rule from providing access to controlled, unclassified information under the agreement, despite the specific provision that such access must be granted in order to fulfill the regime of the agreement. The same result would be compelled under other technical and military cooperation agreements to which the United States is a party. In our view, these implications have not been adequately addressed, and may militate against the adoption of a deemed export regime based on country of birth.

5.2.3 A survey of worldwide nationality laws indicates that country of citizenship or permanent residence is a more reliable indicator of ties to most countries than country of birth

Predicating the deemed export rule on a foreign national's last acquired country of citizenship or permanent residence (which is the standard under the current regime) is a far more reliable and consistent indicator of one's ties and allegiance to a country that the often transitory circumstances of one's birth.

We have reviewed the nationality laws of 184 countries worldwide. Of those only 43 generally confer citizenship on the basis of either the place of birth ("*jus solis*") or by descent through the nationality of one or more parent ("*jus sanguinis*"). Included in those 43 are, most notably, the United States, Cuba, France, Mexico, Brazil, and Canada.

The remaining 141 countries surveyed confer citizenship at birth, with minor exceptions, exclusively by *jus sanguinis* (i.e., do not confer citizenship merely based on place of birth). They include Iran, North Korea, Libya, Sudan, Russia, Vietnam, and the People's

[26] Separately, there may be issues of U.S. treaty obligations that should be addressed in connection with any change in U.S. law that may affect principles of national treatment and most-favored-nation treatment. Specifically, any treaty obligation that imposes national treatment with respect to engaging in commercial, industrial, financial and other business activities within the territories of the other party may be implicated by changes in U.S. policy regarding recognition of the nationality determinations of other countries as a basis for being permitted to conduct business in the United States. For this reason, we recommend that any consensus-building exercise with respect to the proposed rule should seek input from the United States Trade Representative.

Republic of China, as well as Afghanistan, Austria, Belgium, Germany, Israel, Italy, Japan, the Netherlands, Pakistan, Spain, Taiwan, and the United Kingdom.

As an example, a child born in Iran would not be a citizen of Iran at birth unless one of the parents was born in Iran or the father was Iranian. However, under the OIG recommendation, a child born "in transit" through Iran to German parents, and thus not entitled to Iranian citizenship at birth under Iranian law, would nonetheless be considered "Iranian" for deemed export purposes. The same would hold true for the other 140 countries that apply the *jus sanguinis* rule exclusively.

Even under the International Traffic in Arms Regulations (ITAR), birth in Iran, while a factor in the licensing determination, would not be conclusive in considering an application for a license for export of technical data. In the above example, the child, having no claim to Iranian citizenship, would be considered "German" rather than "Iranian" for ITAR licensing purposes.

5.2.4 The process for acquiring permanent resident status and naturalization in third countries is generally comparable to U.S. standards, and in some cases is even more rigorous

The OIG's apparent concern that individuals could obtain a new "home country" through manipulation of lenient residency and naturalization processes of unsuspecting third countries appears unfounded, based on our review. While the rules for acquisition of permanent residency and naturalization in third countries vary, many countries have rigorous residence requirement and security reviews for both permanent residency and citizenship through naturalization.

A review of applicable permanent residency and naturalization requirements of Germany and Canada is particularly instructive. A significant number of Iranian citizens acquire interim German permanent residency or citizenship prior to seeking entry to the United States, while Canada is a significant destination for Chinese nationals. In both cases, the requirements and security standards for permanent residency and naturalization are comparable to U.S. standards.

Germany permanent residency, or *Niederlassungserlaubnis,* requires the applicant to have held a residence permit for at least five years. Applicants are subjected to a series of security and background checks that may take up to 6 months to complete. The requirements for naturalization are equally robust and require legal residence in Germany for eight years. With limited exception, naturalized German citizens are prohibited from holding dual citizenship, and must relinquish their previous citizenship as a condition of naturalization.

Permanent residence, or landed immigrant status, in Canada is based on categories for skilled workers, business immigrants (investors), or those with close family ties. These are similar to categories under the U.S. system, although the specific requirements and processes may differ. Naturalization under Canadian law requires residence in Canada

for at least three of the four years prior to application. Persons seeking permanent resident and naturalization under Canadian law are subject to extensive background screening for criminal activity as well as for potential ties to terrorism, and may be interviewed multiple times in order to satisfy Canadian immigration officials.

5.2.5. Foreign data protection regulations may hinder administration of and compliance with a regime based on country of birth

Several foreign jurisdictions have adopted strict rules on the collection, processing, and maintenance of personal data, including data on national origin. Examples of such regulations include the European Union (EU) General Data Protection Directive ("Directive")[27] and the EU Directive on Privacy and Electronic Communications.[28] Entities collecting national origin data and other data may be required to obtain consent of the person whose data are collected, and the entities may be required to comply with regulations governing the accuracy, maintenance, and use of such data. Entities conducting certain activities with respect to personal data must be registered with the relevant EU and/or national governmental authority.[29]

Beyond controlling the collection and maintenance of such data, the EU Directive also requires that the transfer of personal data to a third country (e.g., to the United States) will only take place if the third country ensures and "an adequate level of protection" for the data.[30] The adequacy of such protection assessed in light of the nature of the data, the purpose and duration of the proposed processing operation or operations, the country of origin and the country of final destination, the rules of law in force in the third country, and the professional rules and security measures that are complied with in those countries.[31] The EU does not consider U.S. law to provide an "adequate level of protection" for personal data. Accordingly, in order for data to be transferred from the EU to the United States, the entity transferring the data must comply with procedures established under the "Safe Harbor" process developed and administered by the U.S. Department of Commerce.

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[27] Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the *Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of such Data* (the "General Data Protection Directive").

[28] Directive 2002/58/EC *Concerning the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector.*

[29] Many national jurisdictions have adopted regulations that are even stricter than those set forth in the EU directives. See, *e.g.*, Germany—*Federal Data Protection Act of the Federal Republic of Germany of December 20, 1990 (BGBl.I 1990 S. 2954), last amendment by law of May 23, 2001;* Spain—*The Organic Law on the Protection of Personal Data (Organic Law 15/1999 of 13 December);* United Kingdom—*The Data Protection Act of 1998 (Date of entry into force 1 March 2000, repealing the Data Protection Act 1984).*

[30] Directive, Article 25(1).

[31] Directive, Article 25(2).

If the deemed export regime were revised to consider a foreign national's country of birth, U.S. companies, universities, and other entities would be required to collect, transmit, and maintain national origin data concerning their employees, vendors, visitors, researchers, and other potential recipients of deemed exports. In cases where the persons whose data are being collected are within the jurisdiction of EU Directive or other foreign data privacy regulations, those laws may impose additional compliance burdens beyond those contemplated by BIS in the Notice.

6. Request for Clarification Through Additional Q&As

6.1 Proposed Changes

The OIG Report reviewed the effectiveness of BIS' efforts to raise the awareness and understanding of the deemed export rule[32]. The OIG recommended that BIS provide further guidance by clarifying and updating the EAR's deemed export "Question and Answers" in Supplement No. 1 to Part 734[33]. The OIG identified two examples of "Questions and Answers" that the OIG stated may be unclear or incorrect[34]

6.2 Comments

We view the "Questions and Answers" format as beneficial, and we urge BIS to consider further revisions and modification to Supplement No. 1 to 15 C.F.R. Part 734. Specifically, and germane to the substance of the OIG report, we suggest BIS publish additional "Questions and Answers" to address and clarify issues surrounding "use" technology. These might include, without limitation, the following:

Question 1: Does my company need a deemed export license to transfer controlled equipment to a foreign national in the U.S.?

Answer 1: The transfer of controlled equipment to a foreign national is not, in and of itself, a deemed export of controlled technology. However, if the visual inspection of that item transfers technology controlled by the EAR, then a deemed export license requirement may exist depending on the classification of the controlled equipment and the foreign national's home country.

Question 2: A commercial retail establishment sells controlled manufacturing equipment, but maintains a unit of that equipment at its facility, housed in a glass case, and available for viewing during normal business hours by the general public.

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[32] U.S. Department of Commerce, Office of Inspector General, Final Inspection Report No. IPE-16176, at 20 (March 2004).

[33] *Id.*, at 24.

[34] *Id.*, at 23.

My company purchased this equipment. Do we need to restrict foreign nationals from viewing the equipment?

Answer 2: If the sale of the equipment was open to all members of the public, then any technology that might be transferred during the viewing of the equipment is deemed to be publicly available under Part 734 of the EAR and, thus, not subject to the EAR.

Question 3: My company utilizes controlled equipment in the manufacturing process. The technology for the "use" of the equipment is controlled according to the General Technology Note. How does the General Technology Note impact our licensing analysis?

Answer 3: Under the General Technology note, only technology "required" for the use of an item is controlled[35]. "Required" is defined, in pertinent part, under EAR Part 772 as that "portion of 'technology' or 'software' which is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or function…"

Controlled performance levels are set forth in the ECCN definitions of the commodities for which technology is controlled. For example, if a commodity ECCN controls a widget which goes faster than X, then "required" technology would be limited to that which is responsible for the widget to achieve or exceed that speed.

On the other hand, if the controlled equipment is contained within a black box, the casual observation of the box would not convey "use" technology that is peculiar, or required, to operate the controlled equipment. [We would note that if BIS decides to change the word "and" to "or" in its definition of use technology, paragraph 2 of this answer would read, in relevant part, "peculiarly responsible for the operation, installation, maintenance, repair, overhaul or the refurbishing of controlled equipment"].

7. Conclusion

We thank BIS and the Department of Commerce for the opportunity to provide these comments, which we hope will be helpful. Should you have any questions regarding these comments, please feel free to contact me, or J. Scott Maberry, Chair of our Export Controls and Economic Sanctions Committee, at (202) 662-4693, or by e-mail at smaberry@fulbright.com.

Sincerely,

Kenneth B. Reisenfeld,
Chair

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[35] 15 C.F.R. 774, Supp. No. 2.

CC:

J. Scott Maberry
Chair, Committee on Export Controls and Economic Sanctions
American Bar Association
Section on International Law & Practice

U.S. Department of Commerce, via Federal e-Rulemaking Portal:
http://www.regulations.gov.

U.S. Department of Commerce, via e-mail: scook@bis.doc.gov (Subject: "RIN 0694-AD29")

U.S. Department of Commerce, via fax: 202-482-3355.

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June 17, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

Re: Advance Notice of Proposed Rulemaking (RIN 0694-AD29):
Clarification of Deemed Export Regulatory Requirements, Bureau of Industry and Security, Commerce, 15 C.F.R. Parts 734 and 772

Dear Mr. Lopes:

The University of Maryland appreciates this opportunity to submit comments on the Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005, Federal Register. The Bureau of Industry and Security (BIS) has requested comments on the potential impacts on universities, industry and federal laboratories of accepting recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

On behalf of the University, I have had the opportunity to discuss our perspective with BIS and others. I stand behind my remarks delivered on May 6, 2005, at the National Academy of Sciences, a copy of which is attached. The following comments elaborate on the conclusions yet further.

The University does not support the OIG recommendations concerning the deemed export rule as applied to "use" technology. They are unwise and will work against our national security and economic development.

There is also no discernable basis for the recommendations. Despite our most diligent individual efforts and repeated requests for information, the University has not been able to learn of even a single instance of a graduate student who has undermined national security through access to "use" technology. On the other hand, we have found numerous federal programs whose goal is to "expand the boundaries of human wisdom, empathy and perception . . . through

education."[1] For example, in just the past two months, the President has announced the inauguration of educational exchange programs with Saudi Arabia[2] and the Republic of Indonesia.[3] These programs, and the many others like them, share the goal of "encourag[ing] international students to take part in our educational system [and the common belief that the] relationships that are formed between individuals from different countries, as part of international education programs and exchanges[,]. . . foster goodwill that develops into vibrant, mutually beneficial partnerships among nations."[4] It makes little sense to rely on international student and scholar exchange programs as a means of creating ambassadors abroad for democratic values and then raise barriers to the ability of international students and scholars to experience those values in practice upon their arrival at U.S. universities. It makes particularly little sense when no basis in fact can be found for creating such barriers.

I. Implications of Adopting the Recommendations

A. *Adopting the OIG's Recommendations Could Negatively Impact the Global Economic and Technological Competitiveness of the United States*

Numerous reports issued by The National Academies,[5] National Science Board,[6] the American Electronics Association, [7] the Task Force on the Future of American Innovation,[8] the

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[1] From the remarks of Sen. J. William Fulbright on the occasion of the 30th Anniversary of the Fulbright Program in 1976, Fortieth Report of the J. William Fulbright Foreign Scholarship Board (2003–2004), available online at www.exchanges.state.gov/education/fulbright/ffsb/annualreport/2003/.

[2] Joint Statement of President George W. Bush and Crown Prince Abdullah bin Adbulaziz Al Saud (Apr. 25, 2005).

[3] Joint Statement Between the United States of America and the Republic of Indonesia (May 25, 2005).

[4] Bureau of Educational and Cultural Affairs, U.S. Dep't of State, quoting President Bush, at http://exchanges.state.gov/education/educationusa.

[5] *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States,* Committee on Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States, Board on Higher Education and Workforce, National Research Council (2005). http://www7.nationalacademies.org/internationalstudents/Intnl_news.html.

[6] *An Emerging and Critical Problem of the Science and Engineering Labor Force, A Companion to Science and Engineering Indicators 2004* (NSB 04-07) (January, 2004) http://www.nsf.gov/sbe/srs/nsb0407/start.htm; *Science and Engineering Indicators 2004* (NSB 04-01) (May 2004), *Science and Engineering Workforce/Realizing America's Potential* (NSB 03-69) (Nov. 2003).

[7] *Losing the Competitive Advantage? The Challenge for Science and Technology in the United States* (American Electronics Association) (March 2005). http://www.acanet.org/publications/idjj_CompetitivenessOverview0205.asp?bhcp=1

Council of Graduate Schools,[9] and the President's Council of Advisors on Science and Technology[10] have documented the critical importance of foreign nationals in developing and sustaining this country's national security and scientific and economic superiority. They have also demonstrated that this superiority is fragile. These reports highlight the following concerns: (1) U.S. technological superiority cannot be taken for granted; (2) foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields; (3) foreign national students and post-docs are critical contributors to U.S. innovation, and (4) the number of foreign students seeking post-undergraduate S&E degrees outside the U.S. is increasing while the number of U.S. students seeking such degrees is decreasing.

University of Maryland figures support some of these conclusions. Foreign nationals are a vital part of this University's academic and innovation community. Twenty-six percent (26%) or 2,585 of our graduate students are foreign nationals, the 12th largest enrollment of foreign graduate students nationwide. The percentages are highest in the School of Engineering where 52% of the graduate students are foreign nationals and over 50% of the faculty plus the dean are foreign born and in the College of Computer, Mathematical and Physical Sciences where 45% of the graduate students plus the dean are foreign nationals. Sixty-nine percent (69%) of our foreign national graduate students are from Asia, mainly China (36%), India (24%), Taiwan (13%), and Korea (9%). The number of applications from international students to U.S. institutions of higher education has decreased nationally and at the University of Maryland. Applications from foreign nationals decreased nationally 28% for fall 2004 and 37% at the University of Maryland. The decrease for fall 2005 is an additional 5% nationally and at the University.

Our Office of Technology Commercialization collects citizenship information during patent filings from faculty and students who submit invention disclosures. Of the 801 faculty and student inventors between 2000 and 2004, 49% were not U.S. citizens. This percentage increased steadily during that period from 33% in 2000 to 60% in 2004. Fifty percent (50%) of the student inventors between 2000 and 2004 were not U.S. citizens. Our Office of Technology Commercialization also nominates inventions for *Invention of the Year* awards from fields in life, information and physical sciences and engineering. Again, the contributions of non-U.S. citizens

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8 *The Knowledge Economy: Is the United States Losing Its Competitive Edge?* (Task Force on the Future on American Innovation) (Feb. 16, 2005). http://www.futureofinnovation.org/PDF/Benchmarks.pdf

9 *Findings From 2005 CGS International Graduate Admissions Survey I.* http://www.cgsnet.org/pdf/CGS2005IntlAppRep.pdf. *Survey of Foreign Student and Scholar Enrollment and Visa Trends for Fall 2004* (Council of Graduate Schools) (November 2004). *Survey of Foreign Student and Scholar Enrollment and Visa Trends for Fall 2004.*

10 *Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities (June 2004).* http://www.ostp.gov/pcast/FINALPCASTSECAPABILITIESPACKAGE.pdf

are significant. Of the 50 inventions selected as finalists for that award between 2000 and 2004, 70% had at least one non-U.S. inventor. This percentage increased from a low of 56% in 2000 to a high of 89% in 2004.

In five years, 90% of all scientists and engineers in the world will be in Asia. Right now, the multinational corporation Intel does 75% of its business overseas. It has 5,000 employees in China and also announced this month it is investing $200 million in *Chinese* technology companies to stimulate Chinese innovation in hardware, software and services and doubling its efforts to train one million Chinese teachers and 45 million Chinese students on *using* technology to enhance teaching and learning.[11] The same international growth is true for large numbers of other companies such as GE, Cisco, *et al.* We are not the only game in town anymore. It is vital to U.S. innovation, global technical and economic security, and national security to identify ways to encourage the best and brightest in S&E to study in the U.S., work in the U.S., and stay in the U.S. We need to use extreme caution when imposing unnecessary barriers to our competitive position. And, let us be clear: there has been no demonstrated basis for the proposed barriers.

B. Adopting the Recommendations Could Very Likely Impede Basic Research at Universities

BIS officials and most other persons with a passing familiarity with the EAR know those regulations are complicated, confusing, and hard to apply to specific facts. They cannot be explained let alone implemented. If BIS were to adopt the OIG recommendations regarding "use" technology in universities, universities would have to undertake the same consuming, complicated analyses industry now performs to assure compliance. The key distinction between industry and universities, however, is that industry is generally affected by only a few commodity categories. This is not true for universities. Universities use technologies that involve all ten CCL categories and many ECCNs. There is little chance the deemed export analysis that a university would conduct in one laboratory would carry over to other laboratories. The list would undoubtedly grow in time for the risk of deleting ECCNs would be too great. The growth of the CCL over time is the appropriate predictor of this outcome.

In the light of this reality, faculty and staff at universities and indeed university counsels wishing to be diligent in their efforts to comply with the deemed export rule would be forced to undertake the following reviews:

- Identify by ECCN every piece of EAR-controlled technology -- equipment and software -- in every lab; *and*
- For each piece of controlled technology identified, determine what "use" technology is controlled; *and*
- Identify all foreign national students, post-docs, visitors, interns, part-time scholars, and employees and their home countries (and possibly their country of birth) who have access to or use *each* piece of controlled technology; *and*

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11 "Intel establishes technology fund in China," www.chinaview.cn (June 13, 2005).

- With respect to foreign nationals for whom a license would be required as a condition of receiving controlled technology:
  - Determine if the information they would access qualifies as "Technology" – "specific information necessary for the development, production, or 'use'" of the controlled ECCN; *and*
  - For each foreign national who would access "Use" technology in CCL Categories 4, 5, 6 and/or 9, determine if that Technology is "Required;" *i.e.*, "peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions;" *and*
  - Determine if each controlled Technology:
    - Is "Publicly available"; *or*
    - Is subject to the TSU license exception; i.e., the "minimum necessary for the installation, operation, maintenance (checking), and repair of those products that are eligible for License Exceptions or that are exported under a license." "N.B. The 'minimum necessary' excludes 'development' or 'production' technology and permits 'use' technology only to the extent 'required' to ensure safe and efficient use of the product. Individual ECCNs may further restrict export of 'minimum necessary' information;" *or*
    - Arose during the course of or resulted from the performance of fundamental research; *or*
    - Qualifies as "educational information."

Diligent universities would have to conduct these assessments continuously to take into account changes in foreign national student enrollment, the hiring and assignments of foreign national post-docs and employees, and the research projects in which foreign nationals participate, procurements of new equipment, and the expected amendments to the CCL. The need to conduct these complicated assessments would slow down, if not altogether halt in some cases, research on campuses. Conducting the assessments would also have a bone chilling effect on exchanges of *unclassified scientific* information between students and faculty in laboratories and courses and could possibly create divisive relationships among foreign nationals and U.S. students and faculty.

It is virtually impossible to offer any definitive figures on the personnel and financial impacts to universities to implement the reviews and processes described above. We know too little about what a final rule would say; about what, if any, additional guidance BIS would provide, and whether BIS would implement the recommendations over time or make them effective immediately. The interpretation of the rule and the Control List would also change with time once the principle was established. Nonetheless, the University has attempted to provide a *very* rough estimate of *initial* costs to identify the ECCN for capitalized equipment ($5,000 or greater) and determine what "use" technology is controlled for each controlled piece of equipment, assuming that BIS *would make clear* that information contained in user and

equipment manuals provided with equipment and/or available on the Internet would qualify as information in the public domain.

The University of Maryland has over 1,000 research laboratories and related facilities, each of which would be subject to a deemed export audit. As of April 2005, the University inventory listed 22,487 pieces of capitalized equipment (defined as equipment valued at $5,000 or more) and sensitive equipment (defined as computers and audio-visual equipment valued at $1,000 or more and firearms regardless of value). The inventory number does not include common scientific equipment such as GPS systems, radiometers and oscilloscopes, or software that do not qualify as either capitalized or sensitive equipment. Using a commercial rate of $150/hour to determine the ECCN for each piece of equipment, we estimate it would cost roughly $3.3 million to make an initial commodity classification for existing equipment. That decision would be only one of many decisions the University would have to make. Our estimate also does not reflect the costs to develop and maintain a compliance infrastructure.

An export compliance infrastructure would require the creation of an equipment database of each piece of controlled equipment identified by ECCN, location, and CCL controls. Since new equipment is bought year round, we would have to develop, implement and maintain a centralized mechanism for identifying purchases of all new equipment, not just capitalized equipment, and conducting a CCL classification. In addition, the University would have to develop a mechanism to identify each foreign national working in each laboratory on each piece of equipment by current nationality and country of birth, preferably months in advance to allow for applying for licenses should that be necessary. It is possible the University also might have to implement considerably more complex lab security measures than currently exist.

Establishing and maintaining the infrastructure and protocols to support such assessments would obviously require significant time and expense. Richard T. Cuppitt, Ph.D., the Associate Director of the Center for International Trade and Security at the University of Georgia, has estimated that a "good [export] compliance program may cost in the neighborhood of $400,000 - $500,000 a year," an estimate that does *not* take into account deemed export analyses.[12]

The true cost and the most damaging loss, however, would be to the disruption of the research programs and the reduced involvement and contributions of foreign nationals to the security and economic development of the United States. This is the principal problem.

I am aware BIS officials have speculated that were BIS to adopt the OIG recommendations, universities would find, after completing the necessary reviews, a deemed export license was not required in most situations. I tend to think this is wishful thinking on BIS' part. Adopting the OIG's recommendations would not make the regulations any less

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12 Testimony before the Senate Committee on Banking, Housing, and Urban Affairs, *Establishing an Effective, Modern Framework for Export Controls by Means of the Export Administration Act*, (S.149) (Feb. 7, 2001) at 18.

ambiguous or easier for industry or universities to interpret and apply, to which industry can surely attest. Universities would struggle, as industry does now, to understand and apply to countless factual situations such ambiguous EAR terms as "specially designed," "minimum necessary" and "required." In the face of these ambiguities and strict liability for violations, many universities could decide the risks associated with making self-assessments are too great and, to be on the safe-side, would submit requests to BIS for interpretations, guidance and deemed export licenses. Time will tell. What should be expected as an outcome is that neither our universities nor their students will accept the burden of these license reviews on any substantial scale. The result will be a substantial decline in foreign student and scholar participation in the academy. This is the true cost to our country.

C. *Adopting the Recommendations Would Constitute a Major, and for All Intents and Purposes, Permanent Change in BIS Interpretation and Application of the Deemed Export Rule in Universities*

At first glance, changing "or" to "and/or" in the definition of "use" and distinguishing between using controlled equipment and receiving information on how to use that equipment would appear to be a harmless amendment with little or no impact on U.S. universities. The intent could be nothing further from that outcome. The OIG recommendations to modify the application of the deemed export rule to the release of "use" technology in the context of teaching and conducting basic research activities would *not* simply codify long-standing internal BIS interpretation of the deemed export rule, as some have claimed. On the contrary, adopting the recommendations would constitute a significant and essentially permanent shift in how BIS has interpreted and applied the deemed export rule in the university context for almost 20 years.

Since at least 1989, BIS policy has excluded from the license requirement the release of technical data about designing and manufacturing controlled equipment – information that goes beyond the release of operational or maintenance data -- to foreign national students and researchers as "educational information" when the information is released in catalog courses and associated teaching labs at universities. [54 Fed. Reg. 40643 (Oct. 3, 1989)]. BIS guidance on this point remains unchanged in the current version of EAR Part 734, Supplement 1, Question C (1):

> *Question C (1)*: I teach a university graduate course on design and manufacture of very high-speed integrated circuitry. Many of the students are foreigners. Do I need a license to teach this course?
>
> *Answer*: No. Release of information by instruction in catalog courses and *associated teaching laboratories* of academic institutions is not subject to the EAR (734.9 of this part [The definition of "Educational Information."]) (emphasis added).

Prior to the 1994 amendments to the EAR, the deemed export rule applied only to disclosures of technical data to foreign nationals in the United States with "knowledge or intent that [the data] will be shipped from the United States to a foreign country without a general or

validated license." [Former EAR § 779.1(b)(1)(c)] Moreover, general license GTDR, which existed as early as 1982, "permit[ted] the transfer of information concerning almost all nonmilitary industrial process technology throughout the free world." [54 Fed. Reg. 40643 (Oct. 3, 1989)] This position was fully consistent with BIS' long standing interpretation that the fundamental research exclusion exempts University faculty and researchers from obtaining a license as a condition of allowing foreign nationals to work in university laboratories to perform fundamental research and, by implication, learning how to use equipment in those laboratories to conduct that research. [EAR Part 734, Supplement 1, Question D (1)][13]

Adopting the OIG recommendations would constitute a significant departure from years of unchallenged interpretations of the EAR.

III. Alternatives

A. Grant Deemed Export License(s) for all Foreign National Students and Researchers Cleared through the VISA/VISA-MANTIS Program

BIS should grant all foreign students and visiting scholars deemed export licenses to access controlled "use" technology at the time the State Department clears them to enter the U.S. to study, conduct research or work in a particular field at universities or in industry. In Homeland Security Presidential Directive – 2, the President stated: "The United States benefits greatly from international students who study in our country. The United States Government shall continue to foster and support international students." As proof of the importance of those benefits, the President directed the Secretary of State, the Attorney General, the Secretary of Education, the Director of the Office of Science and Technology Policy, the Secretary of Defense, the Secretary of Energy, and other departments to implement "measures to end the abuse of student visas and prohibit certain international students from receiving education and training in sensitive areas, including areas of study with direct application to the development and use of weapons of mass destruction [and also to] prohibit the education and training of foreign nationals who would use such training to harm the United States or its Allies."

These departments have developed programs that satisfy HSPD-2. Nonimmigrant visa applicants must now undergo a personal interview, and security and background clearances as part of the visa application process. The Visa Condor program imposes additional security checks on foreign nationals from specific countries who wish to enter the U.S. The Visa Mantis program implements additional interagency security reviews of persons "who may pose a threat to our national security by illegally transferring sensitive technology." These reviews primarily affect foreign national students and visiting scholars.[14] Once foreign students and scholars are

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[13] Question/Answer D (1) has appeared virtually unchanged in the EAR since 1989. 54 Fed. Reg. 40643 (Oct. 3, 1989).

[14] *Homeland Security: Performance of Foreign Student and Exchange Visitor Information System Continues to Improve, but Issues Remain* at 20, GAO-05-440T (March 17, 2005).

admitted to the U.S., the SEVIS program protects against visa fraud. SEVIS imposes specific strict entry and exit controls over foreign national students and post-docs and requires universities to monitor and report changes in the status of such foreign nationals. These programs are proving to be quite effective in implementing national policy to *prevent* persons who support or engage in terrorist activity or are otherwise found to be potentially dangerous from entering the United States, track visiting scholars and students who are granted entry, and prosecute or deport those who fail to enroll in universities, change their course of study after entry or attempt to overstay their visa. The pre-entry security checks and post-entry monitoring are effective tools for protecting the United States. Nothing of substance would be gained from requiring universities and industry to undertake complicated deemed export reviews of "use" technology except undermining the very benefits the United States has identified of having international students and scholars in the United States.

B. Impose a Moratorium on Acting on the OIG Recommendations Pending Completion of a Thorough, Public Review on the Deemed Export Rule

The University of Maryland has previously asked BIS to impose a moratorium on all changes to the EAR (other than amendments updating and narrowing the CCL) until it has conducted and submitted for notice and comment a thorough review of the deemed export rule. The OIG determined that BIS had not previously conducted such a review.

BIS should involve representatives from other federal agencies, the Office of Technology and Security Policy, The National Academies, the Association of American Universities and other associations that represent scientists, universities and industry in the study. It would be imperative for BIS to involve scientists with intimate knowledge of CCL technologies. BIS should look to the Colson Panel as a model. At a minimum, the study should:

- Review the CCL and greatly narrow the list/scope of controlled technologies:
  - Remove technologies whose manuals are available in the public domain, in libraries, over the Internet, or from the manufacturer.
  - Examine each technology in a risk/benefit analysis and retain only those technologies that are most critical to national security
  - Remove all equipment that is available for purchase on the open market overseas
- Conduct a detailed cost-benefit analysis of the effect of the deemed export rule on U.S. trade, U.S. global economic and technology competitiveness; national security, and S&E education and research in the U.S.;
- Review the deemed export laws of other countries;
- Identify the most critical sources of "leaks" of U.S. technology; e.g, degree-granting programs at U.S. universities, industry transfers to foreign subsidiaries, government sponsored espionage, etc.;
- Weigh the relative contributions of changes in the immigration and entry regulations to those of the deemed export rule with respect to national security;

- Assess the short-term and long-term impact of the deemed export rule on the quality of U.S. higher education, and
- Decide, in the light of the evidence gathered, what recommendations are likely to resolve particular issues and significantly improve national security and national competiveness.

The completed study should be published in the Federal Register for notice and comment. If BIS determines that one or more of the OIG recommendations are efficacious *after* completing and receiving comments on the study, BIS should issue another ANPR for comment. In addition, any expansions that BIS ultimately might make to the deemed export rule should be implemented over time, as occurred with the implementation of the recently adopted laws and regulations governing the use of and access to select agents.

IV. Conclusion

These comments may be lengthy, but the actions of BIS in response to the OIG Report will have a far-reaching and essentially permanent impact on all U.S. universities and our nation.

We appreciate the opportunity to comment on this important matter and stand willing to assist BIS in its efforts to understand the recommendations' potential impacts on U.S. universities.

Respectfully submitted,

C. D. Mote, Jr.
President and Glenn L. Martin Institute
Professor of Engineering
University of Maryland

Enclosure
cc: Association of American Universities
Council on Governmental Relations
University System of Maryland
Dr. John H. Marburger, III

EXECUTIVE VICE PRESIDENT FOR RESEARCH
UNIVERSITY OF KENTUCKY
311 MAIN BUILDING
LEXINGTON, KY 40506-0032

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Matthew Borman	Wendy Baldwin
COMPANY:	DATE:
U.S. Dept of Commerce	June 17, 2005
FAX NUMBER:	TOTAL NO. OF PAGES INCLUDING COVER:
202-482-3911	3
PHONE NUMBER:	SENDER'S FAX NUMBER:
202-482-5711	859-323-2800
RE:	SENDER'S PHONE NUMBER:
RIN: 0694-AD29	859-257-5294

☐ URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Please see attached 2 pages

UK

UNIVERSITY OF KENTUCKY

Office of the Executive Vice President for Research
311 Main Building
Lexington, KY 40506-0032
(859) 257-5294
Fax: (859) 323-2800
www.research.uky.edu

June 17, 2005

Mr. Matthew Borman
Deputy Assistant Secretary for Export Administration
U.S. Department of Commerce
HCHB Room 3886-C
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Borman:

I write on behalf of the University of Kentucky in response to the request for comments on the Advance Notice of Proposed Rulemaking – RIN 0694-AD29. The proposed rules, particularly the changes to deemed exports, are not likely to be effective safeguards and they will pose an undue burden on universities, including the University of Kentucky. We advocate that these proposed rules not be enacted.

UK is a research intensive university with a broad array of programs in medicine, engineering, agriculture and many other fields. With over $250 million in research activity each year we are also involved in research on topics associated with homeland security. We are committed to doing our part to protect national security. However, we feel that the recommendations in the "Deemed Export Controls May Not Stop The Transfer of Sensitive Technology to Foreign Nationals in the U.S" would work to the contrary and impede our ability to conduct valuable research.

In some cases there are requirements proposed for universities that, if needed, should be performed by others. For example, if there is a need to assess country of origin, not just current allegiance, that is better done by INS. This process would require new systems to gather such information and it is not clear how it could be validated. While the IG may not wish to divulge the baseline data that prompted their concern, the case made for this is speculative. The burden of making the determination is real.

As an example, let me describe the potential burden on the University of Kentucky simply with respect to ascertaining national origin. Our University has 2250 faculty members; 90% of whom are US citizens. But, our faculty includes citizens of 60 other countries. We employ almost 300 postdoctoral scholars or fellows and host another 177 fellows; only 40% are US citizens. In the most recent academic year we had 5900 graduate students; 75% were US citizens. Altogether, we would have to ascertain the nationalities of 2000 individuals. This figure does not even include the numerous undergraduates of non-US nationalities, a considerable number of whom conduct research and access sophisticated equipment and technology. Tracking current citizenship and other nationalities and nation of origin is a major effort for which we do not have procedures or staff, and for which clearly the visa process is more suitable.

We also find the need to identify any controlled components of equipment better suited for manufacturers than for end users. A manufacturer could make the determination once for the equipment and then notify anyone purchasing it. To ask the user of the equipment to make that determination is inefficient and burdensome.

Our university does track all capital equipment, which includes most equipment we expect to involve controlled technology. We define capital equipment as over $1000 for computers and over $2000 for other items. At present, our capital equipment inventory has over 48,000 items. We add approximately 6000 new items to this inventory each year. Unfortunately, classifying the equipment, itself a burdensome undertaking, is but the first step in the proposed process. Even more burdensome would be to track, for critical controlled items, all of the nationalities of potential users. Imagine tracking the equipment usage by a potential 2000 users of non-US nationality on an inventory of up to 48,000 items. The time and resources devoted to this would be time and resources that could not be spent on either research or other administrative actions that might be more productive relative to national security.

Some specific aspects of these proposed changes are especially troubling. For example, requiring controls over equipment or material that is publicly available (e.g. manuals for equipment easily purchased in the US) is hard to justify. We simply cannot ask our faculty to engage in actions that have no apparent justification and provide no real protection for national security.

The free exchange of information, as well as our ability to attract outstanding students and researchers, would be eroded by these proposed rules. There is concern that these rules would constitute a significant unfunded administrative burden that would be undertaken without evidence of their value. Also, there is concern that these changes would have the effect of undermining a great US strength – the fundamental research done at universities. Please do not take steps that would, even unintentionally, undermine the strong university research base that helps the US defend against threats to security.

Sincerely,

Wendy Baldwin
Executive Vice President for Research

UMDNJ
ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey
Department of Anesthesia

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am an Associate Professor in the Department of Anesthesia at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. I hold joint appointments in the Departments of Pharmacology and Physiology and Biophysics of this institution. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation. My research into the molecular underpinnings of the rare genetic disease of skeletal muscle termed Malignant Hyperthermia and its treatment involves the use of highly sophisticated laboratory equipment, computers and computer programs.

I wish to register my profound opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. This revision would do irreparable damage to the research enterprise in my laboratory, would cripple the already burdened research competitiveness of the United States, would be both burdensome and expensive to implement, and is simply unnecessary.

1. Much laboratory equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students who derive from foreign countries. These students form a substantial part of our research workforce, as U.S. born students are not entering into the scientific disciplines anymore. The Patriot Act has already made it difficult for us to recruit foreign graduate students and postdoctoral fellows. This rule would further depress the likelihood of successful recruiting.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.

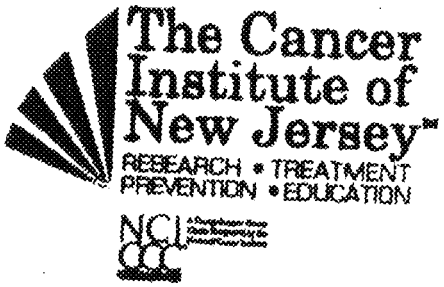
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it will further reduce, rather than increase, the competitiveness of this country in the world.

This rule would be a hindrance to scientific advancement and severely harm the competitiveness of the United States in the world marketplace. Moreover, it would be burdensome and expensive to implement. It is simply unnecessary for the protection of U.S. interests, and indeed would damage those very interests the government is trying to protect.

I urge you to drop, or substantially revise the proposed rule.

Sincerely,

Jerome Parness, M.D., Ph.D.
Associate Professor



Eric H. Rubin, M.D.
Director, Investigational Therapeutics
Professor of Medicine and Pharmacology
UMDNJ-Robert Wood Johnson Medical School

FAX COVER SHEET

TO: 202 - 482 - 3355

FROM: Louise Manzaro, Office Manager/Assistant
To Eric H. Rubin, Professor Of Medicine
and Pharmacology and Director of The Phase I
Investigational Therapeutics Department
Manzarla@umdnj.edu
Fax: 732-235-7735
Phone: 732-235-7955

DATE: 06-17-05

RE: Letter

You should have received 3 pages including this cover sheet. If you did not receive all the pages, or if you have any questions regarding this fax, please contact the sender.

Message: _____

UMDNJ
ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

The Cancer Institute of New Jersey
Bringing research to life.
NCCC

Eric H. Rubin, M.D.
Director, Investigational Therapeutics
Professor of Medicine and Pharmacology
UMDNJ-Robert Wood Johnson Medical School

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am a Professor at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. My research involves investigation of new drugs for the treatment of cancer. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

195 Little Albany Street • New Brunswick, New Jersey 08903-2681 • Phone: 732.235.7955 • Fax: 732.235.7493
E-mail: ehrubin@umdnj.edu • www.cinj.org

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Eric H. Rubin, M.D.
Professor, Medicine & Pharmacology
Director, Investigational Therapeutics
The Cancer Institute of New Jersey
UMDNJ/Robert Wood Johnson Medical School

UMDNJ
ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

Office of Research and Sponsored Programs

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am an Associate Professor of Medicine and Surgery at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. I believe that the proposed rule would do irreparable damage to the research enterprise in the University, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

C. James Scheirer, Ph.D.

675 Hoes Lane West • Piscataway, NJ 08854-8021 • Phone (732) 235-4687/5371 • Fax: (732) 235-5534 • Website: rwjms.umdnj.edu

From: Monica Roth <roth@umdnj.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/17/05 02:29PM
Subject: RIN 0694-AD29

See attached letter. Please let me know if you cannot open it.

Thank you
Monica Roth, Ph.D.
Professor
UMDNJ-RWJMS
675 Hoes Lane
Piscataway NJ 08854

UMDNJ
ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

Department of Biochemistry
Monica Roth

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am a Professor at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. Our research focuses on developing antiretroviral therapies and novel gene therapy vectors. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Monica Roth, Ph.D.
Professor

675 Hoes Lane • Piscataway, NJ 08854-5635 • Phone: (732) 235-5048 • Fax: (732) 235-4783 • Website: rwjms.umdnj.edu

From: Mengqing Xiang <xiang@cabm.rutgers.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/17/05 04:08PM
Subject: RIN 0694-AD29

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am an associate professor at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. My laboratory studies molecular mechanisms that govern normal and diseased development in the nervous system. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Mengqing Xiang

--
_*_
Mengqing Xiang, Ph.D.
Associate Professor
Center for Advanced Biotechnology and Medicine
UMDNJ-Robert Wood Johnson Medical School
679 Hoes Lane
Piscataway, NJ 08854
Tel: (732) 235-4491
Fax: (732) 235-4466
Email: xiang@cabm.rutgers.edu

From: "Nancy Walworth" <walworna@umdnj.edu>
To: <scook@bis.doc.gov>
Date: 6/17/2005 4:25:54 PM
Subject: RIN 0694-AD29

PLEASE SEE ATTACHED LETTER REGARDING RIN 0694-AD29

UMDNJ
ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

DEPARTMENT OF PHARMACOLOGY

June 17, 2005

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am an Associate Professor of Pharmacology at the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. My laboratory studies the cellular response to agents that damage DNA, including cancer chemotherapeutics and UV and ionizing radiation. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. Furthermore, it is not necessary. I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,
Nancy C. Walworth
Nancy C. Walworth, Ph.D.
Associate Professor of
Pharmacology

From: "Wrightson, Patricia" <pwrightson@nas.edu>
To: <publiccomments@bis.doc.gov>
Date: Fri, Jun 17, 2005 4:42 PM
Subject: FW: RIN 0694-AD29

I understand that S Cook is on assignment and out of the office until September.

Patricia

From: Wrightson, Patricia
Sent: Friday, June 17, 2005 4:39 PM
To: 'scook@bis.doc.gov'
Cc: Colglazier, Bill; Justusson, Judy
Subject: RIN 0694-AD29

On behalf of the Presidents of the National Academies--Bruce Alberts (National Academy of Sciences), Wm. A Wulf (National Academy of Engineering), and Harvey Fineberg (Institute of Medicine)--I have sent you a 'hard' copy of the letter that they have written to Secretary Gutierrez regarding the Inspector General's recommendations with regard to the Department of Commerce rules on deemed exports. I am attaching a PDF of that letter with this note.

Please do not hesitate to contact me if you have any questions.

Patricia S. Wrightson, Ph.D.

Senior Program Officer

Policy and Global Affairs

The National Academies

The Keck Center

500 Fifth Street NW

Washington, DC 20001

(o) 202 334 2878

(f) 202 334 2530

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Mailing address:
500 Fifth Street, NW
Washington, DC 20001
Phone: 202 334 2101
Fax: 202-334 1647

June 16, 2005

Secretary Carlos M. Gutierrez
Office of the Secretary
U.S. Department of Commerce
Room 5516
14th & Constitution Ave., NW
Washington, DC 20230

Dear Secretary Gutierrez:

We appreciate this opportunity to provide comments on the advanced notice of proposed rule-making (ANPR) on "Revisions and Clarification of Deemed Export Related Regulatory Requirements." One of the key roles of the National Academies, consistent with our 1863 Congressional Charter, is to advise the nation on important issues involving science, engineering, and medicine such as this one. The members of our three honorary academies -- the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine -- and the scientific experts who serve on the study committees of our operating arm, the National Research Council, are working at industrial, academic, and governmental institutions that are potentially affected by the proposed regulatory changes. We provide these comments in light of our background and experience with the U.S. scientific, engineering, and medical enterprise.

Our most important observation is the following: We believe the rule-changes that are being recommended by the Inspector General and the interpretations of existing regulations that are now being widely disseminated will serve to *weaken* both national security and the economic competitiveness of the United States. The impact will likely be to dramatically hinder American scientific, engineering and health care research and innovation, factors that have been so vital to our quality of life.

The clearest problem now is that universities and industry are unable to specify the expected impact of attempting to comply with these rules. We believe that the Department needs to address the following issues in the existing and proposed rules before we can provide you with a categorical response and before the Department determines which interpretations and rule-changes to the Export Administration Regulations, if any, will make the nation safer.

First, the problems that these rule changes and new interpretations are attempting to address, as well as the costs and benefits of different regulatory approaches, need to be clarified. It is not simply that the affected communities will be more accepting of the need to tighten rules if they understand why (although that will help), but complex problems require focused and tailored solutions. The measures being contemplated by the department could be too broad, too narrow

or possibly irrelevant depending on whether one defines the challenge as primarily countering terrorist activities, political adversaries, or economic competitors.

Second, the new interpretations and proposed changes could eviscerate the Fundamental Research Exemption as enunciated in NSDD-189 and reconfirmed by Secretary of State Rice and former Energy Secretary Spencer Abraham in November 2001 and May 2003, respectively. We favor a crisply defined regulatory "safe harbor" for fundamental research, so that universities can have confidence that activities within the "safe harbor" are in compliance, and so that the vital importance to national security of open fundamental research is reaffirmed as a matter of national policy. The new regulatory machinery could then be focused on university activities, if any, occurring OUTSIDE the "safe harbor." Such activities might be conducted in separate facilities, or even off campus. And if the regulatory "safe harbor" is properly defined and constructed, a number of universities might not even have any such activities.

Third, it is necessary to determine whether the perceived national security benefits are worth the cost that universities and industry will incur to implement these proposed changes. While the financial costs will be a significant burden, both sectors would likely find ways to manage them over time. Of much greater concern is that these measures will pose an irretrievable cost to our nation – especially our competitiveness and national security which has relied so heavily for the last sixty years on the fruits of technology derived from basic science and bringing the "best and brightest" people from other countries to the U.S. Losing the "best and the brightest" foreign students and researchers to other countries because they feel unwelcome here will have very serious consequences for the future of America. Eleven of the last 45 winners of the Nobel Prize in science[1] from 1999-2004 were foreign born Americans. In the same timeframe, fifteen of the last 51 recipients of the National Medal of Science, an annual award made by the U.S. President, were also immigrants to the United States.

Fourth, it is necessary to assess whether these particular measures will *in fact* staunch the flow of scientific information to potential terrorists, adversaries and/or competitors. In a world where access to information is increasingly global, those who intend to do harm to the United States may simply go elsewhere for the scientific or technological information they seek; the U.S. is far from the only advanced, research-capable country.

These four issues are manifestations of a single principle of U.S. policy concerning classified information: "Construct high fences around narrow areas." This refers to maintaining stringent security around sharply defined and narrowly circumscribed areas of *critical* importance in order to be able to maintain simultaneously the highest levels of national security and of scientific research. This principle was originally articulated in *A Review of the Department of Energy Classification: Policy and Practice* (1995)[2], and acknowledges that an attempt to protect *everything*, in fact dilutes attention, and protects *nothing*. It is our sense that the recommendations expressed by C.D. Mote, President of the University of Maryland, at the

[1] The areas of science reflected in the Nobel Prize include chemistry, medicine and physiology, and physics. Areas of science for which the National Medal of Science is awarded include biology, chemistry, engineering, math and physics.
[2] This reference can be found on the web: http://www.nap.edu/books/0309053382/html/89.html.

National Academies' May 6th workshop on the Department of Commerce Inspector General's Report on deemed export policy, could help to operationalize this principle in the area of deemed exports. We urge you to give them serious consideration as a first step:

1. Greatly narrow the scope of controlled technologies requiring deemed export licenses and ensure the list remains narrow going forward.

2. Delete all controlled technology from the list whose manuals are available in the public domain, in libraries, over the internet, or from the manufacturers.

3. Delete all equipment from the list that is available for purchase on the open market overseas from foreign or U.S. companies.

4. Clear international students and postdoctoral fellows for access to controlled equipment when their visas are issued or shortly thereafter so that their admission to a university academic program is coupled with their access to use of export controlled equipment.

5. Do not change the current system of license requirements for use of export controlled equipment in university basic research until the above four recommendations have been implemented.

To date, the Commerce Department has gained substantial goodwill within the science, engineering, and medical community through its policy of openness in discussing and seeking comments on these rules. We give considerable credit to you and other responsible officials, such as Peter Lichtenbaum of the Bureau of Industry and Security, who have openly and willingly embarked on a dialogue that will ultimately make the research community more aware of how to secure our most advanced technologies from hostile entities. At the same time, we strongly recommend the Department embark on responses to the communities' concerns before implementing regulations that may chill ongoing research of critical importance to the future of the US.

Sincerely,

Bruce Alberts
President
National Academy of Sciences

Wm. A. Wulf
President
National Academy of Engineering

Harvey V. Fineberg
President
Institute of Medicine

cc: Peter Lichtenbaum, Assistant Secretary of Commerce for Export Administration,
Department of Commerce
Bureau of Industry and Security, Regulatory Policy Division, ATTN: RIN 0694-AD29.

From: "Emanuel Dicicco-Bloom" <dicicccm@umdnj.edu>
To: <scook@bis.doc.gov>
Date: Fri, Jun 17, 2005 5:50 PM
Subject: RIN 0694-AD29

Department of Neuroscience & Cell Biology
Robert Wood Johnson Medical School
Piscataway, NJ

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am a Professor at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. Our work focuses on basic processes that control development of the brain, with relevance to normal child growth and disorders of development including autism, congenital malformation, schizophrenia and depression. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and

expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Emanuel DiCicco-Bloom, MD
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UMDNJ-Robert Wood Johnson Medical School
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From: Michael Reiss <reissmi@umdnj.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/17/05 05:54PM
Subject: Fwd: RIN0694-AD29

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Robert Wood Johnson Medical School/UMDNJ
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http://lifesci.rutgers.edu/%7Emolbiosci/Professors/reiss.html

UMDNJ
ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

The Cancer Institute of New Jersey
Bringing research to life.

NCI CCC

To whom it may concern

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E-mail: reissmi@umdnj.edu

New Brunswick, June 17, 2005

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:
I am a Professor at the Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.
I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. We have an active research program focused on mechanisms whereby tumors escape from growth control and on the development of a novel class of anti-cancer agents. Five of the six members of my laboratory are foreign nationals. Consequently, the proposed revision of the regulatory requirements would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be detrimental for scientific competitiveness of the United States in the world marketplace, which has already suffered considerably since the influx of much needed foreign intellectuals has decreased substantially these past few years. It would be burdensome, expensive to implement and not necessary.
I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Michael Reiss, M.D.
Professor of Medicine, Molecular Genetics & Microbiology
Robert Wood Johnson Medical School/UMDNJ

From: Brenda Holladay <holladay@ims.uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 9:06 PM
Subject: RIN 0694-AD29

Please consider my attached letter which requests that Bureau of Industry and Security (BIS) not adopt the proposed rule changes to the Export Administration Regulations.

Brenda Holladay

Brenda Holladay
Research Associate
Institute of Marine Science
University of Alaska Fairbanks
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June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
- students opportunities for "real world" experience;
- financial burden of making export determinations for all existing university research equipment;
- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.
Sincerely,
Brenda A. Holladay, Research Associate

From: "Jonathan Rosenberg" <ffjr@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 9:03 PM
Subject: RIN 0694-AD29

Attached please find my comments on my comments on the proposed rule changes to the Export Administration Regulations proposed by the Office of the Inspector General. Thank you for your attention to this matter.

Truly yours,
Jonathan Rosenberg

--
Dr. Jonathan Rosenberg
Chair, Department of Political Science
P.O. Box 756420
University of Alaska Fairbanks
Fairbanks, AK 99775-6420
907-474-6502

Department of Political Science
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(907) 474-6502

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Dr. Jonathan Rosenberg, Associate Professor and Department Chair

From: "Katrin Iken Pop3" <iken@ims.uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 8:23 PM
Subject: RIN 0694-AD29

Please see attached letter.

Katrin Iken, PhD
Assistant Professor Marine Biology
Institute of Marine Science
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June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Katrin Iken, Assistant Professor Marine Biology

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Office of the Vice Provost for Research
2610 Beardshear Hall
Ames, Iowa 50011-2036
515 294-6344
FAX 515 294-6100

June 20, 2005

Alex Lopes
Director, Deemed Exports and Electronics Division
Bureau of Industry and Security
Department of Commerce
Regulatory Policy Division
14th Street and Pennsylvania Ave, NW, Room 2705
Washington, DC 20230
Attn: RIN 0694-AD29

Dear Mr. Lopes:

I am writing to comment on behalf of the research enterprise at Iowa State University of Science and Technology regarding the Advance Notice of Proposed Rulemaking published in the Federal Register seeking public input on the OIG recommendations regarding deemed exports. These comments are in reference to RIN 0694-AD29 and the recommendation to the BIS contained in final report number IPE-16176-March 2004.

I would like to comment with regard to two specific issues. The first is the proposed changes in the definition of "use technology" as well as the proposed change regarding the use of a foreign national's country of birth as the primary criterion for determining whether a deemed export license is required.

Proposed Change in the Definition of "Use Technology"

In brief, the OIG, in its report, suggests changing the word *and* in the phrase "operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing" to "and/or." Several meetings on this question, including those with BIS participation, indicate that the issue of the "use" of controlled equipment and its relation to deemed export is ambiguous at best. Our colleagues strongly believe that it is critical that the BIS clarify the distinction between "use" of technology and the "transfer" of technology. The mere "use" of controlled equipment does not imply a circumstance related to deemed export, particularly during the conduct of fundamental research. Many pieces of technology on various control lists are publicly available in a variety of public settings as well as university laboratories.

Most importantly, the implementation of the OIG's suggestion would have a considerable negative impact on the performance of fundamental research at universities. It would be extremely difficult to predict, prior to the initiation of a research project, precisely which pieces

of equipment would be utilized or which may be required to undergo modification during the course of the research. Given the number of foreign nationals involved in graduate research at our university as well as those at our peer institutions, the practice proposed by the OIG would require deemed export licenses for many students involved in fundamental research activities. At the very least, it is necessary for the BIS to more clearly define and hopefully restrict those technologies for which export licenses are required. This list should be much more narrowly and appropriately defined than is currently the case. Furthermore, the adoption of the OIG's suggestion would initiate a very costly compliance process across the university system. This additional cost simply cannot be absorbed under the current budgetary circumstances facing most state-supported universities, including Iowa State University.

Country of Birth as a Criterion for Requiring a Deemed Export License

The suggestion of the OIG that the country of origin be determined by the country of birth of the foreign national implies that the current background checks required for visa applications by foreign nationals are not adequate. The process required to determine the country of birth of foreign nationals would place significant burden on the university to establish another level of background checks focused on students and faculty engaged in research activity utilizing instrumentation appearing on one of the export control lists.

In summary, we believe that the suggestions under discussion made by the OIG would have an extremely negative impact on the conduct of all types of technological research at Iowa State University. In addition, these suggestions would require the initiation of a very costly compliance system. Furthermore, the appropriate conduct of research projects, including the necessary re-design of equipment, would be greatly hampered by the proposed process. Consequently, we strongly urge that the recommendations made by the OIG to the Bureau of Industry and Security contained in final report number IPE-16176 not be adopted.

We also offer the following suggestions that we feel would significantly improve the current system:

1. The acceptability of using equipment on various control lists be determined at the time of the immigration of a foreign national.
2. The list of controlled equipment be reviewed and narrowed appropriately.
3. All information currently in the public domain should be deleted from control lists.

Thank you very much for considering these recommendations and concerns.

Sincerely,

James R. Bloedel
Vice Provost for Research

UNIVERSITY OF KENTUCKY

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June 20, 2005

Mr. Matthew Borman
Deputy Assistant Secretary for Export Administration
U.S. Department of Commerce
HCHB Room 3886-C
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Borman:

On behalf of the College of Arts and Sciences at the University of Kentucky I am responding to the request for comments on the Advance Notice of Proposed Rulemaking – RIN 0694-AD29. The proposed changes to the deemed exports rules should not be enacted.

I do not disagree that some type of oversight on exports should be put into place. However, the proposed changes are likely to cause undue harm to the country's research enterprise without being necessarily effective in meeting the overall goals of export controls. By enacting the proposed changes valuable time and resources would be redirected towards monitoring the use of institutional equipment used by our employees and students. To do so, would slow the production and dissemination of important federally funded research. For example, the College of Arts and Sciences at the University of Kentucky is involved in dozens of federally funded research projects that employ hundreds of professional staff, faculty, and postdoctoral and graduate students. To track the nation of origin of all of these individuals as it relates to their use of capital equipment and software is counterproductive, particularly given that on average postdoctoral and graduate students remain at the University for 1-5 years, and equipment and software is continuously replaced due to technological advancements. In short, the proposed changes are an inefficient solution to an important problem.

I also am concerned about the effect that the proposed rules would have on our ability to attract high quality researchers and graduate students to U.S. universities. The proposed changes could jeopardize the fundamental research exemption currently accepted by the Export Control regulations. We already are witnessing a decline in international academic exchange, and if enacted, these changes could further exacerbate that trend. It is for these reasons that I urge you to not enact the proposed rule changes and help us maintain the country's strong tradition of university research.

Thank you for your time and consideration.

Sincerely,

Steven L. Hoch
Dean

SLH:akh

cc: President Lee T. Todd
Interim Provost M. Scott Smith
Executive Vice President for Research Wendy Baldwin

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June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information [illegible]

EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,

Wayne Marr, Dean

From: "Kelly Hochstetler" <fnkjh1@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 9:38 PM
Subject: RIN 0694-AD29

Please accept my comments regarding the proposed rule changes to the EAR in the attached word document.

Thank you,

Kelly Hochstetler

Quality Improvement Program Manager

Office of Research Integrity

212L WRRB, P.O. Box 757270

University of Alaska Fairbanks

Fairbanks, Alaska 99775-7270

Phone: (907) 474-7832

Fax: (907) 474-5638

E-mail: k.hochstetler@uaf.edu

<http://www.uaf.edu/>

Office of Research Integrity
PO Box 757270
Fairbanks, AK 997750
(907) 474-7832

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
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- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
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- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Kelly Hochstetler, QIP Manager

From: Larry Hinzman <ffldh@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 8:35 PM
Subject: RIN 0694-AD29

Water and Environmental Research Center
PO Box 755860
Fairbanks, AK 997750
(907)474-7331

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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Sincerely,

Larry Hinzman

From: Marsha Sousa <ffmcs@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 8:32 PM
Subject: RIN 0694-AD29

I respectfully request that the Bureau of Industry and Security reject the proposed rule changes that affect the conduct of research at our Universities and Colleges. My concerns are outlined in the attached letter.

Marsha Sousa, PhD
Associate Professor
Coordinator of Allied Health Programs
Tanana Valley Campus
University of Alaska Fairbanks

Allied Health Division
PO Box 758040
Fairbanks, AK 997750
(907) 455-2867

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,

Marsha Sousa, PhD
Associate Professor
Coordinator of Allied Health Programs
Research Associate, School of Natural Resources and Agricultural Sciences

From: "Molly Lee" <ffmcl@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 10:38 PM
Subject: Protest Against BIS Adoption of Proposed Rule Changes

Dear Sir or Madam,

Attached is my letter of protest against the BIS adoption of proposed rule changes. Many professors at my level share my concerns, especially as the proposed changes would affect our students' abilities to do research.

I urge you not to adopt these changes.

Sincerely,

Molly Lee, Ph.D.,
Curator of Ethnology, Professor of Anthropology
University of Alaska Museum
PO Box 82564 (907 Yukon Dr.)
Fairbanks, AK 99775-6960
Tel: (907) 474-7828

Dept. of Ethnology
University of Alaska Museum
PO Box 75-6960
Fairbanks, AK 99775-6960
(907) 474-7828

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Molly Lee, Ph.D., Curator of Ethnology, Professor of Anthropology

From: Phyllis Morrow <ffpm@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 20, 2005 8:32 PM
Subject: Comments on RIN 0694-AD29

Please see attached comments on RIN 0694-AD29.
Phyllis Morrow, Dean
College of Liberal Arts
University of Alaska Fairbanks

UNIVERSITY OF ALASKA
FAIRBANKS

Phyllis Morrow, Dean
College of Liberal Arts
Gruening Building 404
Fairbanks, AK 997750
(907) 474-7231

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

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- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

Although the regulations are intended to apply to science and engineering, the rule changes will also negatively impact some liberal arts research. For example, archeologists and geographers routinely use and teach students to use GPS technology.

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

OFFICE OF THE CHANCELLOR

June 21, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

Dear Mr. Lopes:

On behalf of the University System of Maryland (USM), I would like to offer comments on the Advance Notice of Proposed Rulemaking concerning the Clarification of Deemed Export Regulatory Requirements.

As the nation's 12th largest university system, the USM's network of 13 institutions enrolls nearly 130,000 students worldwide in 600 degree programs delivered in classrooms, laboratories, education centers, and online. Institutions and research institutes within the USM perform over three quarters of a billion dollars annually in research activities on behalf of the federal government in a variety of technology fields. Collectively USM institutions recruit thousands of students internationally to pursue educational degrees in the United States. As a network of major research institutions conducting 'fundamental research,' with a significant international graduate student population, we are very concerned about the proposed changes from the Office of Inspector General with respect to deemed export regulatory requirements.

The President of the National Association of State Universities and Land-Grant Colleges (NASULGC), Dr. Peter Magrath, in a letter dated June 15, 2005 submitted extensive comments on behalf of the 215 universities and university systems represented by the NASULGC, including the USM. Other universities, colleges, higher education organizations, business representatives, and individual faculty have all submitted numerous comments and concerns about the proposed regulatory changes.

1807 University of Maryland, Baltimore
1856 University of Maryland, College Park
1865 Bowie State University
1866 Towson University
1886 University of Maryland Eastern Shore
1898 Frostburg State University
1900 Coppin State University
1925 Salisbury University
1925 University of Baltimore
1925 University of Maryland Center for Environmental Science
1947 University of Maryland University College
1966 University of Maryland, Baltimore County
1985 University of Maryland Biotechnology Institute

3300 Metzerott Road • Adelphi, MD 20783-1690 • Phone: 301.445.1901 • Fax: 301.445.1931 • www.usmd.edu

While I support all of the concerns expressed by Dr Magrath, I would like to focus on just one aspect of the regulations: the impact on recruitment of international students and researchers, in light of declining student applications and arrival of international students to the shores of the United States.

In December 2004, the Council on Competitiveness released the National Innovation Initiative (NII) bringing together America's top minds on economic growth from the academic and corporate sectors, including the Chairman of IBM, the CEO of the Mayo Clinic, and the President of Stanford University. The NII is a blueprint for economic growth in the United States. The NII invokes a multi-phased plan to increase the domestic science and engineering talent pool, and calls for the country to adopt an economic education strategy based on reforms in immigration policy to continue to attract the best and brightest science and engineering students from around the world to U.S. universities. The American higher education system is one economic sector that still generates a substantial trade surplus by attracting human talent, and we should be very wary of placing greater burdens on it. Indeed. this talent has played a vital role in enabling the U.S. to sustain its global leadership in university-based science and technology research.

The NII supports dealing with foreign scientists and foreign entrants by establishing a 'system that is transparent and efficient and offers fresh incentives for the best and brightest.'[NII Report, *Innovate America*, p. 25] Rather than reduce current obstacles, the proposed regulatory changes move us in the opposite direction, and would heighten international researcher recruitment barriers, without realizing a concomitant increase in our nation's technological security.

Clearly, the Bureau of Industry and Security (BIS) proposed regulations run counter to the principle of attracting more scientific talent to the United States by (i) increasing negative international perceptions of the attractiveness of U.S. educational institutions, and (ii) enacting actual barriers in the administration of research on campus involving foreign students, such as tracking the country of birth.

We must achieve a better balance of interests than are represented by the BIS proposals. If enacted in their present form, they would do significant harm to our nation's universities by, among other things, restricting their ability to attract talent to our shores and to conduct research vital to sustaining the U.S. as the world leader in science and technology R&D. I urge a continued dialogue with

representatives from higher education and industry before the regulations are issued. Thank you for considering my views on this important matter.

Sincerely yours,

WE Kirwan

William E. Kirwan
Chancellor

cc: Dr. Peter Magrath, President, NASULGC
The Honorable Deborah L. Wince-Smith, President, Council on Competitiveness
Presidents Council

UNIVERSITY OF MARYLAND
COLLEGE OF BEHAVIORAL AND SOCIAL SCIENCES
Office of the Dean

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June 21, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

SUBJECT: Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register March 28, 2005

Dear Mr. Lopes:

I am writing as both a Dean of the University of Maryland and as a citizen of the United States to express my concerns regarding the potential impact on universities if the Bureau of Industry and Security implements the recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

These comments are provided based on my background and experience working in a University setting. I am Dean of the College of Behavioral and Social Sciences at the University of Maryland and regularly oversee research in the areas of Earth Systems Science and Population Dynamics. The proposed regulations could directly affect the ability of the Departments of Geography, Economics and Sociology to conduct research in the future.

I find myself wondering if all this is necessary. It remains difficult for those of us deeply enmeshed in research to see that it is. I recognize that maintaining the security of the country is a number one priority for all of us and that compromise is necessary for purposes of national security. However, the sacrifice of U.S. innovation, U.S. competitiveness, and our national research and technology strengths must be balanced with our need for national security, so that we are not sacrificing our security in the name of security. I also have grave concerns regarding the potential compromise to academic freedom, which is vital to both our nation's technology progress and a cornerstone of our democracy. Before regulatory changes are made, a risk analysis must be conducted. It should weigh the real threats and the real costs to our nation's universities.

The threat to our national security from international students and scholars who have been cleared through the visa and visa mantis procedures is not clear and has not been demonstrated in the materials made publicly available. I really can not emphasize enough the contributions these foreign national students and postdoctoral fellows make to developing and sustaining the research programs taking place within my College and the significant cost which would be imposed in terms of stifling this research if the IG recommendations are adopted. A look at the number of foreign national students and postdoctoral fellows, who serve critical roles in the innovation taking place in my College, should give you an idea of the importance of these scholars. Currently, of the 890 graduate students and post-docs in the College, 258 are foreign nationals.

Do not exacerbate the trend we are already seeing. U.S. universities have seen a drop in international applications again this year. Nationally the numbers were down 28% last year with a loss of an additional 5% this year. International applications at the University of Maryland were down 37% last year and another 5% this year. Foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields and are heavily recruiting international students. As a result, the number of U.S. students seeking post-undergraduate S&E degrees is decreasing while the number of foreign students seeking such degrees outside the U.S. is increasing. Therefore, extreme caution should be used when imposing unnecessary barriers to participation by these scholars or they will chose to study elsewhere.

History has shown that a large majority of our foreign graduate students remain in the U.S. and that they contribute a very significant share of the innovation which keeps the nation ahead of the world. The cost of the IG recommended changes are high relative to the perceived risk expressed in the report. In a time where government and industry is looking to academia to perform research and groom the next generation of scientific and technological experts, the imposition of barriers on the ability of these foreign students and post-docs to freely participate in the academic process will adversely affect both my research and the nation's scientific and economic superiority.

Before implementing a regulatory program that will cause significant and permanent damage to both the university research enterprise and the nation's future economic and scientific leadership, there must be more thought and open dialogue with the academic community. Speaking as one cog in the giant wheel, I can offer this comment – we can not sustain our technologic superiority if the proposed regulatory measures are implemented. I thank you for this opportunity to provide input.

Sincerely,

Edward Montgomery
Dean and Professor

cc: C. D. Mote
J. Gansler
A. McKeown

Arctic Region Supercomputing Center

Frank Williams, PhD., Director
Arctic Region Supercomputing
PO Box 756020
Fairbanks, AK 99775-6020
(907) 450-8612

June 21, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

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There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,

Frank Williams

Frank L. Williams, PhD.
Director

COUNCIL OF GRADUATE SCHOOLS
cgs
President

One Dupont Circle, NW, Suite 430 • Washington, DC 20036-1173
Telephone (202) 223-3791 • Fax (202) 331-7157 • www.cgsnet.org

June 21, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230
ATTN: RIN0694-AD29

Dear Mr. Lopes:

The Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 requests comments on the recent recommendations of the U.S. Department of Commerce Inspector General (IG) with regard to "deemed exports" and specifically requests comments from the academic community.

The Council of Graduate Schools (CGS) represents over 460 institutions of higher education in the U.S. and Canada that are engaged in graduate education, research, scholarship, and the preparation of candidates for advanced degrees.

Graduate students play a fundamental role in the conduct of research that occurs at U.S. research universities. The participation of international students and foreign scholars in the university research enterprise is a critical component of our economic vitality and our national security. Increasing international competition for international students, particularly in science, technology, engineering and mathematics (STEM) fields and declining numbers of U.S. students pursuing graduate education in these fields threatens our continued economic preeminence. Recent CGS data show that U.S. international graduate applications for Fall 2005 decreased by 5 percent as compared to Fall 2004 following a 28% decline from the previous year.

CGS recommends that deemed export regulations and the ANPR be viewed in the larger context of its potential impact on higher education and U.S. competitiveness. CGS strongly supports efforts that will enhance national and global security. We would point to international educational exchanges as an important means of increasing understanding of US values and reducing threats from terrorists.

In our view, a tighter regulatory regime on deemed exports as proposed in the ANPR has the potential to have a negative impact on university research, creating the perception that U.S. universities are less welcoming to international graduate students and researchers for aiding the negative trends in international graduate student enrollments in U.S. universities.

We note that individuals seeking educational visas already undergo extensive screening that takes into account the technology sector in which they wish to study within the U.S. Thus, there already is a significant layer of protection against the misuse of U.S. technology by international graduate students at our nation's institutes of higher education.

Specific comments follow:

Definition of "use" of technology

The IG suggested that the Commerce Department Bureau of Industry and Security (BIS) revise the definition of "use' in Sec.772.1 of the Export Administration Regulations (EAR) to replace the word "and" with the word "or." We believe such a change would have unintended and negative results. Merely conveying information or showing someone how to convey information on how to turn on a piece of equipment that is controlled for use could require a deemed export license even if that person were engaged in fundamental research. The result would be an increased administrative burden and cost for universities. It is unclear how implementation of this type of regulation would benefit our national security and we do not believe the benefits outweigh the substantial administrative burden and cost.

Most universities interpret the use of controlled equipment for fundamental research as exempt under the EAR fundamental research exemption. The IG proposes that technology related to controlled equipment – regardless of how use is defined is subject to the deemed export provisions even if the research being conducted with that equipment is fundamental. The IG interpretation would eliminate the EAR fundamental research exemption and would negatively impact the conduct of university research.

Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

The IG report recommended that the Bureau of Industry and Security (BIS) amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign nationals and have access to dual-use control technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

The recommendation appears to be based on the assumption that a foreign national may retain ties to the country of origin such as to give rise to security concerns. It ignores the visa process that screens foreign nationals for such concerns before a decision is made to admit them to the U.S. for a program of study or research at a university. It is not clear why a separate control, outside of the visa process, is needed to address these concerns.

This proposed requirement would place additional administrative burdens and costs on graduate programs and universities who would be required to obtain licenses for international students and foreign nationals using export controlled instrumentation. Assuming a separate license would be needed for each instrument, the undue burden becomes very clear because universities do not presently track students and staff countries of origin. Further, it is not clear what mechanism would be used to identify and track country of origin.

In summary, CGS recommends balancing very real national security concerns with maintaining the nation's economic competitiveness and a robust graduate education enterprise. International students and scholars are important contributors to graduate education, research and scholarship. Their contributions should be supported and enhanced.

Thank you for the opportunity to comment on the advanced notice of proposed rulemaking.

Sincerely,

Debra W. Stewart
President

UMDNJ
ROBERT WOOD JOHNSON
MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

Department of Molecular Genetics, Microbiology & Immunology

FACSIMILE TRANSMITTAL SHEET

DATE: 6-21-05

TO: US Dept. of Commerce

PHONE #:

FAX #: 202-482-3355

FROM: Michael J. Leibowitz, MD, PhD

PHONE#: (732) 235- 4154

Number of pages (including the cover page): 3

****

MESSAGE:

675 Hoes Lane • Piscataway, NJ 08854 • Phone: (732) 235-4568 • Fax: (732) 235-5223 • Web site: www.umdnj.edu

UMDNJ
GRADUATE SCHOOL OF
BIOMEDICAL SCIENCES

Office of the Associate Dean

Michael J. Lebowitz M.D., Ph.D.
Telephone: 732-235-4795
FAX: 732-235-5223
Email: lebowit@umdnj.edu

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW
Room 2705
Washington, DC 20230

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am a Professor and Associate Dean at the Robert Wood Johnson Medical School and Graduate School of Biomedical Sciences of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. My laboratory is pursuing research on the molecular biology of prion and amyloid diseases, and on development of new technologies for delivery of drugs and vaccines. This work has many applications to the health of American citizens and to the competitiveness of the American pharmaceutical industry. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.

5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Michael J. Leibowitz, M.D., Ph.D.
Associate Dean
Professor of Molecular Genetics, Microbiology & Immunology
UMDNJ-Robert Wood Johnson Medical School

Defence Materiel Branch
Embassy of Australia
1601 Massachusetts Ave, NW
Washington DC 20036
United States of America

Australian Government

Department of Defence

Australian Defence Staff (Washington)

IN REPLY PLEASE QUOTE:

21 June 2005

US Department of Commerce
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230 USA

Attention: Mr. Peter Lichtenbaum, Acting Undersecretary for the Bureau of Industry and Security, Regulatory Policy Division

SUBJECT: RIN 0694-AD29

1. I refer to the Federal Register announcements by the Department of Commerce regarding the proposed changes to 15CFR Parts 734 and 772. (Docket No. 050316075-5075-01), RIN 0694-AD29, regarding Revision and Clarification of Deemed Export Related Regulatory Requirements.

2. I am writing to advise you that it is the Government of Australia's intention to submit comments on the proposed changes. However, due to the time required to fully consult all relevant Australian agencies, I am not in a position to provide our comments until after your advised closing date of 27 June 2005.

3. It would be appreciated if the closing date on this important issue be extended, in the order of 30-60 days, to allow a comprehensive reply.

4. I am also aware that other close allies of the United States intend to provide comment and are under similar time constraints.

5. My contact for this requirement is Mr. Jim Gledhill, Defence Materiel Attaché on Tel (202) 797-3388 or by E-mail at jim.gledhill@defence.gov.au .

Thank you for your consideration of this request.

Robert Anderson
Acting Counsellor, Defence Materiel
Embassy of Australia
1601 Massachusetts Ave NW
Washington DC 20036

Cc: Mr. Alex Lopes, Director, Deemed Exports and Electronics Division, Bureau of Industry and Security. alopes@bis.doc.gov
Info: scook@bis.doc.gov Subj: "RIN 0694-AD29"

Web Entry of Comments: http://www.regulations.gov

From: "Anya Goropashnaya" <fnag@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 5:22 PM
Subject: RIN 0694-AD29

Hello,

please see the attached letter.

Best regards,

Anna Goropashnaya, Ph.D.
Institute of Arctic Biology
Center for Alaska Native Health Research
311 Irving I Bldg
University of Alaska Fairbanks
Fairbanks, AK 99775, USA

Phone 1-907-474-1533 or -5935
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June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
- students opportunities for "real world" experience;
- financial burden of making export determinations for all existing university research equipment;
- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Anna Goropashnaya, PhD

From: "Hirschhorn, Eric" <EHirschhorn@winston.com>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 11:09 AM
Subject: RIN 0694-AD29 Comments

Attached please find the comments of the Industry Coalition on Technology Transfer on the deemed export proposals that appeared in the March 28, 2005 Federal Register.

Rgds,

Eric L. Hirschhorn
Exec. Secretary
Industry Coalition on Technology Transfer
c/o Winston & Strawn LLP
1700 K Street, NW
Washington DC 20006
202-282-5706 (fax -5100)
ehirschhorn@winston.com
<<icott bis doc 6 21 05.pdf>>

ICOTT INDUSTRY COALITION ON TECHNOLOGY TRANSFER
1700 K Street, N.W., Washington, D.C. 20006 (202) 282-5994

June 21, 2005

VIA EMAIL

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Street & Pennsylvania Avenue, NW, Room 2705
Washington DC 20230

ATTENTION: RIN 0694-AD29

Re: **Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, Mar. 28, 2005)**

Gentlemen/Ladies:

The Industry Coalition on Technology Transfer ("ICOTT") herewith submits its comments on the above-captioned advance notice of proposed rulemaking ("Notice"). ICOTT is a nonprofit group of major trade associations (names listed below) whose hundreds of individual member companies export controlled goods and technology from the United States. ICOTT's principal purposes are two—to advise U.S. Government officials of industry concerns about export controls and to inform exporters about the U.S. Government's export control and embargo activities and policies.

The Notice would tighten the deemed export regulation, which was promulgated in 1994. ICOTT long has objected to the existing regulation as being unduly restrictive and has seen no evidence suggesting that the pre-1994 regulation was inadequate.

We oppose the proposals in the Notice not only for what they are but for what they are a part of. Although narrow in scope, the Notice has broad—indeed, fundamental—implications for our economy and the high technology companies that play a significant role in the health of that economy. Our nation's global leadership in technology is due in significant part to scientists and engineers who were born elsewhere, as well as by the relatively unhindered flow of ideas into and out of our borders. Conversely, science in totalitarian societies like the Soviet Union has suffered grievously because of their governments' unwillingness to allow scientists and their ideas to flow freely into and out of the country.

Recent developments such as the 1994 revision of the deemed export rule and our post-9/11 visa policy are moving us away from the traditional U.S. model, which actively encouraged the participation of foreign-born scientists and engineers in our R&D infrastructure, and toward the model that proved so disastrous for the former USSR. The proposals contained in the Notice would continue that unfortunate and self-destructive trend. Our current policies already have had an adverse effect on the flow of foreign-born engineers and scientists coming here to work.

These policies also are leading many companies whose research and development activity has been based in the United States to conduct that work offshore, where it is easier to make use of intelligent, capable individuals who do not happen to be "United States persons." For example, Sun Microsystems recently announced an expansion of its research and development facilities in four foreign locations[1] and Bill Gates has complained that Microsoft is unable to hire the engineers it needs because of the visa restrictions.[2] Although changes such as those proposed in the Notice ostensibly seek to ensure that "American" knowledge remains here, the proposals in fact are having the opposite effect because they discourage smart people from coming here to *create* "American" knowledge and encourage businesses to establish their R&D facilities *outside* the United States.

Several weeks ago, the National Academies[3] released a report entitled "Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States" ("NA Report"). The 2000 Census, the NA Report notes, found that thirty-eight percent of doctorate-level employees in science and engineering firms ("S&E") were foreign born. NA Report at 1. This compares with twenty-four percent in 1990. NA Report at 1. The report found that "[i]nnovation is crucial to the success of the US economy," that "[t]o maintain excellence in S&E research, which fuels technologic innovation, the United States must be able to recruit talented people," and that "[a] substantial proportion of those people . . . come from other countries." NA Report at 4. Further, the report points out, international competition to attract smart young S&E students and graduates is increasing sharply, NA Report at 7, though once foreigners decide to come here, most prefer to stay here after completing their training, NA Report at 95. Finally, the NA Report states that the deemed export situation in the United States "is causing immense frustration" among foreign students and workers. NA Report at 77.

It's interesting to note that from a policy standpoint, the trend of which the Notice is a part is completely at variance with what Congress sought to do in the Exon-Florio Act (1988)—namely keep high technology R&D here in the United States. The message today is "Conduct your R&D offshore. Stop 'draining the brains' of other countries, even though many of their best and brightest want to come here, because some small percentage of them might be technology spies or eventually might decide to return to their native lands."

We do not dispute that some who come here will acquire technological know-how and then take it back home. We believe, however, that such individuals are far fewer in number than those who come because they want to live in our open, democratic, and economically robust society—not only while they are students but also as they proceed on into their professional careers and the raising of their children. By tightening our visa policies and by considering

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[1] *See* "Sun Microsystems to Expand Overseas," N.Y. Times, May 7, 2005, at B4:1 (reporting Sun Microsystems' decision to expand its research and development facilities in Bangalore, Beijing, St. Petersburg, and Prague).

[2] D. Vise, "Gates Cites Hiring Woes, Criticizes Visa Restrictions," Wash. Post, Apr. 28, 2005, at E5.

[3] The National Academies comprise the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council.

export control policies such as those espoused in the Notice, we are discouraging *all* such individuals from coming here and thus are throwing the baby out with the bath water.[4] Indeed, such policies probably deter the few with improper intentions *less* than they deter the many whose intentions are honorable. And an obvious consequence of our loss is the *gain* of other nations—many of them economic or military competitors of the United States—who are reaping the benefit of having foreign-born scientists studying at their universities and working in their high technology industries.

The Notice proposes three changes in the deemed export provisions of the Export Administration Regulations ("EAR").

Use of country of birth, rather than country of most recent citizenship or permanent residence, as criterion for deemed export licensing. The Notice would judge the need for a deemed export license, as well as whether the license would be granted, based upon the individual foreign person's country of birth. Currently the criterion is the most recent country of citizenship or permanent residence.

The proposal would be next to impossible to enforce, particularly against the dishonest. It is fairly easy to tell from an individual's passport and other documents where he currently has residence or citizenship but it is quite a different matter to ascertain where he was born. Moreover, it is unclear what good it would do the United States government to know that a person was born in a "questionable" country, as it is unlikely that such countries will permit United States agents to poke around asking questions about émigrés.

Further, the disruption caused to current and future research and development work would far outweigh any benefit in terms of national security. Each company would have to ascertain (as well as it could) the country of birth of each of the sometimes thousands of employees who are not United States citizens or permanent residents. Companies with offshore facilities would have to conduct the same exercise for every employee who is not a citizen of the host country. In some countries, even requesting such information is prohibited. The Notice does not offer any advice on how companies should deal with that type of situation. The disruption that will be occasioned by this hunt for information and the consequent effort to prepare and submit rafts of deemed export license applications—each of which can take months for the government to process and can be rendered nearly useless by limiting conditions and provisos—will not be outweighed by benefits to our national security.

Acting Under Secretary Lichtenbaum hinted recently, though, that the government may make the criterion the most export-restricted country of which an individual is a *citizen*. Although he stated during the May 6, 2005 discussion at the National Academies that neither the

[4] Interestingly, Congress appears to be awakening to the short-sightedness of these policies more quickly than the Executive branch. For example, the H-1B Visa Reform Act of 2004, signed in December 2004, adds 20,000 H-1B visas annually for those holding advanced academic degrees. *See* Allocation of Additional H-1B Visas Created by the H-1B Visa Reform Act of 2004, 70 Fed. Reg. 23775 (May 5, 2005).

IG Report nor the Notice seeks to impose new restrictions on green card holders or naturalized United States citizens, it is well known that there are influential individuals and agencies within the government who do wish to impose such tests. Indeed, we have been advised that Mr. Lichtenbaum and other interested parties negotiated with the Inspector General's staff until late on the night of May 5 to secure clearance for Mr. Lichtenbaum to back off from the IG Report's threat to extend the deemed export rule to green card holders. Moreover, even putting aside what *our* government might do in this regard, other allied governments doubtless would reciprocate and hence *would* ask similar questions of United States green card holders who seek employment within their borders.

Whether the criterion were to be country of nativity, as suggested in the Notice, or country/ies of citizenship, as suggested by Mr. Lichtenbaum, the entire issue rests upon the false premise that most, or even a substantial number, of those who come here to study or work in technical fields intend to return to their home countries bearing the knowledge they have acquired here. We anticipate that the comments of individual companies and universities will present statistics that demonstrate otherwise. The vast majority of students who come here from abroad to study for advanced degrees remain in the United States after graduation, at least for their first jobs.

Before 1994, the applicable rule was that a license was required only when the initial transmitter of controlled data had "the knowledge or intent that the data will be transmitted [by the recipient or a later recipient] from the United States to a foreign country."[5] Neither in 1994, when the current deemed export rule was promulgated, nor subsequently has the government offered any evidence that the old rule was not working. Moreover, the First Amendment requires that even where the government's objectives are legitimate, restrictions on speech must be narrowly tailored to achieve those objectives.[6] The government's failure to make a case for the broader rule imposed in 1994, let alone the still broader rule proposed in the Notice, raises serious questions about whether the Notice or the 1994 rule can pass constitutional muster.

We recommend that the change proposed by the Notice not be adopted and that the rule be restored to its pre-1994 state.

Definition of "use" technology. Controls are imposed on "use" technology in numerous instances. The current definition of "use," which is agreed upon by the United States and the other thirty-two members of the Wassenaar Arrangement, is phrased conjunctively and means "[o]peration, installation (including on-site installation), maintenance (checking), repair, overhaul *and* refurbishing."[7]

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[5] 15 C.F.R. § 779.1(b)(1) (1993).

[6] *Arkansas Writers' Project, Inc. v. Ragland*, 481 U.S. 221, 231 (1987); *see Central Hudson Gas & Elec. Co. v. PSC*, 447 U.S. 557, 565, 569-71 (1980) (imposing similar requirement where commercial speech is concerned).

[7] 15 C.F.R. § 772.1 (2004) (emphasis added).

The Notice would substitute "or" for "and" in the definition of "use" and would state that the definition covers technology for "all" aspects of use:

> "Use". * * * Means *all* aspects of "use," such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, *or* refurbishing.[8]

The Notice also would revise a question-and-answer in the EAR (Question D(1)) to state that even if a student is conducting fundamental research, a deemed export license may be required for her if she is to receive "use" technology that would require a license to her home country.[9]

The "use" proposal raises significant policy issues. Because the companies of ICOTT's member associations conduct relatively little non-proprietary work, the effect on them will be more indirect, in that the proposal will discourage universities from conducting research using foreign students and such students—who ultimately would have gone on to join the work force of high technology companies in the United States—accordingly will be less likely to come here to study.

The policy issue, of course, is the fact that controlling the transfer of "use" technology in the fundamental research setting[10] will deprive many foreign students of the opportunity to be educated here and further exacerbate the post-9/11 diversion of research and foreign-born researchers from the United States. Notwithstanding any niceties about disjunctive versus conjunctive, the proposal is a backhanded attempt to undermine the principle that foreign-born students are important to keeping our economy strong. For scientists in particular and also for engineers, education in the United States also tends to orient them toward using United States products in their professional careers.

We accordingly recommend that the conduct of fundamental research carry with it the right to receive "use" technology for all equipment that is subject to the EAR and necessary or appropriate to such research. If our recommendation is not adopted, we ask that at a minimum, the phrase "according to the General Technology Note" be added to each "use technology" entry on the Commerce Control List ("CCL") and that "operation" be excluded expressly from the CCL definition of "use."

Effect of prepublication review on fundamental research. The final OIG proposal set out in the March 28th notice addresses the following entry in the Commerce Department's questions and answers:

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[8] 70 Fed. Reg. 15607, 15608 (Mar. 28, 2005) (emphasis added).

[9] *Id.* at 15609.

[10] To the extent that such transfers already are controlled by the regulations, the controls should be removed.

> *Question A(4):* The research on which I will be reporting in my paper is supported by a grant from the Department of Energy (DOE). The grant requires prepublication clearance by DOE. Does that make any difference under the Export Administration Regulations [EAR]?
>
> *Answer:* No, the transaction is not subject to the EAR. But if you published in violation of any Department of Energy controls you have accepted in a grant, you may be subject to appropriate administrative, civil, or criminal sanctions under other laws.

Section 734.11 of the EAR, says the Notice, indicates that when a government sponsor imposes prepublication review with a right to withhold permission for publication, the fundamental research exception is inapplicable.[11] The Notice says that the question and answer should be modified "to state . . . that if the government sponsor reviewer imposed restrictions on publication of the research, then the technology would [not constitute fundamental research]."

One problem with the proposed change is that it would prevent the sponsoring agency from agreeing to treat a project as "fundamental research" *even though* the agency retained clearance rights in respect of ultimate publication of results. Will a university make a project available to foreigners if it must subject itself to the bureaucratic and other hassles that will attend doing so? We rather doubt it.

We recommend that the proposal set out in the Notice not be adopted.

* * *

A further issue—one that relates to the entire deemed export program, not just the proposals set out in the Notice—is whether there's any credible evidence that deemed export licensing does *anything* to protect our technology. How many spies will provide accurate information—as opposed to a carefully composed and documented cover story—to a United States employer or the Commerce Department? Only one percent of last year's 995 deemed export applications were turned down. In all probability, most if not all of those rejections were due to lack of information, or poor presentation of information, rather than affirmative conclusions by the government that the individuals were security risks.

One additional, important point can be made in a Jeopardy-type format: What is the question to which the answer is "Zbigniew Brzezinski, Henry Kissinger, Madeleine Albright, John Shalikashvili, Albert Einstein, Niels Bohr, Enrico Fermi, Edward Teller, Werner von Braun, and many other scientists who spearheaded the Manhattan Project and our space program"? The question, of course, is "Name a few of the prominent Americans who've helped make our country strong and successful, and had considerable access to controlled technology,

[11] 70 Fed. Reg. at 15608 (citing 15 C.F.R. § 734.11).

despite having been born abroad?"[12] To be sure, some of these people were naturalized before they gained such access, but some were not. Werner von Braun, for example, did not become a citizen until five years *after* he began directing the technical development of the Army's ballistic missile program in 1950.[13] The important point, though, is whether they would have come here in the first place if we had the kind of society that the proponents of the Notice seek—deliberately or otherwise—to create.

Again, we appreciate the opportunity to comment on the Notice. ICOTT and its members would be happy to meet with appropriate Administration officials to discuss this matter further.

Sincerely yours,

Eric L. Hirschhorn
Executive Secretary

ICOTT Member Trade Associations

American Association of Exporters and Importers
Semiconductor Equipment and Materials International
Semiconductor Industry Association

[12] Drs. Brzezinski and Kissinger are former Assistants to the President for National Security Affairs. Dr. Kissinger and Ms. Albright served as Secretary of State. Gen. Shalikashvili was Chairman of the Joint Chiefs of Staff. Drs. Einstein, Bohr, Fermi, and Teller were leading physicists and were involved in this country's nuclear weapons programs. Dr. von Braun was one of the leading scientists in our missile and space programs in the decades following World War II; he previously had been a prominent scientist in Nazi Germany's missile program.

[13] NASA web site (http://liftoff.msfc.nasa.gov/academy/history/VonBraun/VonBraun.html) (downloaded May 5, 2005).

From: "Liders, Gunta J." <gunta.liders@rochester.edu>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 7:57 AM
Subject: RIN 0694-AD29

June 22, 2005

Mr. Alex Lopes, Director
Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Attn: RIN 0694-AD29

Dear Mr. Lopes:

On behalf of the University of Rochester's (UR) Research Policy Committee of the Faculty Senate, I am responding to the Advanced Notice of Proposed Rulemaking (ANPR) published on March 28, 2005. We appreciate the opportunity to comment.

The UR faculty are extremely concerned with respect to the implications of the proposed rulemaking as it mandates a change in the "deemed export" requirements. Briefly, we consider it both unnecessary and unworkable. Our doctoral graduate student population consists of 40% of foreign nationals, many from countries that are subject to license requirements as prescribed by the Export Administration Regulations (EAR). One of the cornerstone principles of academic research institutions is the ability to freely exchange information among all scientific researchers, and to educate our students in an environment that enhances intellectual curiosity, as well as trust and mutual respect among faculty mentors and budding scientists. Research universities play an important role in fostering intellectual knowledge that ultimately promotes U.S. scientific predominance and economic competitiveness, as well as cultural exchange between nations.

We do understand that not all equipment is controlled by the EAR, and not all "use" technology is controlled. We also understand that, if the ANPR were to be enacted, most licenses to our foreign graduate students and postdocs would be granted IF they were working in areas where use technology was controlled. However, we feel the proposed changes would add a tremendous administrative burden, and strongly disagree with the Department of Commerce's viewpoint that the overall effect of implementing this change would be minimal. The points that we would like the Department of Commerce to consider are the following:

- The entire process of how faculty will need to think about incoming graduate students, their research focus, and what equipment will be used in those experiments will be altered. As it is, regulations stemming from federal research at times discourage faculty from pursuing certain fields, or provide a disincentive to conduct research that may be extremely important to the U.S. A requirement to screen equipment and use technology at the point where students are engaging in research would simply be dysfunctional. The intellectual exchange that naturally

occurs in a university setting would be compromised in those areas that are considered controlled by export policy.

- Faculty at U.S. universities do not understand the potential security threat that is, or has been, posed by foreign graduate students working on controlled equipment, or having access to use technology for that controlled equipment, when doing fundamental research. We would appreciate the Department of Commerce providing us with examples of situations that would, or have been found, to compromise homeland security. At first blush, to require licenses for controlled equipment is a misrepresentation of a basic fundamental tenet of the American system of justice, and the presumption of innocence before proven guilty;

- The relationship between a faculty mentor and a graduate student is unique and it is a relationship that is normally of life long duration. The long-term dependency that develops between a graduate student and his/her faculty advisor, as well as the close supervision of the graduate student, inherently makes the misuse of controlled equipment very unlikely;

We appeal to the Department of Commerce to:

- Reconsider recommendations of the Office of Inspector General as published in the ANPR;

- Distinguish between the "use" of controlled equipment/technology vs. access to "use technology" that enables the use of controlled equipment. This is one and the same in a laboratory environment;

- If the Department of Commerce deems that in the interest of homeland security it must make clarifications in the current EAR, do so in a way that universities and their faculty can actually implement the requirements. We choose to work at universities because of the free intellectual exchange and the scientific progress this environment promotes. The ANPR can only be easily understood by administrators in controlled environments with bureaucratic structures and processes. We agree, to a large part, to the points made by C.D. Mote, Jr., the President of the University of Maryland at the May 6 *NAS Workshop on the Deemed Export Policy*. Specifically the recommendations were to narrow the list/scope of controlled technologies within a university setting that require deemed export licenses and to clear international students and postdocs for access to controlled equipment and use technology when their visas are issued.

Thank you for consideration of our comments. Administrative requirements are not typically a focus of interest to our faculty, but because of its potential damaging effect on research, this ANPR has created a great deal of concern. We strongly disagree with the Department of Commerce's opinion that the added administrative burden of a change in the regulation will have little effect on the research that is done at universities. A change

in the regulations will have an extremely detrimental impact upon the research faculty, our students, and scientific progress both within the University and nationwide.

Sincerely,

Mary Hayhoe
Chair, Research Policy Committee of the
Faculty Senate
Professor, Center for Visual Science

Pc: C. Phelps

From: "John M. Carroll" <jcarroll@ist.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 4:52 PM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security
FROM:
SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS).

The security of our nation is paramount, but I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

John M. Carroll
Edward M. Frymoyer Chair in Information Sciences and Technology
Professor of Information Sciences and Technology, Computer Science and Engineering, Instructional Systems, and Psychology
The Pennsylvania State University
307H IST Building
University Park, PA 16802-6823
Phone: 1.814.863.2476; Fax: 1.814.865.6426

From: "Vincent, Sandee L" <sandee.l.vincent@intel.com>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 5:03 PM
Subject: FW: RIN 0694-AD29

From: Vincent, Sandee L
Sent: Tuesday, June 21, 2005 1:50 PM
To: scook@bis.doc.gov
Cc: alopes@bis.doc.gov; Lutz, Michael A; Rittener, Jeff; Rose, David; Straub, Susan A; Vincent, Sandee L
Subject: RIN 0694-AD29

June 21, 2005

Ms. Sharon Cook
U.S. Dept. of Commerce
Bureau of Industry and Security
Washington, DC 20230

Dear Ms. Cook,

Intel's comments on the advance notice of proposed rulemaking, Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15606, Mar. 28, 2005, RIN 0694-AD29) are attached for your review.

Please let me know if you have any questions.

Sincerely,

Sandee Vincent
Sr. Export Administration Manager
Intel Corporation
(408)-765-1207
sandee.l.vincent@intel.com

June 21, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Street and Pennsylvania Avenue, NW, Room 2705
Washington, D.C. 20230
Attn: Alex Lopes, Deemed Exports and Electronics Division

Re: Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15606, Mar. 28, 2005, **RIN 0694-AD29**)

Dear Mr. Lopes:

Intel is pleased to comment on the advance notice of proposed rulemaking, which contemplates potential expansion and clarification of deemed export regulatory requirements. We believe that expanding these requirements will exacerbate problems associated with the existing deemed export rule, including constraints on technology development and substantial compliance burdens. This outcome has negative implications for U.S. technology leadership, competitiveness and the national interest in general.

As the world's largest chip maker, Intel must compete effectively on a global basis to survive. The ability to do so relies upon removal of barriers to global markets and the flexibility to easily move people and equipment across worldwide company sites. It also fundamentally depends upon technology leadership, which is inextricably tied to research and development activities using world-class talent. Approximately 50% of Intel's global workforce consists of non-U.S. citizens, reflecting efforts to hire and retain the "best and brightest" around the world.

Current Rule. The deemed export rule imposes burdens and constraints that are costly to companies in terms of administrative overhead, limitations on full participation of foreign national's in Intel's workforce and, more indirectly, a less attractive environment for enticing highly skilled foreign technology workers to seek employment in the U.S. This situation is ironic considering that many of these highly skilled foreign technology workers were educated in the U.S.

Since the inception of the deemed export rule in 1994, Intel has applied for an estimated 1500 deemed export licenses, exclusive of renewals and upgrades. U.S. government review and approval of these applications has often been marked by delays, with some lasting 6 months or more. To comply with the terms and conditions of deemed export licenses, Intel has instituted a rigorous internal control program to ensure that illegal technology transfers do not occur. Examples of standard operating procedures include classifying technology to ascertain its export control status; screening the nationality of job candidates and employees prior to making controlled technology transfers; acquiring needed export licenses, upgrades and renewals; and administering physical, remote access, non-disclosure and other security safeguards.

The process of obtaining export licenses and complying with their requirements negatively affects Intel's ability to deploy foreign nationals in important technology projects. Licensing delays have been a salient problem in this area, since they prevent controlled country foreign nationals from being used in key Intel technology projects in a timely manner. In addition, technology and equipment restrictions on approved licenses limit Intel's flexibility to use controlled country foreign nationals on such projects. While the U.S. government's current practice is to establish license conditions that generally do not stop controlled individuals from working on a particular

project, these employees by definition lack the freedom to access certain technologies and equipment that may be useful in an existing project or required for a more advanced project in the future. To enable such access, Intel must first obtain license upgrades, compounding the problem of initial licensing delays and restrictions with more delays. The overall problem is unstable as well, given potential for future deemed export control polices to expand constraints on technology or equipment access. To the extent Intel cannot take full advantage of highly qualified and creative talent, it places a drag on our operational efficiency and ability to innovate.

Deemed export requirements – whether through licensing delays or potential project-limiting conditions – also have a human dimension. They convey a message to controlled individuals that their careers are subject to restriction if they stay in the U.S. Furthermore, the requirements can compel companies to treat them as second class citizens, since they are subject to licensing processes and restrictions that do not apply to their peers. This runs counter to Intel's culture of encouraging and respecting diversity.

Taken together, the difficulties and limitations imposed by the deemed export rule act as a disincentive for talented foreign nationals to come to the U.S. and make the types of scientific, economic and other contributions that have historically served the national interest so well. The burden also creates an un-level playing field because other countries do not impose an equivalent to the deemed export rule.

Proposed Expansion. The proposed rulemaking would magnify deemed export restrictions and burdens by changing today's licensing standard from a foreign national's most recent citizenship or permanent residency to one based on his/her country of birth. Intel understands that this change would require U.S. entities to apply for licenses for controlled technology transfers to persons born in controlled countries, regardless of their most recent citizenship or permanent residency. While BIS officials indicate that the country of birth criterion would not apply to U.S. permanent residents, the language of the proposed rulemaking is not clear on this point. Intel has also heard that some in the U.S. government may want to include such individuals within the scope of the proposed revision. Our assessment of this expansive criterion therefore takes both scenarios into account. It also looks at the impact based on the government's potential use of a fallback approach linked to country of citizenship rather than country of birth. Both additional licensing burdens and legal ramifications are considered in this evaluation.

Additional Licensing Burdens – The following table contains rough estimates of the additional licenses and attendant compliance burdens that Intel would face as a result of a country of birth (COB) or country-of-citizenship (COC) standard.

Additional Licensing Burden Resulting from COB or COC Standard			
Licenses, 3rd Country Only	**Comments**	**Licenses, US Permanent Residents Only**	**Comments**
COB: ~ 60 – 100 licenses would be required for individuals within a total	Requires a revised global screening system to identify all present and future Intel employees in third countries who were born in a controlled country, presuming that obtaining this sort of information outside the U.S. would even be	COB: ~ 500-1,500 licenses would be required for individuals within a total U.S.	The vast increase in licenses in a US permanent resident scenario would dramatically increase the burden associated with a third country-only scenario. To revise and maintain a screening system for its US population, Intel would need to add at least 5 people and expend $

3rd country employee pool of tens of thousands of employees.	possible. The system would also require an analytical component to determine which employees in this permanent resident pool were born in controlled/Group B countries and could be exposed to licensable technology. To implement and maintain this screening system, Intel would need to add headcount and expend $100's of thousands over time. Corporate legal obligations would also increase to avoid monetary penalties or loss of export control privileges.	permanent resident pool of ~5,000 employees.	millions over time. Additionally we would be required to review all 5,000 legal permanent residents to determine those that would require a license.
COC: ~ 30-50 licenses would be required for individuals within a total 3rd country employee pool of tens of thousands of employees.	Same burden as above, except that the standard would be COC rather than COB.	COC: ~ 350-1000 licenses would be required for individuals within a total U.S. permanent resident pool of ~ 5000 employees.	Same as above, except a COC standard would be used.

Conflict with Other Laws – In addition to expanded licensing burdens, Intel is concerned that legal issues could arise from the application of a country of birth or citizenship standard. This could occur to the extent that adoption of either standard runs counter to laws dealing with personal data disclosure, equal protection or other equities, whether in third countries or even in the U.S. We are especially concerned over a potential collision with foreign laws, given our understanding that they are more restrictive than U.S. law regarding dissemination of personal data like country of birth or citizenship. For example, counsel for the Computer Coalition for Responsible Export states the following:

- **Privacy Laws:** Under the 1995 EU Data Privacy Directive, the collection and processing of employee data on "racial or ethnic origin," without employee consent, is generally illegal, and the Directive forbids companies from taking adverse action against employees who fail to provide such personal data. (Employees even have a "right to lie" when asked to provide such data, calling into question the effectiveness of any BIS regulation.)

- **Anti-discrimination Liability:** In Canada and the EU, the law generally recognizes "indirect discrimination" claims relating to the disparate impact of neutral employer practices. Hungary is one example of a country that explicitly protects employees against disparate impact discrimination based on "national origin."

Intel understands that the ABA export controls committee plans to submit comments to BIS that provide detailed analysis of the intersections of the proposed rulemaking with other laws. While

we will leave exhaustive legal analysis to the ABA or other legal experts, we stress that any double jeopardy created by legal conflicts with a country of birth or citizenship standard within the scope of our global operations (which extend to the U.S., Europe, Asia, Middle East, China, Russia, and other geographies) would create unacceptable legal and operational instabilities for Intel. In short, the proposed deemed export expansion would be undermined by impracticality.

Other Proposed Changes. The proposed rulemaking also seeks to clarify the definition of use technology in the EAR to eliminate confusion over its application to the deemed export rule. We believe that Intel's business would not be directly affected by a change from the conjunctive to the disjunctive in the context of use technology related to operation, installation, maintenance, reporting, overhaul, refurbishing.

Similarly, Intel is not directly affected by the proposed rulemaking's modification of licensing guidance related to government-sponsored and university research.

It is important, however, that the use technology definition and other aspects of administering the deemed export rule *not* have a chilling effect on U.S. research efforts conducted by universities or other entities. Intel works with many universities to enable and foster innovation and the advancement of technology in such areas as product architecture, applications, semiconductor technology, systems, applications and communications. In doing so, Intel awards university research grants for research projects and even operates research laboratories near UC Berkeley, the University of Washington, Carnegie Mellon University, and Cambridge University. If the deemed export rule is administered in a way that deters universities from engaging in research efforts, it could harm the research foundation upon which Intel's technology leadership is built. Such a move could also force the research to be done in foreign nationals' home countries, allowing those countries to quickly gain expertise and challenge U.S. technology leadership.

Conclusions/Recommendations. The national security benefits of the deemed export rule are not evident to Intel. There seems to be no objective national security nexus between a broad-brush licensing rule that targets all individuals from a given country and the likelihood that a particular person from that country intends to act against U.S interests. The control standard used successfully during the Cold War for export of technical data inside the US – i.e., that export control requirements would apply when there was knowledge and intent that the data would be transferred to a foreign country – was more reasonable, workable and effective.

U.S. national and economic security is nonetheless ill-served by regulation that impedes efforts of U.S. companies to stay ahead technologically and otherwise remain globally competitive. The deemed export rule is an example of such regulation, and its negative impact on technology leadership/competitiveness will increase if the rule is expanded as proposed. This point is particularly relevant in light of the U.S. unilateral application of the deemed export rule. The rule not only places a disproportionate burden on U.S. companies versus foreign competitors, the proposed extraterritorial extension of the rule could invite reciprocity. Yet a country of birth or last country of citizenship test may ultimately prove unworkable, given its potential for daunting administrative burdens and conflicts with privacy or other laws.

BIS should in any case evaluate the impact of the deemed export rule and its potential expansion against the U.S. national security stake in maintaining a world-class U.S. research, engineering and manufacturing base. The impact should be considered across all relevant stakeholders, whether they are companies, universities, government or other entities. This type of evaluation is important. A 2004 report on U.S. science and engineering capabilities by the President's Advisory Council on Science and Technology warns that "...without immediate steps to preserve

and strengthen it, [the U.S. innovation ecosystem] is threatened by significant changes in the global technical talent pool and shifts in the share of global R&D effort by region (U.S., Europe, and Asia.)."

Intel believes in particular that an assessment of deemed export regulatory requirements, existing and proposed, should take account of how these requirements act in concert with other U.S. policies or regulations to catalyze the offshore migration of R&D, manufacturing or other vital activities. For example:

- U.S. tax policy is not conducive to U.S. capital investment in the semiconductor industry, since foreign tax incentives and capital grants enable chip companies to save a billion dollars over 10 years by building a wafer fabrication facility outside the U.S.
- Internet access policy in the U.S. is inadequate, with the U.S. ranking 15th in the world in broadband deployment.
- Visa restrictions discourage foreign nationals from coming to this country to contribute to vital areas like university research.

The deemed export rule, by providing motivation for offshore movement of R&D, joins such policies and regulations in retarding U.S. competitiveness and technology leadership. Even if viewed (incorrectly) as innocuous in isolation, the rule and/or its proposed expansion reinforces a more general direction of creating impediments that do not bode well for U.S. security interests. A prominent WDC attorney recently characterized this problem as a "death by a thousand cuts."

For the reasons stated, Intel supports effective policies that recognize, rather than compromise, the positive correlation between national security and U.S. economic/technological vitality. We thus believe that the Commerce Department should reconsider the validity of the deemed export rule rather than contemplate its expansion. In particular, we believe the Department should:

- Eliminate the deemed export rule and return to the knowledge/intent standard used prior to 1994.
- Simplify the deemed export regulatory process if the first recommendation is not attainable. To this end, Intel joins with many industry colleagues in supporting a license exception for global intra-company transfers of technology. This action, properly executed, would eliminate the burden of case-by-case licensing for both deemed exports and technology transfers to foreign subsidiaries of U.S. companies.
- Abandon the idea of expanding the deemed export rule. Intel particularly opposes any use of a country of birth or a fallback country-of-citizenship criterion.

Thank you for the opportunity to comment on this highly important matter.

Sincerely,

Sandee Vincent
Sr. Export Administration Manager
Intel Corporation

From: "Tao Zhu" <fftz@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 2:47 PM
Subject: RIN 0694-AD29

Dear Madam/Sir;

Please see the attachment for my comments on "RIN 0694-AD29". Thanks,

Tao Zhu, Associate Professor
Department of Petroleum Engineering
University of Alaska Fairbanks

CC: <fnkjh1@uaf.edu>, <fftz@uaf.edu>

Department of Petroleum Engineering
PO Box 755880
Fairbanks, AK 997750
(907) 474-5141

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
- students opportunities for "real world" experience;
- financial burden of making export determinations for all existing university research equipment;
- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Tao Zhu, Associate Professor

From: Anil Nerode <anerode1@twcny.rr.com>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 9:38 AM
Subject: RIN 0694-AD29

The proposed regulatory changes will harm national security interests.

The proposed regulations and administrative overhead needed to justify the present large number of foreign-born graduate students and postdoctoral associates will cause all sensible researchers to avoid research dependent on equipment appearing on the Commerce Control List, and to eliminate foreign born scholars from their research.

Considering the shortage of first class talent native born citizens going into Physics and Mathematics and similar research this will move the centers of scientific activity to the European Union first, the rest of the developing countries such as India and China next, to the detriment of Industrial growth and defense science.

From: Erich Follmann <ffehf@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 21, 2005 1:38 PM
Subject: RIN 0694-AD29

Department of Biology & Wildlife

PO Box 757000

Fairbanks, AK 997750

(907) 474-7338

June 20, 2005

U.S. Department of Commerce

Bureau of Industry and Security

Regulatory Policy Division

14th & Pennsylvania Avenue NW, Room 2705

Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

Ø faculty and student recruitment;

Ø student involvement in research (foreign national students and U.S. students of foreign faculty);

Ø students opportunities for "real world" experience;

Ø financial burden of making export determinations for all existing university research equipment;

Ø cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);

Ø avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and

Ø limitations on collaborations and discussions with peers

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In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,

Erich H. Follmann, Professor of Zoology

Nanook Bear Logo

UNIVERSITY OF ALASK
A FAIRBANKS

From: <buppka@umdnj.edu>
To: <scook@bis.doc.gov>
Date: 6/21/2005 9:25:29 AM
Subject: RIN 0694-AD29

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am an adjunct assistant professor in the biochemistry department at Robert Wood Johnson Medical School of the University of Medicine and Dentistry of New Jersey. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. We are working on developing gene therapy treatments for several diseases. This revision would do irreparable damage to the research enterprise in our laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,
Keith Bupp, PhD
Adjunct Assistant Professor
Department of Biochemistry
Robert Wood Johnson Medical School/UMDNJ
675 Hoes Lane

Piscataway, NJ 08854
Phone:732-235-5048
FAX: 732-235-4783

UNIVERSITY OF
ROCHESTER

Charles E. Phelps
Provost

June 22, 2005

Mr. Alex Lopes, Director
Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Attn: RIN 0694-AD29

Dear Mr. Lopes:

This letter is in response to the referenced Advance Notice of Proposed Rulemaking (ANPR) asking for comments on the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

The University of Rochester endorses both the letters of the American Association of Universities (AAU) and that of the Council of Governmental Relations (COGR), therefore I will not reiterate the comments provided in these letters. We also conclude from our analysis of the recommendations that the objective of ensuring homeland security will not be furthered by adoption of the IG's recommendations, yet the fundamental nature of U.S. universities may be altered in a manner that will negatively impact the overall advancement of fundamental research, and ultimately, our national competitiveness. I offer some specific facts intrinsic to the University of Rochester that may help to provide additional information to assist you in evaluating the implication of enactment of the recommendations:

1. The University of Rochester is a research-intensive university, with sponsored research expenditures totaling approximately $350 million in FY '05. In terms of licensing revenue, we rank among the top ten universities in the nation. Non U.S. citizens routinely comprise approximately 40% of our doctoral candidates. The accomplishments of our foreign nationals educated at the University of Rochester are impressive. Our University Dean of Graduate Studies, Bruce Jacobs, recently authored a paper entitled "The Tangible Contributions of International Graduate Students" in which he cites that 32% of Rochester's Ph.D. graduates that are academic leaders in the STEM fields, economics and business administration within the U.S. were born in other countries. Further, Dr. Jacobs points to the obvious – international graduate students have a substantial role in educating future generations of our best scientists.

2. The second point that Dr. Jacobs raises is that over the past 5 years, 42% of the inventors listed on our invention disclosures were not citizens of the United States. Again, the obvious fact is that foreign researchers contribute significantly to intellectual property that provides tangible benefits to the U.S. in terms of concrete value (e.g., new products or services) and to economic competitiveness.

200 Wallis Hall
Rochester, New York 14627-0021
(585) 275-5931 Fax: (585) 461-1046
E-mail: charles.phelps@rochester.edu

3. In FY 04, the University of Rochester (immediate campus) housed 60,235 pieces of equipment at a capitalization value of over $1,000. Of that number, 31,580 pieces of equipment were purchased by federal funds. Our Laboratory for Laser Energetics (LLE), primarily funded by a DOE Cooperative Agreement, accounted for 19,076 of this total. As defined by the EAR, much of the equipment housed within the LLE is export controlled for use technology, however, we operate under the fundamental research exception as we have been extremely careful to maintain no restrictions on our publications. Indeed, the University and LLE turned down a multi-million dollar contract with the Department of Defense in order to maintain unrestricted publication. Currently, the LLE has 59 foreign nationals affiliated with the laboratory. The LLE has played a fundamental role in the research of 161 Ph.D. recipients of which at least 56 were foreign nationals. If the recommendations are enacted, I can guarantee that these numbers would change radically, as foreign students would simply be discouraged from participating in this critical national research. The analysis that would be required of almost 20,000 pieces of equipment to assess specific license requirements, and the probable number of license applications that would need to be requested just from this one major research program are significant. In addition to the regulatory burden, the IG's recommendations would simply erode the standard of free and open exchange within a disciplined laboratory environment that upholds the highest security standards.

Along with our sister institutions, we appeal to the Department of Commerce to consider the recommendations of AAU and COGR, and reconsider adaptation of requirements that would greatly increase the administrative burden of universities, serve to erode the very nature of research collaboration that we have tried to preserve and ultimately discourage the beneficial exchange that has taken place at this institution with our foreign scientists. In the very least, the lack of clarity in the recommendations should be examined and corrected.

Thank you for the opportunity to comment.

Sincerely,

Charles E. Phelps

Charles E. Phelps
Provost

Copy: AAU
COGR

COUNCIL OF GRADUATE SCHOOLS

Communicator

Volume XXXVIII, Number 4 May 2005

The Tangible Contributions of International Graduate Students

An Alternative Approach and Some Evidence from the University of Rochester

by Bruce Jacobs, University Dean of Graduate Studies, University of Rochester

Prologue

Many who come to the United States from other countries to earn graduate degrees have a beneficial impact on our educational institutions and the nation at large. Anecdotal evidence of such effects appears frequently in a number of settings. Sometimes a news story sums up the accomplishments of a lifetime. At other times we can read about the beginnings of what may be a productive career that contributes to the innovations highly prized in the marketplace. Two recent examples follow.

Yale News Release

For Immediate Release: February 11, 2005 (#43)

In Memoriam: Science Advisor to Former Bush Administration and Former Dean of Engineering at Yale, D. Allan Bromley

New Haven, Conn. Renowned nuclear physicist D. Allan Bromley, the first Sterling Professor of the Sciences and Dean of Engineering at Yale from 1994 to 2000, died February 10 at age 78. From 1989 to 1993, he served under George H.W. Bush as the first Assistant to the President for Science and Technology and Director of the Office of Science and Technology Policy. One of the world's leading nuclear physicists, Bromley was founder and director of the A.W. Wright Nuclear Structure Laboratory at Yale from 1963 to 1989. He carried out pioneering studies on both the structure and dynamics of atomic nuclei and was considered the father of modern heavy ion science, a major field of nuclear science. From 1972 until 1993, he held the Henry Ford II Professorship in Physics at Yale, and from 1970 to 1977, he served as chair of the Yale Physics Department.

"Allan Bromley was a great scientist and a great leader. In three successive careers, he built our physics department, served the nation with distinction, and thoroughly revitalized engineering at Yale. With intelligence, energy, and enthusiasm he inspired countless students and colleagues," said Richard C. Levin, President of Yale University. "Where he led, we willingly followed."

Allan Bromley was a graduate student from Canada who earned his Ph.D. degree in physics at the University of Rochester. Some years later he became a U.S. citizen.

Rochester Democrat and Chronicle (March 1, 2005):

"UR team is refining camera-photo's heart"

In just a few short years, it has grown from a fad for techno-geeks into arguably the fastest-growing new product in history. Now researchers at the University of Rochester have developed technology that down the road could improve the increasingly popular camera-cell phone and lead to similar devices. Mark Bocko and Zeljko Ignjatovic, professors of electrical and computer engineering, have developed what they believe is a breakthrough approach to imaging sensors, which serve some of the same functions as photographic film. Their approach involves a more efficient method for converting light into digital images that can be viewed on computer display screens...

Zeljko Ignjatovic was born in Yugoslavia and came to the University of Rochester to earn his doctoral degree in electrical and computer engineering. He and Professor Bocko now have six inventions at various stages of the patent application process.

Introduction

In recent years there has been a fair amount of concern in the graduate school community about the significant decline in applications from foreign students and, perhaps to a lesser degree, their declining presence among enrolled students. The most frequently cited data are from a survey done by the Council of Graduate Schools, which reported an average 28 percent decline in foreign applications and a 6 percent drop in their numbers in entering classes for 2004 (Brown, Syverson, and Doulis). The latter figure followed decreases of 10 percent and 8 percent in the prior two years (Syverson and Brown, 2003 and 2004). Last month the Council released new data indicating the downward trend has continued, albeit at a slower pace (Council of Graduate Schools).

These developments have been attributed to a number of factors. Important among them has been the impact of new regulations that have had the effects of slowing down the issuance of student visas and making trips outside the U.S. subject to uncertainty about whether and when the students can return (Kless). Some have observed that an outgrowth of these trends has been a feeling among international students they are

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not welcome in this country. Another factor has been the emergence of increasing competition from graduate schools in other countries, including those in Australia, Canada, and Europe. Also deemed important has been the growth of the "high tech" sector of economies in China, Taiwan, and India.

However, there is some uncertainty about the dimensions of the problem. Some have questioned, for example, whether we actually face a shortage of scientists and engineers in our labor market (Monastersky). While over a number of years there has been an increased reliance on foreign born scientists trained in this country, some question how serious the problem of declining applications is at elite schools. As one graduate dean has suggested, "one can argue that the best and the brightest will still gravitate toward the very best faculty in the very best institutions" (Pell). MIT, for example, has experienced only very modest declines in international student enrollments in a number of graduate programs (Atwood). There is also some uncertainty about which part of the applicant quality distribution has dropped the most. Anecdotal evidence from a number of schools suggests the greatest reduction of foreign applicants may be among those least qualified. Finally, recently published stories indicate the waiting time for student visas has been declining (Puzo) and governmental decisions promise to lengthen clearance times for foreign students and scholars (U.S. Department of Homeland Security).

Nevertheless, a general sense of concern persists in the leadership of many graduate schools. Even if the decline in applications and enrollments comes to an end, the number of international students will have settled at a much lower level. Some have argued that we need to "make the case" for governmental efforts to counteract the decline. Yet, the case can not focus solely on the shrinkage of the foreign applicant pool, even if it includes some of the best and brightest students schools fight so hard to recruit. The reductions in foreign applications and enrollments (28 percent, 6 percent and so on) represent the "input" side of the graduate school process. The larger issue, however, is what contributions these talented foreign students make to our society - the "output" side.

Of course, a number of contributions immediately come to mind. Many have argued that a declining interest among American students in science and engineering has been counteracted by young people in other nations who have come to this country to study. Others have spoken about the role international students play in developing technological advances that help fuel our economy. Many believe when graduate students return to their own countries they actually serve as "ambassadors" who extol the virtues of our nation. However, some of these contributions, while important, are not easily quantified or measured. Making the case effectively will require gathering empirical evidence of the tangible contributions of international graduate students. A necessary quality of such evidence is that it be perceived as valid indication these students provide something of significant value to this nation. Another is that universities should be able to gather these data without Herculean efforts by their staffs.

Here I suggest two kinds of evidence I think both accessible and likely to be perceived as valid. Undoubtedly other tangible contributions share these characteristics. My suggestions are simply offered as options to measure the "output" side of graduate education for international students.

Educating America's Best and Brightest

When faculty members train graduate students at the most prestigious schools in this country, their endeavors serve a number of purposes. Perhaps most important are the transmission of knowledge and development of skills enabling program graduates to carry out significant research, thus helping this country remain competitive in the academic world. Equally valuable is the research professors pursue themselves in the university environment (frequently in partnership with their students). In many disciplines such work is sustained by substantial grants and contracts.

There is also a parallel objective graduate schools have in this process -- nurturing doctoral programs' reputations. Among the most important factors affecting these reputations is each program's complement of faculty members. Indeed, when the National Research Council asked their survey respondents to rate different programs in a discipline, the information they received consisted largely of a list of faculty members at each school.

All of this suggests universities have a strong incentive to recruit (and hold on to) the very best professors available. This may seem obvious, but the importance of this incentive is hard to overestimate. Simply put, it is both in each school's interest and in the national interest to sustain excellence among the faculty.

We all realize a significant number of faculty members at the most prestigious schools, who are given the important responsibility of training our very best students, were once international graduate students at American universities. What we do not know is the magnitude of that number. It is fairly safe to assume American universities do not have a bias against American graduate students in making their faculty hiring and promotion decisions. Therefore, the presence of former international students in these positions can be seen as a valid indicator of their value in academe -- an output measure.

In principle, it should be fairly easy to ascertain how many members of a faculty have done their graduate work as international students in this country. Each school could canvass its departments and forward such information so national estimates could be produced. While we do not know what numbers would emerge from such a survey, data now available at the University of Rochester provide at least some hint of what the findings might be.

The university maintains a list of professors with Rochester Ph.D. degrees who teach in "top 25" doctoral programs and schools: http://www.rochester.edu/gradstudies/PhDs.html. (I call them "academic leaders" for want of a better term.) For the purpose of this exercise I focus on several disciplines that might be perceived as most directly linked to the national interest. To the STEM fields I add economics and business administration, since the latter programs train faculty members who will teach future generations of business managers, financial analysts, and others central to the workings of the economy. I do not mean to shortchange the humanities and other social sciences. At Rochester, for example, we believe graduates of the university's Eastman School of Music provide significant tangible benefits to the nation. However, the argument upon which their inclusion would be based might be less obvious to some and would possibly be a distraction from the main point of this exercise.

Former international students now on the Rochester "leader list" come from 29 different countries. While India is the most frequent nation of origin, a number of others have noticeable contingents: China, Italy, Korea, Israel, Poland and Turkey. The table on page 6 illustrates some of the variation in national origin and faculty rank across prestigious universities. Each university listing is limited to one Rochester graduate. There are twice again as many graduates not in the table. The most prestigious and largest American universities, of course, have trained more faculty members, but aggregate national data might well tell the same story as emerges from the University of Rochester.

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Thirty two percent of Rochester's Ph.D. graduates who are "academic leaders" in the STEM fields, economics and business administration were born in other countries. This is a remarkable number, which may partly be a reflection of the fields sampled as well as the varied strengths of the university's degree programs. However, even if a comprehensive study of highly ranked doctoral programs came up with a percentage a third this size, it would rightly be seen as significant. It appears former international graduate students may well have a substantial role in training America's best and brightest. A survey of graduate schools could quantify the magnitude of this positive impact.

A Sample of Former International Graduate Students at Rochester Now on the Faculties of Highly Ranked Programs and Schools*

Faculty Member at:	Graduate	Nation of Origin	Faculty Title
Harvard	Kelly Zou	China	Associate Professor of Radiology and Biostatistics
Princeton	Jose Scheinkman	Brazil	Wells Professor of Economics
Yale	K. Geert Rouwenhorst	Netherlands	Professor of Finance
Chicago	Young-Kee Kim	Korea	Professor of Physics
Stanford	Seungjin Whang	Korea	Singh Professor of Operations, Information, and Technology
MIT	Kathamna Lewellen	Poland	Assistant Professor of Finance
Wisconsin	Sridhara Rao Dasu	India	Assistant Professor of Physics
Michigan	H. Nejat Seyhun	Turkey	York Professor of Business Administration
North Carolina	Yue Xiong	China	Professor of Biochemistry and Biophysics
Cornell	Tapan Mitra	India	Professor and Chair of Economics
UC San Diego	Sinjan Radic	Yugoslavia	Associate Professor of Electrical and Computer Engineering
Carnegie Mellon	Daniele Coen-Pirani	Italy	Assistant Professor of Economics
Duke	Pranab Majumder	India	Assistant Professor of Operations
Northwestern	Yehea Ismail	Egypt	Assistant Professor of Electrical and Computer Engineering
Dartmouth	B. Espen Eckbo	Norway	Tuck Centennial Professor of Finance
Pennsylvania	Serguei Netessine	Russia	Assistant Professor of Operations and Information Management
Johns Hopkins	Ola A. Selnes	Norway	Associate Professor of Neurology
Columbia	Eiichi Miyagawa	Japan	Associate Professor of Economics
Univ. of Washington	Rajesh P.N. Rao	India	Assistant Professor of Computer Science and Engineering
UC Berkeley	Avi Segev	Israel	Professor of Manufacturing and Information Technology
Penn State	Iam-Choon Khoo	Malaysia	Professor of Electrical Engineering
NYU	Gian Luca Clementi	Italy	Assistant Professor of Economics
Texas	Karol Lang	Poland	Professor of Physics

*The fields are restricted to science, technology, engineering, mathematics, economics & business administration. "Top 25" programs at the University of Rochester are excluded.

Developing Innovations Valued by the Public

Research universities are an integral part of this nation's economy. For example, they can be the largest employers in communities outside large central cities. More importantly, they are often the venues in which new technologies and other inventions grow out of research projects. When successful, these innovations meet the market test of value (i.e., there is a demand for the new products that will generate significant revenues). In a very real sense, these are the tangible contributions of the researchers who create new knowledge and products. While there is some ambiguity about the proper role of the university (e.g., the appropriate mix of basic and applied research) most schools now have offices that encourage and facilitate the development and diffusion of such innovations.

The traditional approach of academic work is to have a free flow of ideas and a communal access to them. For the most part, however, the incentive to develop new technologies and other inventions is tied to some form of ownership (of the intellectual capital) and, on occasion, some amount of secrecy. The ownership rights typically are realized through a patent issued by the federal government. The revenues generated by inventions often are in the form of licensing agreements with private companies. In some cases, a new (start-up) company is formed in order to realize the economic value of the innovation.

There is a multistage process through which patent rights are granted. In the first instance, a disclosure of invention is submitted by the research team to an office in the university. Upon the school's approval (based on scientific merit and potential commercial value), a patent application is prepared and submitted. The U.S. government then decides whether to issue the patent.

The University of Rochester submits many patent applications each year and several patents are issued to the university by the federal government. Rochester's licensing revenues rank among the top ten universities in the nation (Blumenstyk). Since the specification of "inventors" (the research team members) is required on both invention disclosures and patent applications, current records at the university allow us to assess the role of international graduate students in the process that translates ideas into things of tangible value to the public. The university's Office of Technology Transfer has provided the necessary data to measure the magnitude of their contributions.

Over the last five years, research team members (listed in invention disclosures) who were not citizens of the United States represented 42 percent of all the inventors. Graduate students on the teams had a much higher international share than the faculty researchers -- over half of the graduate students vs. a fifth of the faculty members. However, a number of the faculty members now U.S. citizens were previously international students, so the foreign share is actually underestimated. Quite clearly, international students at Rochester are a key component of the invention process.

In actual patent applications the core research team members are named. Most faculty members are listed, but graduate students are also included on the basis of their intellectual contributions. We can sort the patent research teams according to whether they have at least one member who is not a U.S. citizen. Since the beginning of 2000, roughly a third of the patents granted to the University of Rochester have had at least one foreign inventor.

It is not clear what the best measure of international graduate students' contributions to the discovery and development of innovations might be. However, the simple percentage figures offered here (based on data easily gathered) suggest the contributions are substantial. A national survey of research universities would provide some valuable evidence on this point.

Conclusion

The contributions of international graduate students are widely believed to be substantial (at least in the academic world). The declining presence of these students in applicant pools and enrollments has alarmed many. However, absent some solid evidence indicating a continuation of this pattern would be detrimental to the national interest, it may be hard to make the case that governmental officials should respond aggressively to the threat. In this regard, empirical data measuring tangible contributions (the output side) might be of great help to the academic community. This exploratory exercise, based on University of Rochester data, suggests such an approach would be both feasible and effective.

Charles Phelps, Provost of the University of Rochester, provided useful suggestions and support for this article.

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June 22, 2005

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Bureau of Industry and Security, Regulatory Policy Division
14th & Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

ATTN: RIN 0694-AD29

Thank you for inviting our comments on the proposed revisions to current deemed export policies that the Bureau of Industry and Security is now considering. We welcome the opportunity to address the impacts these would have on Duke University and on the academic research community at large.

Of course, Duke will continue to act in accordance with federal export policies, regardless of the outcome of the current BIS review process. However, we concur with those, such as University of Maryland President Daniel Mote, who say that these proposed changes would be costly and that the real costs of these changes would go well beyond any financial imposition. The greatest cost, by far, would be to our ability to attract the most talented scientists and engineers from around the world: to come to Duke, to come to other U.S. universities, and to come to America. Indeed, the central issue is a potential loss of America's economic competitiveness. We must consider carefully what those losses would be, and whether they are justified by any actual gains in security.

American Leadership in Science and Engineering: Drawing on a Global Talent Pool

The National Academies have recently completed a report that underscores the vital importance of this issue. Entitled *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, this report cites some impressive statistics on the role of foreign nationals in the U.S. research enterprise:

- Foreign students earned 38% of U.S.-awarded science/engineering doctorates in 2003 (including 58.9% of the doctorates in engineering).
- Most U.S. postdoctoral scholars in science/engineering are temporary-resident foreigners (59% in 2002).

Many of these foreigners who come to America choose to remain here and contribute substantially to the advance of U.S. science and technology. For instance:

- Of tenured and tenure-track U.S. faculty in science/engineering, fully 19% are foreign-born; in engineering alone, those of foreign birth hold 36% of faculty positions.
- More than one-third of U.S. Nobel Laureates were foreign-born.

These national trends are reflected in our own experience at Duke University. Over a third of those who complete graduate degrees at Duke (35% of graduates between 2000 and 2004) are foreign nationals. Those figures include 248 students from China and 100 students from India, two countries restricted in almost every "Reason for Control" category on the Commerce Country Chart. All told, 80 nations (nearly half the nations on the Chart) are represented among our graduate student body. To take the case of just one laboratory at Duke, consider the figures for our Free Electron Laser Laboratory (FELL):

- There are currently 61 foreign scientists and students working and studying at the FELL. This total includes 11 from China and 27 from countries of the former Soviet Union.
- It is common for the FELL to offer student research experiences with only days or weeks of notice (frequently depending on the receipt of supplemental funding from federal sponsors); such opportunities would not be possible if case-by-case license reviews were required.

While they are at Duke, every one of our foreign-national students – like every one of Duke's foreign-national postdoctoral fellows and faculty – contributes to the research enterprise of this institution. Moreover, many of these students have continued to contribute to America's growth in science and technology after completing their studies here. For example:

- Ten foreign-national graduate students have completed their studies at the Duke-based Triangle Universities Nuclear Laboratory (TUNL) in the past 10 years. All but two have remained in the United States, including two Chinese, one Mongolian, one Palestinian, and one Russian. As well, TUNL has hosted 13 foreign-national postdoctoral researchers in the past five years, seven of whom have remained in the U.S. (During this time, the laboratory has also hosted 34 foreign visitors, from nations including China, Kuwait, Russia, and Saudi Arabia.)
- Of the 77 graduate students to receive Master's or Ph.D. degrees since 2000 in Duke's Department of Computer Science, 61 have been foreign nationals, and all but three of these individuals continue to live and work in the United States. These 58 include 19 from India and 28 from China.

At Duke, as at any U.S. university, these students work and learn in an environment quite different from that of a for-profit business. The American system of higher education depends upon the free flow of ideas. We do not ask our students, postdoctoral fellows, or faculty to sign confidentiality agreements as a condition of enrollment or employment, and everyone here is free to publish and share the results of his or her research. This paradigm has served America well, in terms of both higher education and the advancement of fundamental research.

Threats to American Research and Education

As reported last year by the President's Council of Advisors on Science and Technology (*Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science and Engineering Capabilities*), fewer U.S. students are pursuing careers in science and technology, making the contributions of foreign-born researchers who come to the United States increasingly important to our country's continued scientific, technical, and, ultimately, economic success. However, as the Council of Graduate Schools recently reported, most graduate schools in the United States have begun to see declines in overseas applications and enrollment – a reversal that follows more than thirty years of sustained growth. The National Academies' report attributes these changes, at least in part, to more restrictive student visa policies. In response, the Department of Homeland Security has recently relaxed certain visa requirements for students and scientists. However, the proposed changes in deemed export policies would have the effect of undermining that response.

Meanwhile, even as we consider the prospect of more restrictive policies on foreign researchers in the United States, we are facing increasing competition from other countries seeking to tap the talent pool of young scientists and engineers from around the world. As stated in the National Academies' report, the European Union and China are among those making substantial investments to improve their infrastructures for research in science and engineering. Nations such as the United Kingdom and Canada have adopted policies designed to help recruit talented international graduate students to their universities.

As Duke Professor of Electrical and Computer Engineering Nan Jokerst recently stated, "At a conference I attended last week, there was discussion about how the U.S. is falling behind in research in many areas. This will only help to accelerate the situation."

To get a more specific sense of how our institution would be affected, Duke undertook to classify a few types of equipment and materials in five of the ten categories on the Commerce Control List (and unlike most businesses, which might be involved with only one or two CCL categories, major research universities such as Duke will likely be involved with all ten). While we reviewed only a small fraction of the research-related equipment and materials at the university, this process has given us a good sense of what we face if we are required to review everything. We have already dedicated over one person-month to this limited effort, involving technical staff, business managers, faculty, and academic administrators. Mounting a full scale review and maintaining the review and licensing process in the years to come would clearly require a separate office for export control compliance with two to four full-time staff. Our very limited review already has identified several potential areas where, if the proposed changes were to take effect, all work by foreign nationals would have to be suspended, pending further review and possible licensing.

For example, Duke University maintains a Shared Materials Instrumentation Facility (SMIF). This has been encouraged and financially supported by the federal government. In FY 2004 alone, the SMIF helped to enable research conducted under 21 different federally funded grants that represent a total of nearly $6 million in funding to Duke. There are currently 172 different

users of the SMIF facility, including 119 from the Duke research community, 35 from other universities, and 18 from corporate partners. All our Engineering departments use the facility, as well as our departments of Chemistry, Computer Science, and Physics, and our Schools of Medicine and the Environment. This facility is just one of many examples of technology sharing at this university -- arrangements created to maximize the efficient use of research resources, federal and otherwise.

An initial review of Category 2, Materials Processing, reveals a variety of potential problem areas for the SMIF, such as a furnace tube that apparently falls under 2B226, implying use-technology restrictions under 2E201. Because the Reasons for Control (NP, CB, AT) cover most countries, and because the broader proposed definition of "use technology" covers information required for any operation, the use of this furnace tube would have to be restricted, pending further review and, potentially, export license approval for any foreign national needing to use the equipment.

In cases such as this, while U.S. citizens and permanent residents could freely use the technology required to conduct fundamental research at Duke, their fellow researchers (students, postdoctoral fellows, and faculty) would be prohibited, pending the results of a license review process. As detailed below, the consequences of this prohibition would be substantial, in three ways: 1) it would delay, and could even deny, researchers access to the resources they need; 2) it would create a two-tiered system of higher education in America; and 3) it would fundamentally change -- for the worse -- the nature of academic research and education in the United States.

Research Delayed, Research Denied

To appreciate this risk, one must consider a basic difference between the private-sector R&D environment and the research environment within the academy. In the academic environment, delays for license review could not be routinely circumvented through some prior approval process, because it is the nature of fundamental research that one does not know where it will lead at the outset. Academic researchers may have months or years invested in a project when the need for restricted use technology suddenly arises. Projects cannot stand still while export reviews take place. In many cases, the science itself demands quick response. In all cases, researchers and their projects operate on schedules. Students must make progress toward their degrees; externally funded projects must show they are meeting technical objectives and be completed within their sponsors' timeframes. In short, research delayed often amounts, in practice, to research denied.

Cases actually requiring a license application, and thereby coming to the attention of the BIS, would be only the tip of the iceberg. For each case requiring a license, there would be many more examples where researchers would have to be barred from carrying out their work, pending a determination that their cases are exempt from the deemed export criteria. Such determinations, in fact, have constituted the bulk of our impact assessment thus far. This effort would be ongoing, as both the students and the technology they use constantly change. Universities anxious to stay within the law would necessarily proceed with caution, thereby greatly magnifying the impact of the changed policies on academic research.

The Risk of a Two-Tiered System

Research projects would be hampered by the loss of talent, but the long-term impact would be considerably greater than the sum of those losses. In the long-term, the most critical consequence of barring foreign researchers from certain projects, while allowing U.S. citizens and permanent residents to work on them, would be the creation of a two-tiered system, with foreigners clearly on the lower tier. This would have a significant chilling effect on our efforts to recruit and retain the most talented foreign scientists and engineers. Students, postdoctoral fellows, and other academic researchers who had been granted admission to this country and this university, and had been allowed to begin their research and education activities here, would find themselves suddenly suspended from using key resources. Many would return home, and fewer would come in the future.

Not only would talented foreign nationals be discouraged from pursuing research and study here, but we at Duke would be discouraged from recruiting or accepting them. Consider the response of Duke Physics Professor Ying Wu, of our FELL facility, when asked about the proposed changes: "In most cases, I would feel so constrained that I would not be able to accept highly qualified graduate students, because they happen to be foreign nationals."

Diminishing the Stature of the American University

Once students and other researchers arrive at an American university, they are in an environment predicated on the free exchange of information. They do not sign blanket confidentiality agreements upon arrival. Our function, as an academic institution, is not to engage in applied, proprietary research; that is an essential function, but one that properly belongs to the private sector. Our function, also essential, is to pursue fundamental research, and to train the next generation of researchers who will further advance human knowledge.

We have already discussed how research will be hampered and foreign talent lost, should the proposed changes go into effect. In addition, there will be another loss – less tangible, but equally substantial: a loss of academic freedom, diminishing the stature of the American university.

Consider, for example, a resource created by and for our own graduate students, the Student Center for Integrated Education Research and Development (http://cierd.pratt.duke.edu). This center promotes collaboration and information sharing among our graduate students, regardless of nationality, and is the sort of thing we should be encouraging. Unfortunately, we have also identified it as a potential area of high risk under the proposed changes in deemed export criteria, because use technology information may be freely shared among member students. If this were to be shut down, or restricted based on nationality, we would be signaling to our students that the American university had become a very different place, one in which information may not be freely shared.

It would also be a less diverse place. Today, our universities provide American students with some of their first – and best – opportunities for interacting with and learning from people from

around the world. Their intellectual horizons are broadened, and relationships are formed that will last lifetimes. These relationships form a global network, so that even those foreign students who return to their home countries continue to benefit the United States as they work together with their American colleagues in business, government, and academia.

Lack of Justification for Imposing These Controls

Should we be attempting to stop the flow of information after students and other researchers arrive on campus? It is not at all clear that this represents the point at which efforts to maintain national security should reside. We believe that the gatekeeper and screening role for foreigners coming to the United States does not properly belong within academia, but rather should remain with the federally overseen visa-approval process, which provides for the screening of our student, postdoctoral, and faculty researchers *before* they ever arrive at the university. It is at this point that researchers are assessed for security risk, and this is how it should remain.

In this respect, it is worth mentioning another aspect of the proposed changes: establishing country of birth, in addition to country of citizenship and/or permanent residency, for our foreign students and other researchers. To the extent that the federal government is concerned with this, clearly it should be addressing this issue as part of Visa Mantis. As it happens, Duke University *does* document country of birth for foreigners arriving here for work or study, but our only means of verification is the individual's signed statement. To go beyond this would require a new bureaucratic infrastructure, simply to duplicate what is properly a federal security function.

The observation has been made, in defense of the proposed changes in policy, that the vast majority of cases that come forward from academic institutions will eventually be cleared, as either exempt or approved for licensing. However, that argument underscores the nature of fundamental research, which does not operate in a closed environment. It isn't surprising that the review process would ultimately lead to approval; the surprise is that academic institutions in the United States would be told to so profoundly change the nature of what they do, simply to reach a point where we are already.

Moving Forward

All of this is not to say that we should be satisfied with the status quo. We believe there are several steps that can be taken to improve the current regulations on deemed exports. For instance, much of the difficulty we faced in assessing the impact of the proposed changes was the result of ambiguous language. We agree that the definition of "use technology" needs to be made clearer; we simply believe this should be done within the terms of a narrowly tailored definition, not one so broad as to effectively conflate "use technology" with "use" itself. Likewise, the term "publicly available" should be clarified, so that our students and other researchers don't face pointless restrictions on use of equipment sold on the open market to anyone in the U.S. And finally, we agree with the Association of American Universities that there needs to be a study of this whole issue by the National Academies of Sciences, to assess the impacts of export control rules on scientific research and, by extension, on both our economic well-being and our national security.

The fundamental research exemption to deemed export licensing requirements has worked well historically for both academic research and the overall good of this country. It is understandable, then, that threats to this exemption have raised alarms within academia. Duke University shares these concerns. However, we are confident that a spirit of reciprocal engagement between the academy and the federal government will prevail, and will result in policies that promote the education, research, economic, and security objectives of this country.

Again, thank you for inviting our comments. Duke stands ready to provide additional information and assistance as needed to aid in your review of this vitally important matter.

Sincerely,

Richard Brodhead

Richard H. Brodhead

P.S. We would like to thank the following Duke University faculty and staff who contributed to this response to proposed changes in deemed export requirements:

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Christopher Westerfeldt, Research Scientist, Triangle Universities Nuclear Laboratory

And the following Assistants to the Directors of Graduate Study:
Fonda Anthony, Department of Psychological and Brain Sciences
Kelly Cottrell, Department of Psychology, Social and Health Sciences
Joyce Graves, Department of Electrical and Computer Engineering
Carol Richardson, Cell and Molecular Biology Program
Diane Riggs, Department of Computer Science
Ann Sink, Department of Neurobiology

University of Colorado System
Boulder • Colorado Springs • Denver • Health Sciences Center

Office of the Vice President for Academic Affairs and Research

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June 22, 2005

U.S. Dept. of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Ave. NW, Room 2705
Washington, D.C. 20230

ATTN: RIN 0694-AD29

In response to the March 28, 2005 Advanced Notice of Proposed Rulemaking, the University of Colorado seeks to address our concerns with the above-noted Dept. of Commerce's (DOC) Office of the Inspector General's (OIG) Report. The University of Colorado acknowledges the Department's intent to enact controls that prevent the transfer of sensitive technology; nevertheless, we have significant trepidation of unintended consequences resulting from these proposed rule changes. We thus provide the following general outline of these concerns, as well as individual responses from faculty and administrators highlighting specific effects on University laboratories and educational programs.

The University of Colorado's three-campus system is home to 52,000 students and 2,600 full-time instructional faculty members, making it the largest institution of higher learning in the state. In FY 2005, CU was awarded $588 million for sponsored projects and the University's total budget was $1.79 billion. In the most recent survey available (FY 2002), CU was ranked 6th among public institutions by the National Science Foundation (NSF) in terms of overall research expenditures. Rankings for specific disciplines include Physical Sciences (3rd), Life Sciences (10th), Engineering (18th) and Math and Computer Sciences (20th). Based on NSF data from 1997 to 2002, CU experienced the third largest increase in Federal R&D expenditures (77%) among all public and private institutions.

While we are concerned with the impact of the proposed changes on our overall research and educational enterprise, the effects on specific departments in the physical sciences, life sciences and engineering would be most extensive. The University recognizes that, under current Export Administration Regulations (EAR) guidelines, DOC has in place a process to apply for foreign nationals to have access to sensitive technology, and in large part, academic research has been exempted from EAR licensing requirements due to the fundamental research exclusion. Should CU need to submit license applications per the stipulations of the proposed rule changes, we anticipate dire consequences.

According to statistics compiled by the American Physical Society, DOC currently handles 800-900 applications for foreign national's access to sensitive equipment annually; the great majority of license applications are approved within an average turnaround time of four months. A recent National

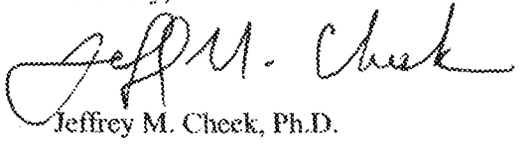
Academy of Sciences report has noted that, on a national average, one-quarter to over one-half of graduate students and postdoctoral fellows in these disciplines are foreign nationals. It is our primary concern that, if university students, postdocs and faculty are no longer exempt from EAR guidelines by the fundamental research exclusion, DOC will be overwhelmed with license application requirements so that the turnaround for approval (if granted) could exceed two years or more. This would render American universities less competitive for attracting the best graduate students and postdoctoral fellows, and would be especially detrimental to CU's excellence in the physical sciences, life sciences and engineering.

We are particularly concerned that the proposed rule changes will impede the ability of universities to conduct research essential to national security needs. A prime example is in research conducted at the University of Colorado at Boulder (UCB) that is sponsored by the Department of Homeland Security. Led by Dr. Kathleen Tierney of the Natural Hazards Research Center, UCB is a principal partner with the University of Maryland in the DHS-sponsored University Center of Excellence for Behavioral and Social Research on Terrorism and Counter-Terrorism. There are numerous other examples in which CU students, postdocs and faculty are working on challenges in basic research disciplines that will have application to the nation's security needs. We deem it critical for scientific excellence to recruit based on expertise essential to programmatic and scientific goals, as opposed to restricting the participation of international students and scholars after their arrival in the United States.

There will also be tangible and substantial financial burdens imposed by the proposed rule changes. Monitoring "use" of export controlled equipment as defined by the OIG report will increase the administrative burden disproportionately in the disciplines of physical sciences, life sciences and engineering. The University of Colorado is currently undergoing difficult fiscal challenges due to successive decreases in state support. The proposed rule changes, with the associated costs in staff time, coupled with physical requirements to restrict access to equipment deemed as sensitive would amount to an unfunded mandate that would further weaken our research infrastructure.

In closing, we request that the DOC review the attached comments, which reflect specific examples of potential impacts on CU research laboratories and academic programs. We also ask that the Department consider other unanticipated consequences, particularly with respect to placing unnecessary barriers that restrict our nation's global competitiveness in science and technology. Finally, as part of the Visa Mantis process, the federal government already conducts extensive background checks on foreign nationals entering the U.S. to pursue research. In addition to the potential threats to the vitality of the University's research enterprise and fiscal health, we also ask that DOC take into account the redundancy of the proposed changes with existing federal requirements.

Sincerely,



Jeffrey M. Cheek, Ph.D.
Assistant Vice President for Research and Learning Innovations

cc: President Elizabeth Hoffman
Vice President Jack Burns
Vice President John Bliss
Vice President Charles Sweet
Interim Chancellor Philip DiStefano
Chancellor James Shore
Chancellor Pam Shockley-Zalabak
Interim Provost Susan Avery
Provost Mark Heckler
Vice Chancellor Rogers Redding
Vice Chancellor John Sladek
Associate Vice Chancellor Marguerite Childs
Associate Vice Chancellor Fred Pampel
Associate Vice Chancellor Tom Huber

Laboratory for Atmospheric & Space Physics
University of Colorado at Boulder

From the perspective of the University of Colorado at Boulder's Laboratory for Atmospheric and Space Physics (LASP), much of the concern with deemed exports falls more under ITAR regulations than the Commerce Department. We limit the use of non-US citizens in the engineering and mission operations sections of LASP that relate to Space Flight hardware to comply with ITAR. Therefore, the specialized equipment in those areas, which might be subject to Commerce control, is already protected.

In the science area, we want to encourage foreign collaborations, students, and employees and do not limit our hires in that area. Currently, we have 7 individuals who are temporary aliens in the science division. While that is a small number, the collaborations are important. We have another permanganate resident who left Eastern Europe to escape such controls on science. He has indicated a lack of interest in working in an environment where such controls are imposed.

One item of equipment that might fall under the Commerce control is a cluster computer system. It is used to run large simulations and models and is very powerful. We might need to limit access to that tool to some foreign employees and students. We collaborate with the local national labs in this type of research and this is generally the true fundamental research being conducted on that machine.

The issues that I see are twofold:

(1) restrictions on scientific interactions; and
(2) administrative issues.

As I mentioned, the scientific area is the group where we do not restrict hires based on citizenship but on ability to contribute to programmatic and scientific goals. We hire based on the background of the individual. The areas of science studied at LASP (planetary, solar terrestrial, atmospheric, and space plasma physics) are not direct concerns for national security. We strongly believe that global collaborations are vital to the progress of science and work to enhance security of the United States. The US has been proud to be the intellectual leader of the world. However, by not making information and items available to other countries, they are not content to just wait for old technology; rather, they work to develop their independence from American suppliers. Large and small American businesses will suffer loss of sales, intelligent people who are not able to study at US schools will improve their own institutions, and, by virtue of some very intelligent people studying in those locations, the US stands to lose the lead in technological innovation. Many NASA programs encourage international collaboration, seeming to recognize the value in those relationships, and yet these regulations make it nearly impossible.

The administrative implementation is another concern. We will need to know, for each piece of equipment, which countries are permitted or denied access. Since several pieces of controlled equipment may be in one room, we would most likely need to know the countries denied access to anything in a room. Any rooms with controlled equipment will need some more secure control system to restrict access. Some items, such as computers, may require network control rather than physical control. The facilities cost to locate items in controlled spaces (perhaps requiring remodeling), the actual control of the space, and the monitoring would all be costly and time consuming. The University would also need to be aware of the country of origin for any subcontractors or other personnel (such as maintenance and janitorial) who might have access to rooms with such equipment. While the University is attempting to control keys in a better way, building masters are routinely provided to outside facility firms for electrical, mechanical, or other work. Those companies would need to restrict citizenship based on rooms needing access.

We do not currently have access to a listing of people by nationality and country of origin (I understand that both are needed under these proposed rules). That might be available to a group on campus but, at this time, that information is not generally available. Anyone in control of restricted equipment would need access to that information. Based on the country denied access to each piece of equipment, someone would need to check the list of people not permitted access before giving anyone access. The processing of paperwork to obtain an export license each time someone needs access to equipment would be a burden on the University. Any students or post-docs needing such access might not receive permission until near the end of their stay at CU.

These points might point to a dangerous security risk. However, the point of such a description is that, if someone is intent on getting access to a particular piece of equipment and that person is inside the United States, there are many ways for him/her to gain that access. The more appropriate way to control access is for the VISA process to include screening for access to any item of concern and deny entry if there is a problem. Then, anyone admitted, would be free to collaborate to the fullest extent.

Another point is the cost of these regulations compared to the perceived benefit. The Department of Commerce will need to increase staff to process the applications in addition to the costs incurred at each university and private business doing business with the university. This is essentially an unfunded mandate to the university community. Again, the more appropriate allocation of resources would be to put the effort on screening the VISA applicant. Or, once again, the best defense is a good offense - we need to collaborate with the best and the brightest to maintain our technological edge that has made us the envy of the world. We will win by running faster, not hiding

Caroline Himes
Executive Associate Director
Laboratory for Atmospheric & Space Physics

Cooperative Institute for Research in Environmental Sciences
University of Colorado at Boulder

The Cooperative Institute for Research in Environmental Sciences (CIRES) is located on the Boulder Campus of the University of Colorado. The institute employs approximately 450 scientists who work in the fields of atmospheric physics, atmospheric chemistry, geophysics, ecosystem science and related disciplines. Much of the strength of CIRES lies in its innovative approach to the development and use of scientific instruments. Examples include the use of novel instruments that quantify the chemical composition of gases or fine particulate matter suspended in the atmosphere, atmospheric profilers that give information on moisture in the atmosphere, satellite imagery, which is used for a wide variety of environmental analyses, and aircraft-borne instrument packages that take a wide variety of chemical and physical data on the atmosphere. The institute has a broad range of collaborations with other universities, and with international organizations that do research.

Work of the type that is done at CIRES would be handicapped by a requirement to register the use of or restrict access to instruments. CIRES operates in a traditional U.S. academic mode; i.e., with free interchange of interchange of information on both methods and data. It is through this interchange that CIRES maintains contact with outside institutions and outside scientists who are participating in advancing the state of the art in the environmental sciences. The introduction of bureaucracy into this interchange would make it less functional, thus leading to lower effectiveness and a higher cost-benefit

ratio for the scientific output of the institute. For these reasons, CIRES hopes that any intrusions into traditional scientific interchange will be both minimal and well justified.

William M. Lewis, Jr., Ph.D.
Professor and CIRES Acting Director

Department of Mechanical Engineering
University of Colorado at Boulder

I am the responsible faculty member for research in the field of materials science in the department of mechanical engineering at the University of Colorado at Boulder. Leading edge research, by definition means the use of leading edge equipment. If our students and post-docs are restricted from using state-of-the-art equipment they cannot compete effectively in the increasingly competitive world of scientific research on breakthrough materials. Having worked in scientific research for 40 years at leading Institutions, including Harvard University (five years), Cornell University (twenty five years) and the University of Colorado (ten years), I am absolutely certain that the technological and military pre-eminence of the United States has its roots in our excellent infrastructure (including state of the art experimental facilities) in basic and fundamental research. Indeed, the development of new cutting edge experimental techniques is a significant aspect of our fundamental research framework. If this foundation of fundamental research is weakened then slowly but surely our national leadership will also weaken. There is just not doubt in my mind about this. We have prospered in economic and military power because we have found the correct balance between security concerns and scientific discovery. This regulation and the visa restrictions already in place will together disturb this balance, and weaken our dynamic system of scientific innovation.

Rishi Raj, Ph.D.
Professor of Mechanical Engineering
University of Colorado at Boulder

Department of Aerospace Engineering Sciences
University of Colorado at Boulder

I'm not sure if this extends to computer access and satellite data. If so it would greatly restrict my group which hosts a lot of foreign visitors who come here on their own nickel to work in my group. Right now I have one from Italy and one from Spain. We are expecting another student from Italy next month. They work with high-resolution imagery from DigitalGlobe which we would not like to see become a problem.

William Emery, Ph.D.
Professor, Aerospace Engineering Sciences

The restriction on use of GPS equipment and other laboratory by foreign nationals would be a serious problem for us. Right now our group teaches several courses on GPS that include lab components with GPS hardware and software. If this equipment were subject to the export control restrictions it would force us to limit enrollment in the courses based on nationality.

We currently are limited by ITAR in some research projects to limit access to specialized GPS hardware and software for space applications to US citizens only; however, my understanding of the

forwarded information is that the Department of Commerce proposal would further restrict access. This more general restriction on GPS and laboratory equipment would severely impact our research program in GPS. We currently have several foreign students and visiting researchers in the GPS area. Restrictions on our ability to work with these individuals would certainly degrade research progress.

Penny Axelrod, Ph.D.
Associate Professor, Aerospace Engineering Sciences

As an example, some of my work involves use of unpiloted aerial vehicles carrying various types of instruments for geophysical studies. Some sensors (such as a thermal video camera) that we use have export restrictions and some of the sensors that we are considering for use may have restrictions. The proposed regulation may preclude us using the aircraft outside the U.S. and could greatly limit our opportunities for international collaborations.

James Maslanik, Ph.D.
Associate Research Professor, Colorado Center for Astrodynamics Research

Department of Pharmacology
University of Colorado at Denver Health Sciences Center

Currently, the UCDHSC Department of Pharmacology is not producing any substances that are exported to other countries. (We have a few interstate materials transfer agreements, but none abroad.) Hence, as we understand the Department of Commerce's (DOC) rule change, we are not directly impacted by the change which may require the licensing of employees who are foreign citizens using equipment in our Department.

However, with that said, we strongly state that the very nature of research is collaboration, and any restrictions and containment of knowledge would have far reaching consequences to the University and the research community. The Department employs twenty-six research individuals from foreign countries (ten in the Research Associate series and sixteen as post-doc fellows). Currently, we have one foreign graduate student. All of these individuals significantly contribute to the current and future success of our research and our Department.

Michelyn Lintz, M.P.A.
Pharmacology Administrator

for Nancy Zahniser, Ph.D.
Professor and Acting Chairperson

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June 22, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
Bureau of Industry and Security
Department of Commerce
Regulatory Policy Division
14th St. & Pennsylvania Ave., NW, Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Dear Mr. Lopes:

I am writing in response to the Advance Notice of Proposed Rulemaking (APRM), published on March 28, 2005, in the *Federal Register* seeking public input on a number of recommendations from the Office of Inspector General (OIG) with respect to deemed exports. More specifically, I write in reference to RIN 0694-AD29 and the recommendations to the Bureau of Industry and Security (BIS) contained in *Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S. (Final Report Number IPE-16176-March)*.

Many of the proposals contained in this proposed rulemaking are troubling to us at Montana State University. These concerns are well represented by the June 15, 2005 letter on this issue of Dr. C. Peter Magrath, President of the National Association of State Universities and Land-Grant Colleges (NASULGC). Montana State University is a Land-Grant university and a member of NASULGC, and I want to communicate our full support for the position Dr. Magrath has articulated in his letter representing the Land-Grant university community. I would like to highlight a few of these points here.

Science and fundamental research at institutions such as Montana State University is today inherently an international enterprise. We draw upon the talents of individuals from around the world to create the teams of scientists doing our fundamental research and their work contributes enormously to our university and our society. For this reason, many of the proposed recommendations would have substantial, long-term deleterious implications for Montana State University's research programs. As Dr. Magrath argues, it is not the nature of research to follow a pre-determined, predictable path, so seeking licenses prior to conducting the fundamental research is simply not feasible.

Furthermore, the proposals are not necessary because the international students and scholars involved in our research activities can only take part in them by obtaining an appropriate visa to enter the United States for this purpose. As you are aware, the United States now has the most restrictive and rigorous visa issuance process in the world. All visa applicants are reviewed in detail. All applicants must have an in person interview with a U.S. consular officer before a visa can be issued. In many cases, visa applications come under the rigorous Visas Mantis process which involves extremely detailed background reviews. The current proposal appears to

suggest that this system is flawed and that an additional layer of review must be added to prevent inappropriate individuals from taking part in our research programs. If there are still flaws in our visa issuance process, it would be far better for the Department to work with the Departments of State and Home Land Security to correct them than to attempt to build yet another wall to prevent access to U.S. university research programs.

Dr. Magrath rightly calls your attention to the problem of the negative messages we are sending to the best and brightest young minds around the world through proposals such as the present one. For decades, U.S. universities have attracted the most talented young academics and researchers in the world and our nation has benefited enormously from their accomplishments. One of the reasons they have come to our institutions is because we have communicated to them that they are welcome and there are opportunities for them here. Now we are precariously close to convincing this valuable talent pool which Montana State University and other major research universities needs to continue our fundamental research programs that they are not welcome in our nation. The proposals under consideration will certainly do more damage in this regard. Now is not the time to add an unnecessary new layer to the barriers already in place to prevent talented international researchers from coming to this nation.

Thank you very much for your attention to my concerns.

Sincerely,

Norman J. Peterson, Ph.D.
Vice Provost for International Education

cc: Dr. Geoffrey Gamble, President, Montana State University
Dr. David M. Dooley, Provost and Vice President for Academic Affairs
Dr. Thomas McCoy, Vice President for Research, Montana State University

HHMI
HOWARD HUGHES MEDICAL INSTITUTE

June 22, 2005

By Overnight Delivery

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Ave., NW
Room 2705
Washington, DC 20230

RE: RIN 0694-AD29

To Whom It May Concern:

I write on behalf of the Howard Hughes Medical Institute (HHMI) in response to the Department of Commerce (DOC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking relating to deemed exports.

As background, HHMI is a private non-profit medical research organization that is engaged in research in collaboration with non-profit hospitals, universities, and research institutes around the country. HHMI employs hundreds of leading biomedical scientists working at the forefront of their fields, who publish their research results in scholarly journals. Many of HHMI's scientists are members of the National Academy of Sciences, and 10 of HHMI's scientists have won the Nobel Prize.

In addition to its present research operations at hospitals, universities, and other institutions, HHMI is constructing the Janelia Farm Research Campus (JFRC), a unique, world-class biomedical research complex in northern Virginia. When completed in mid-2006, JFRC will be home to a broad range of scientific programs designed to advance basic biomedical science, including through the development and application of new tools for the study of biology and medicine. When fully operational, JFRC will employ over 500 scientists and administrative personnel, and will regularly host visiting scientists from other institutions in the U.S. and elsewhere who will contribute to JFRC's short- and long-term research projects. HHMI's research program at JFRC, like its current research operations, will be funded through HHMI's endowment; HHMI does not seek or accept government grants. Results of research conducted at JFRC will be published in the same way as other academic research results.

Thomas R. Cech, Ph.D.
President

4000 Jones Bridge Road, Chevy Chase, Maryland 20815-6789
301.215.8550 • Fax 301.215.8558

It is critical to the success of JFRC's mission to establish a research community that allows for close cooperation and free sharing of ideas among scientists of the highest quality. Because academic science has become a global endeavor, we expect to have visiting scientists and graduate students at JFRC not only from Canada, Western Europe, Japan, and Australia, but also from China, India, Russia, and other countries of concern to BIS.

HHMI shares the interests of the Association of Independent Research Institutes and other U.S. research institutions in a workable export controls regime that reflects the need for free expression of ideas and international cooperation. We do not believe that the DOC Inspector General (IG) recommendations strike an appropriate balance.

In particular, we do not agree with the IG recommendations regarding (1) the appropriate interpretation of controlled "use" technology as part of fundamental research or (2) consideration of a foreign national's country of birth for deemed export purposes.

First, we do not believe that the transfer of controlled "use" technology involving the operation, maintenance, or repair of a piece of equipment to a foreign national scientist engaged in fundamental research should be considered a transfer of technology that requires a license. If the scientist is engaged in fundamental research, use of equipment needed to perform that research, and maintenance or repairs of that equipment, should be considered an integral part of the fundamental research and, therefore, should all be covered by the fundamental research use exemption. Furthermore, because the need to educate scientists about the proper use of research equipment and to operate and repair equipment is an essential function of performing many experiments, the proposed regulation could delay science and overwhelm research administration by requiring an export control analysis for every piece of equipment in multiple laboratories and for a wide range of fundamental research transfers of technology to foreign nationals in the lab who do not have a "green card."

Second, we do not believe it is appropriate to treat an individual as permanently a citizen or resident of the country in which he or she was born, regardless of intervening events and changes in the individual's citizenship and/or resident status. We question the idea that an individual must more or less be considered as permanently and primarily loyal to the country of his or her birth, even if he or she has chosen to become a citizen or permanent resident of another country.

We believe that concerns about visiting scientists and students are better addressed through the visa and security clearance process, rather than through any expansion of the deemed export rules. Once a foreign national has been issued a

visa to come to the U.S. and participate in a research program, that individual should be considered as cleared for access to and use (including maintenance and repair) of any equipment needed for the conduct of that research.

We appreciate the opportunity to comment on the DOC IG recommendations.

Sincerely,

Thomas R. Cech
President

Gerald M. Rubin
Vice President and Director
Janelia Farm Research Campus

170 Frelinghuysen Road, Piscataway, NJ 08854
Phone: 732-445-0123 x629 Fax: 732-445-3644 Email: patruno@eohsi.rutgers.edu

FACSIMILE COVER SHEET

DATE: June 22, 2005

TO: Department of Commerce

FROM: Howard Kipen, MD, MPH
Clinical Research and Occupational Medicine

FAX: 202-482-3355

Number of pages (including the cover sheet): 3

RE: RIN 0694-AD29

If you did not receive all of the pages within this fax, please contact Denise Patruno at 732-445-0123 x629. Thank you.

E O H S I
ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES INSTITUTE

170 Frelinghuysen Road ■ Piscataway, NJ 08854
(732) 445-0123 x629 ■ Fax: (732) 445-3644 ■ Email: kipen@eohsi.rutgers.edu

Howard M. Kipen, MD, MPH
Director, Occupational Health Division

June 20, 2005

Re: RIN 0694-AD29
Revision and Clarification of Deemed Export Related Regulatory Requirements
Federal Register, Vol. 70, No.58, pages 15607 and following

Dear Sir / Madam:

I am a Professor and Chief of the Clinical Research and Occupational Medicine Division at the Environmental and Occupational Health Sciences Institute of the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School. A primary mission of this institution is to conduct basic, translational, and clinical research that will eventually benefit the health of the nation.

I wish to state my opposition to the proposed modification in the rule concerning the Deemed Export Related Regulatory Requirements. My work examines the role of diesel exhaust/particulate air pollution as a potential cause of myocardial infarction. This revision would do irreparable damage to the research enterprise in my laboratory, would be detrimental to the research competitiveness for the United States, would be both burdensome and expensive to implement, and is not necessary.

1. Most equipment currently falls under the research exemption. Thus, all equipment at this institution would now need to be inventoried and classified to determine if it falls under this rule. Estimates suggest that this might cost on the order of $1M for even a modest-sized research-based institution.
2. This rule would have a chilling effect on our ability to recruit quality graduate students. These students form a substantial part of our research workforce.
3. The rule would limit my ability to collaborate with foreign investigators.
4. This rule does not seem necessary because visa requirements have already been made severely restrictive. There seems to be no need to place another barrier to the recruitment of students from other countries, or to international collaboration.
5. By basing the requirement for a license strictly on the country of birth of the person, this policy has distinct racist overtones.
6. By slowing scientific research progress in the United States, this rule may have the opposite effect to that intended. Specifically it may reduce, rather than increase, the competitiveness of this country in the world.

This rule would be bad for science and bad to the competitiveness of the United States in the world marketplace. It would be burdensome and expensive to implement. And it is not necessary.

I urge you to drop, or substantially reconsider the proposed rule.

Sincerely,

Howard M. Kipen, MD, MPH
Professor and Director

HMK/dbp
Correspondence/ Deemed Export Related Regulatory Requirements.ltr

From: Andrew Millis <millis@phys.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 3:06 PM
Subject: RIN 0694-AD29

To whom it may concern:

I attach to this letter a pdf file containing a letter concerning the proposed new export control requirements relating to the ability of foreign nationals in US universities to access research equipment. In brief, I think that implementing the proposed rules would be a terrible mistake; it would serve only to weaken our scientific and technological infrastructure, thereby weakening the global competitive position of the US. The attached file expressed my concerns in more detail if I can provide you with further information, please do not hesitate to contact me.

With best regards

Andrew Millis
Professor of Physics, Columbia University
538 W. 120th Street, NY NY 10027
tel: 212 854 3336 fax: 212 854 3379
home page: www.phys.columbia.edu/~millis

June 22, 2005

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a persons country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nations greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it. Moreover, it would have a significant negative impact on the the scholarly environment; reducing the quality of work done by all individuals here.

The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work on condensed matter physics. I work in "materials theory", in particular the fundamental quantum mechanical origins of the behavior of novel materials, such as high temperature superconductors. This research involves numerical computations, often performed on advanced computers. The need to apply for an export license for foreign nationals who would have access to to my computational resources, and especially a requirement to restrict access to unauthorized individuals would constitute a significant burden and would force me to restrict some of my fundamental research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an

open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely yours,

Andrew Millis
Department of Physics
Columbia University
538 West 120th St., N.Y., N.Y. 10027
tel: 212 854 3336 fax: 212 854 3379
email: millis@phys.columbia.edu

From: "Teresa Lyons" <fntal2@uaf.edu>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 2:32 PM
Subject: RIN 0694-AD29

Please see attached

Teresa Lyons, BSN, RN, MBA
Research Administrator
Office of Research Integrity
212 West Ridge Research Bldg
907-474-7800 Phone
907-474-5444 Fax

Office of Research Integrity
PO Box 757270
Fairbanks, AK 997750
(907) 474-7800

June 20, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
- students opportunities for "real world" experience;
- financial burden of making export determinations for all existing university research equipment;
- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Teresa Lyons, Research Administrator

From: Pete Roming <roming@astro.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 5:15 PM
Subject: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Sincerely,
Pete Roming

From: Margaret Martonosi <mrm@Princeton.EDU>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 6:30 PM
Subject: RIN 0694-AD29

I am writing to express my concern regarding the proposed Commerce department rule changes on "deemed exports".

I am currently a Professor of Electrical Engineering at Princeton University, where I have been on the faculty for the past 11 years. My research group in that time has consisted of many graduate students from a number of different countries including the US, Turkey, Mexico, India, Japan, and China. The diversity of backgrounds has added tremendously to the intellectual richness of our group, and has spurred creativity and technological innovation.

My concern for the proposed rule changes is that their harmful effects on research and commerce are likely to far outweigh their potential security benefits. If aspiring engineers cannot legally be trained to use the basic "tools of the trade" in the United States, they will find other nations in which their talents are welcome and those other nations will enjoy the benefits of their talents as they develop. Since most US-schooled foreign graduate students remain in the US after their PhD, Commerce rules that limit their graduate research experiences will ultimately end up limiting the talent pool available to US companies and research labs long-term.

One of the best PhD students I have advised in my career is a Chinese citizen who is currently a greencard-holder on the research staff at IBM, making his way towards US citizenship. His doctoral research was richly-creative, and his ability to gather experimental data quickly and effectively was incredible. His work led to several publications, as well as two US patents owned by Princeton University and Agere Systems. There is no doubt in my mind that if the proposed export rules were in effect when he chose a graduate school, he would have chosen a school outside the United States. This is just one example of the sort of major, long-term, talent loss the US can expect from these rule changes.

The United States has always gleaned exceptional benefits from the talents and desires of its immigrant communities. In my own family, my father grew up in Hungary and was trained there as a Biochemist, but was encouraged to immigrate to the United States in 1957 after the Soviet Communist crackdown in Hungary. Had the currently-proposed export control rules

applied back then, he would have been forced to choose a different country in which to naturalize as a citizen, start a family, and continue a successful scientific and teaching career. And now, nearly 50 years later, one can look back and see that not only would the US have lost out on the benefits of his career, but also that of his four children: my older sister (an MD Geneticist), my older brother (a long-time officer in the US Navy, now serving in the US Navy Reserves while also working as a Special Education Teacher), my younger sister (a former Peace Corps volunteer now completing a PhD in applied probability, whose dissertation research directly analyzes and supports homeland security issues), and myself. I mention my family not because it is interesting or unique, but quite the opposite: because it is such a common American story, repeated all over our fifty states, with benefits accruing both to our economy and to our national security.

The actions we take today sometimes have ripples that go forward in ways that are hard to predict. But turning our backs now on the scientists and engineers of America's future is an action with a relatively predictable outcome: other nations will benefit economically and militarily from the immigrant talents and energies that we will spurn.

Regards,
Dr. Margaret Martonosi
Professor, Dept. of Electrical Engineering
Princeton University

CC: <mchristy@Princeton.EDU>

From: "Xiaoxing Xi" <xxx4@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/22/05 09:28PM
Subject: Fwd: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Respectfully,
Xiaoxing Xi

Xiaoxing Xi
Professor of Physics and Materials Sciences and Engineering
The Pennsylvania State University
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University Park, PA 16802
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Homepage: http://www.phys.psu.edu/people/display/index.html?person_id=52

From: tbrenna@gmail.com
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 10:05 AM
Subject: RIN 0694-AD29

To whom it may concern.

I am writing to express in the strongest possible terms opposition to the proposed rules for the application of export control of "dual use" equipment to research laboratories, and to make an alternative suggestion that may be effective toward the same goals.

Reason for Opposition. However well intentioned, the proposed export controls apply too broadly to scientific research labs to be useful for their intended purpose, and if implemented as literally proposed will bring research to a halt. The term "dual use" as applied to a list export controlled apparatus used in research labs is deceptive since, by definition, any object or material might be applied as a weapon by a research lab. That is, it is not possible to define some laboratory apparatus as potentially useful as a weapon and some as not useful, since it is not possible to predict future knowledge by the very nature of the research enterprise. "Dual use" is therefore not a useful concept. My opinion is that the concept of "dual use" does not make the USA safer, and the unintended consequences of this proposal make the USA less safe by isolating US scientists and engineers from those of the world.

A Suggestion. It seems the incentive of this initiative is to keep know-how out of the hands of terrorists, in the same sense as the know-how to fly jets into buildings was transmitted to terrorists by flight schools. An effective measure that will require far less overhead is to carefully screen and monitor foreign nationals. Many of the flight instructors that innocently trained 9/11 hijackers knew there was something amiss about their limited interest in flying planes, and not landing them. University research labs are already engaged in regular evaluation of laboratory personnel, including foreign nationals. A formal system, with low overhead and some extra resources to principle investigators to encourage/insure compliance, would be far more effective. A website for entry of progress reports that emphasize a distinction between laboratory activities that are directed toward research, compared to activities that appear to supervisors to be limited to unusual interest in only certain aspects of technical knowledge at the exclusion of other skills critical to research per se, would be effective. The overhead would be minor but the direct connection of supervisors with suspicions to federal anti-terrorism law enforcement would make development of leads much more useful.

J T Brenna
32 Deerhaven Dr
Ithaca, NY 14850 USA
submitted on behalf of self.

[Professional title: Professor and Director of Undergraduate Studies, Division of Nutritional Sciences, Cornell University, Ithaca, NY, USA]

From: Gustaaf Brooijmans <gusbroo@fnal.gov>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 10:12 PM
Subject: Revision and Clarification of Deemed Export Related Regulatory Requirements

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
scook@bis.doc.gov

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would require discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work. I am a particle physicist working on an experiment located at CERN, in Geneva, Swizterland. This experiment will probe physics at the highest energies ever attained, and this experiment, and the field in general, uses cutting edge technology to achieve its goals. Particle physics is in fact a significant contributor to modern developments in computing and microelectronics. Specific examples are the development of the World Wide Web, GRID computing and high bandwidth electronics. This requires the use of specialized equipment like very fast oscilloscopes or network analyzers for which export restrictions apply. The need to apply for an export

license for foreign nationals who would have access to some of this equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to restrict some of my fundamental research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

Gustaaf Brooijmans
Assistant Professor
Columbia University

From: Steven Rolston <rolston@umd.edu>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jun 22, 2005 5:32 PM
Subject: [Docket No: 050316075-5133-02];[FR Doc: 05-10672];[Page 30655-30656]; Export administration regulations: Deemed export licensing practices; clarification and revision

*

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Steven L. Rolston
Atomic Molecular and Optical Research Group
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June 17, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

SUBJECT: Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005 Federal Register

Dear Mr. Lopes:

As a member of the faculty of the University of Maryland, a 15-year employee of the Dept. of Commerce, and as a citizen of the United States I am writing to express my grave concerns about the recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

The spectacular success of the US economy and the country as a whole in the last 50 years has to a large part been predicated on our world leadership in science and technology innovation. Many of the key individuals who have contributed to our collective success came from other countries. They were lured here by both our openness as well as our scientific leadership. The proposed recommendations threaten to undermine our competitiveness, antithetical to the goals of the Department of Commerce, and the well being of the country.

If the US government wants to decide that it is too severe a risk to let highly educated citizens of countries such a China, Russia, or Iran to enter this country, then this should be an open decision that is debated fully in the public forum. It should be a decision based on intelligence, made by the intelligence agencies, not the Dept. of Commerce. Instead, by using the deemed export approach as a back door way to exclude them, it maximally compromises the abilities of academic research in this country and embroils

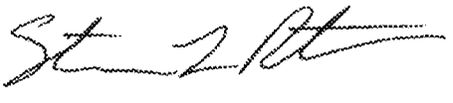
University personnel in rather complex and obscure decision making. It may avoid the open and frank discussion of the consequences of such exclusions, perhaps politically expedient, but will be seen as a mistake in the future when the US begins to fall behind other developed countries as the talented individuals of the world choose to get their education elsewhere. There has been a significant global "brain drain", and it has always worked to the benefit of the US. Such radical restrictions as suggested in the recommendations on deemed exports will shut this off in a hurry.

The threat to our national security from international students and scholars who have been cleared through the visa and visa mantis procedures is not clear and has not been demonstrated in the materials made publicly available. I really can not emphasize enough the contributions these foreign national students and postdoctoral fellows make to developing and sustaining my research and the significant cost which would be imposed in terms of stifling my research if the IG recommendations are adopted. In my atomic physics research group alone, I have a Chinese graduate student, and postdoctoral research associates from China, Korea and Iran.

Do not exacerbate the trend we are already seeing. U.S. universities have seen a drop in international applications again this year. Nationally the numbers were down 28% last year with a loss of an additional 5% this year. International applications at the University of Maryland were down 37% last year and another 5% this year. Foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields and are heavily recruiting international students. As a result, the number of U.S. students seeking post-undergraduate S&E degrees is decreasing while the number of foreign students seeking such degrees outside the U.S. is increasing. Therefore, extreme caution should be used when imposing unnecessary barriers to participation by these scholars or they will chose to study elsewhere. I have personally seen it get more difficult to attract European researchers as the programs in Europe have improved, and are beginning to rival what can be found in the US.

Before implementing a regulatory program that will cause significant and permanent damage to both the university research enterprise and the nation's future economic and scientific leadership, there must be more thought and open dialogue with the academic community and the public as a whole. We can not sustain our technologic superiority if the proposed regulatory measures are implemented. I thank you for this opportunity to provide input.

Sincerely,



Steven L. Rolston
Professor of Physics

From: "White, Linda" <lwhite@slac.stanford.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/22/05 06:03PM
Subject: RIN 0694-AD29 - Department of Commerce Letter 6/22/05

STANFORD UNIVERSITY
STANFORD LINEAR ACCELERATOR CENTER

Wolfgang K.H. Panofsky
Director Emeritus

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June 22, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Subject: Advanced Notice of Proposed Rulemaking
58 Federal Register 15607-15609, March 28, 2005
RIN 0694-AD29

Thank you for the opportunity to respond to the changes recommended to the Export Administration Regulation by the U.S. Department of Commerce, Office of Inspector General (OIG) in the Federal Register of 28 March, 2005.

I am the retired Director of the Stanford Linear Accelerator Center (SLAC) and Professor (Emeritus) of Stanford University. I was a member of the Corson Panel convened by the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine and I was a member of the Intelligence Sub-panel of that Committee. That panel issued a report in 1982 on Scientific Communication and National Security. In turn, that Report constituted a principal input to the National Security Decision Directive (NSDD) 189 issued by President Reagan's White House on September 21, 1985.

NSDD 189 is still in force as confirmed by this Administration. NSDD defined "Fundamental Research" and decreed that to the maximum extent possible "the products of fundamental research remain unrestricted." Whenever control is required, the method must be classification.

I conclude that the above referenced Regulation contradicts both the words and the spirit of NSDD 189 and in my view does not enhance the national security of the United States and additionally would be essentially impractical to administer. The Regulation conflates "use" of research equipment with "transfer of technology" subject to export controls. This redefinition contradicts NSDD 189 and generates an administrative nightmare.

Note that today an increasing number of the nation's most productive research is in the form of large international cooperative undertakings. Foreign collaborators contribute ideas, designs, analysis and interpretation, and also supply parts of the research apparatus, thus reducing cost to the U.S. participants and thus to the taxpayer. Under the common "use" of this collaborative equipment the

U.S. and foreign components are frequently not distinguishable. The product remains "fundamental research," to be freely disseminated.

A further dilution of the provisions of NSDD 189 results from introducing the test of "country of birth" beyond mere "citizenship" as a test of whether a "deemed export" has occurred. Note that foreign participants in U.S. research programs are subject to the "Mantis Program" which provides for vetting their visa applications by the Departments of State and Homeland Security, as well as the CIA and FBI before they enter the United States. At best, therefore, the "country of birth" provision is redundant but more likely counterproductive.

Foreign participation by students, degreed researchers and other professionals in U.S. fundamental research is even more essential today to maintain U.S. preeminence in scientific accomplishments than it was when President Reagan signed NSDD 189. The referenced Regulation countermands this vital need.

Respectfully submitted,

Wolfgang K. H. Panofsky

bcc: Rachel Claus
John Jaros
Jonathan Dorfan

From: "June Liu" <sjl16@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/22/05 05:45PM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

June Liu
Assistant Professor
Penn State Univeristy
Department of Biology
419 Mueller Lab
State College
PA 16802

From: Akhlesh Lakhtakia <axl4@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/22/05 02:58PM
Subject: RIN 0694-AD29

June 22, 2005

Alex Lopes
Director
Deemed Exports
Bureau of Industry and Security

Dear Mr. Lopes,

I am writing to express my concern that your organization is about to squeeze openness from the university atmosphere. You must have gone to college at one time, and must have benefitted from an open and cosmopolitan atmosphere. Unlike the esteemed president of our country, surely you must have retained some ideas of a liberal and Christian nature, chiefly that we must all do what we can to benefit others.

Growth of fundamental knowledge takes place best in an open environment. It invigorates national economy, which is synonymous today with strength and prestige. (Just consider the abysmal status of Spain in the comity of nations after it kicked its Moorish and Jewish intellectuals out.)

Therefore, curb your instinct to suppress the open research atmosphere at US universities, and be brave enough to send a dissenting note to our esteemed president as well. That lovable fellow needs all the mental muscle that we can provide him to think with.

I recommend that the US Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies and also protect the opnness of the research enterprise that has helped build it.

Sincerely,

Akhlesh Lakhtakia

Akhlesh Lakhtakia
Distinguished Professor of Engineering Science and Mechanics
Pennsylvania State University, University Park, PA 16802-6812, USA
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LEWIS & CLARK
COLLEGE

June 23, 2005

Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division,
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230
Attn: RIN 0694-AD29

Re: Proposed Revisions and Clarification of Deemed Export
Related Regulatory Requirements RIN 0694-AD29

Greetings:

We thank you for the opportunity to comment on the proposed revisions to the Export Administration Regulations ("EAR"). Lewis & Clark College, located in Portland, Oregon, enrolls approximately 1900 undergraduate students in a four year program of studies in the liberal arts and sciences and an additional 1,200 students in graduate programs in law and K-12 education. At all levels, we strive to attract and educate students from abroad and are absolutely convinced as to the very positive benefits of this international element of our mission. International students enrich our campus, and the intercultural elements that they bring to our community provide an otherwise missed opportunity for our students to learn first-hand the skills and competencies that are required of people to excel in the 21st century. Without our international students, our campus lacks this essential element for educating young Americans.

As you are aware, higher education institutions in the United States have experienced a dramatic drop in applications from international students since September 11, 2001, and Lewis & Clark is no exception. We understand that foreign nationals who would historically have chosen to study here in the United States are instead seeking their post-secondary education in other countries, with the UK and Australia benefiting greatly. This is not just a loss of tuition dollars, but a significant blow to one of the most fundamental and effective means of spreading the truth about democracy and the values espoused by the United States throughout the world. If we stop training the leaders and thinkers of the world, we risk losing a cornerstone of our international relations structure.

OFFICE OF THE PRESIDENT

0615 S.W. PALATINE HILL ROAD PORTLAND, OREGON 97219-7899 PHONE: 503-768-7680 FAX: 503-768-7688

We are very concerned about the possible ramifications of the proposed amendments to the EAR. We fear that adoption of these changes and shifts in the interpretation and enforcement of the EAR will force colleges and universities to obtain "deemed export" licenses before students from certain countries may use such "sensitive technologies" as laptop or desktop computers and other instrumentation ordinarily found in even the most moderately equipped science laboratory. There is some irony here in that these students are given permission to enter our country to study, and most of them arrive with their own laptop computers and a significant level of technical knowledge. Such an impact will further deter our ability to attract and train students from these certain countries and pose costly and time consuming barriers to fulfilling our educational mission.

We urge the Department to weigh seriously the impact on educational institutions as it considers these changes and to seek alternatives that do not place costly administrative burdens on colleges and universities. If these changes are indeed adopted, we hope for clear guidance from you on their enforcement and for the agency's prompt response to requests for "deemed export" licenses. To do less is to risk the loss of our hard-won position of predominance in world education by discouraging international students from enrolling in our nation's institutions of higher learning.

Respectfully Submitted,

Thomas J. Hochstettler
President

David G. Ellis
Vice President, Secretary and
General Counsel

c: Oregon Congressional Delegation

UNIVERSITY of VIRGINIA
OFFICE OF THE VICE PRESIDENT
FOR RESEARCH AND GRADUATE STUDIES

June 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Room 2705
14th Street & Pennsylvania Avenue, NW
Washington, D.C. 20230

Attention RIN 0694-AD29

Dear Sirs,

In response to the recent announcement in the March 28, 2005 (volume70, number 58) of the Federal Register, the University of Virginia wishes to add its comments on the proposed revisions to the rules relating to "Deemed Exports" (15 CFR Parts 734 and 772). As a member of the American Association of Universities and the Council on Governmental Relations, the University of Virginia supports the letters of comment submitted by both organizations.

Since 1826, when the first international student was enrolled, the University of Virginia has encouraged citizens of other countries to live, work, and study in an institution created and nurtured by one of the architects of the American experiment in democracy, Thomas Jefferson. Today, students come to the University from 49 states and 106 foreign countries. Of the 19,422 students who enrolled in 2004, 2077 were foreign nationals. In addition, the University employs a total of 819 foreign nationals, of whom 232 are instructional or research faculty.

International activities at the University of Virginia cultivate a global perspective among students, faculty and the community. More specifically, they position UVa within the framework of its greatest potential, challenge its students and scholars to extend their horizons of growth and inquiry, and welcome international students and scholars. By including different peoples and cultural traditions and framing the University's tasks in global dimensions, Thomas Jefferson's spirit of free inquiry is expanded.

The University of Virginia is committed to protecting National Security interests and is diligent in applying current understanding of U.S. government policy as expressed in the National Security Decision Directive (NSDD) 189 that states that classification is the only appropriate mechanism for government control of fundamental research information. This policy has for many years protected concerns about the small portion of U.S. academic research that is likely to pose a real security risk for the nation.

Fundamental research, as a part of the University of Virginia's commitment to academic freedom, cannot be easily undertaken without good faith collaboration between researchers, including colleagues visiting each others' laboratories, last minute participation in projects which use specialized scientific equipment,

314 Madison Hall • P.O. Box 400301
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E-mail: vpresearch@virginia.edu

and the use and demonstration of equipment. Research necessarily involves the pursuit of intellectual paths whose outcomes are uncertain and unpredictable, and this principle applies equally to the use of equipment and other related technologies. The exemption of fundamental research from the strictures of export controls should rightly allow researchers and technicians free access to equipment that might otherwise be controlled, and this exemption should further allow the ability to alter existing equipment where necessary. In addition, given the uncertain outcomes of such activities, provision should also be made for the creation of new equipment and for the free sharing of such information with other members of the academic community. Such activities are part and parcel of the innovative nature of research. This open, spontaneous and collaborative spirit is at the foundation of the success of the U.S. academic research endeavor. Implementation of the IG recommendations potentially could stall or suspend the research process because of the need to err in favor of seeking licenses for the foreign national members of university research teams.

With regard to the access of foreign nationals to U.S. university research and education, we understand that the current visa process is intended to screen foreign nationals and to assess their threat to national security before approving their entry into the country for purposes of pursuing a particular course of study. Visa applications are reviewed by federal agencies, including the Departments of State, Homeland Security, and other concerned agencies. If, after appropriate screening, a foreign student or researcher is deemed by the government to be suitable and eligible for entry into the United States under the auspices of a visa that allows study and research at a U.S. institution of higher education, that person should then be allowed to participate fully and freely in the work of that university's academic and research communities. If there are issues in the visa security assessment process, they should not be addressed by the export licensing rules. If it is considered necessary to revisit the question of granting visas to foreign students and researchers, then that matter should be taken up separately. If these issues become conflated, then the potential exists seriously to undermine and compromise research mission of the U.S. academic community which depends for its success on a culture of open, international, collaborative and spontaneous research.

In reference to the essential importance of foreign students and researchers to the U.S. research enterprise, the President's Council of Advisors on Science and Technology (PCAST) has suggested that such participation is "critical to our national vitality," and that "the openness of our campuses to students, scholars, and faculty from all over the world is one of our greatest strengths, and is at the heart of the phenomenal success of the American research university..." The PCAST report also makes the important observation that while the number of American students choosing to pursue careers in science, technology, engineering and mathematics is waning, foreign students are increasing their interest and participation in these areas of study and scholarly activity. PCAST notes that "[w]hile U.S. students' interest in science, technology, engineering and mathematics (STEM) careers is declining, foreign countries are significantly increasing the number of STEM graduates...of their universities, enabling them for the first time to attract technology-based jobs in very large numbers" and putting the U.S. at serious risk of falling behind other nations in these fields, and ultimately of losing its leadership in innovation and the global economy.

This has thus a short-term and a long-term effect on the health and well-being of U.S research and development, not only in our ability to attract students for the purposes of research, but also in our ability to attract highly qualified candidates for future employment in related fields. The PCAST report concludes that due to the trends discussed above, "our entire national innovation ecosystem is at risk. It would be difficult to overstate the importance of this issue." When our economic ecosystem is at risk so is our national security.

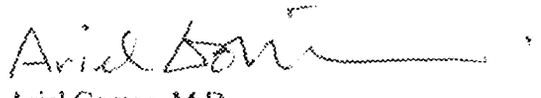
Furthermore, implementing the proposed rules will be a costly endeavor and will also require significant procedural changes in how research and instruction is conducted at the University. It is difficult to

estimate how complicated and expensive this will be until the University first reviews its inventory of research equipment for items on the Dept. of Commerce ECCN list. However, as the total number of items is in the thousands, and this exercise will require individuals with sufficient experience with research instruments and instrumentation **and** experience with the ECCN classificatory scheme, the manpower costs could easily be in the hundreds-of-thousand dollars range. Then the proposed use of those equipment items will need to be reviewed for each proposed project; this will also require extensive knowledge and expertise. Timeliness of review will also be a critical factor to eliminate long delays in accepting awards and this too will increase costs. Finally, there will be the additional costs of applying for export licenses when there will be foreign participants. Timeliness will also be a factor to eliminate delays in project execution. Initial costs for this program could easily approach one million dollars with on-going costs in the range of two to three hundred thousand dollars per year.

Under the proposed rules, the University may be faced with either applying for export licenses for all foreign scholars and students, costly to both the University and to the Department of Commerce, or tracking and segregating foreign nationals from areas where they might encounter controlled equipment. The latter approach would significantly compromise the fundamental principles of an open University by limiting and delaying foreign national students' and scholars' participation in a wide range of research areas where they may come into contact with controlled equipment.

The University of Virginia is committed to ensuring compliance with export control laws and preserving national security. Even though we cannot predict the exact number of export licenses required, given the size of the foreign student and scholar population at the University of Virginia, the proposed changes to export license regulations would clearly place a heavy burden on our institution and would dramatically change the way the University pursues fundamental research and education.

Sincerely,



R. Ariel Gomez, M.D.
Professor of Biology and Pediatrics
Vice President for Research and Graduate Studies

Cc: John T. Casteen III, President
Marilyn B. Thompson

NCITD

The National Council on International Trade Development
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Fax: 202-872-8324, Phone: 202-872-9280
www.ncitd.org cu@ncitd.org

Date: June 23, 2005

To: The Honorable Peter Lichtenbaum

Fax: 202.482.3355

From: National Council on International Trade Development

6 Pages, including this cover page, are being transmitted. If you do not receive all pages in legible condition, please call back as soon as possible.

PLEASE DELIVER THIS TO THE ADDRESSEE ABOVE AS SOON AS POSSIBLE. THANK YOU.

Deemed Export Comments
RIN 0694-AD29

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June 23, 2005

VIA E-MAIL (PUBLICCOMMENTS@BIS.DOC.GOV)
AND FAX (202-482-3355)

The Honorable Peter Lichtenbaum
Acting Under Secretary for Industry and Security
U.S. Department of Commerce
Bureau of Industry and Security
Attn: Regulatory Policy Division
Room 2705
14th and Pennsylvania Ave, NW
Washington, D.C. 20230

REF: RIN 0694-AD29

RE: *NCITD Comments on Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of Deemed Export Related Regulatory Requirements*

Dear Mr. Lichtenbaum:

The National Council on International Trade Development (NCITD) is pleased to respond to the Bureau of Industry and Security's (BIS) request for comments on proposed changes to the Export Administration Regulations (EAR) that would change significantly the scope and application of licensing requirements pursuant to the deemed export rule.[1]

NCITD, founded in 1967, is a nonprofit trade association of large and small U.S. exporters and importers who are advocates of policies that are consistent with national security, foreign policy, and a flexible export transaction process that promotes export trade. Our membership includes large, mid-size, and small firms, exporters and

[1] 70 Fed. Reg. 15,607 (March 28, 2005). These comments are timely filed since the comment period was extended to June 27, 2005. See 70 Fed. Reg. 30,655 (May 27, 2005).

importers, freight forwarders and brokers, banks, attorneys, trade groups, and consulting firms. Our members understand the importance of their role in preventing exports and reexports that might be contrary to the national security and foreign policy interests of the United States.

The Advance Notice of Proposed Rulemaking (ANPR) notes that the Commerce Department's Office of Inspector General (OIG) has recommended that BIS make the following three changes to the deemed export provisions of the EAR: (1) clarifying the definition of "use" technology subject to the EAR; (2) basing the requirement for a deemed export license on a foreign national's country of birth; (3) and modifying regulatory guidance on licensing of technology to foreign nationals working with government-sponsored research and research conducted in universities. These comments will address the first and second of these recommendations, since they are of most interest to our members. We will defer to academic and research institutions to address the third recommendation.

1. Definition of "Use Technology"

The OIG recommended that BIS revise the definition of "use" in § 772.1 of the EAR to replace the word "and" with the word "or". However, the ANPR takes this one step further by adding the phrase "all aspects of" to the definition as follows:

> "Use". (All categories and General Technology Note)—Means **all aspects of** "use," such as: operation, installation (including on-site installation) maintenance (checking), repair, overhaul, **or** refurbishing. [Emphasis added].

While we agree that replacing the word "and" with the word "or" in § 772.1 of the EAR will help to clarify any misunderstanding that may exist regarding the definition of the term "use", we do not believe that adding the phrase "all aspects of" accomplishes this goal. In fact, in our view adding the phrase "all aspects of use" is duplicative and unnecessary. Therefore, if BIS chooses to modify the definition of "use", we recommend that the words "all aspects of" be deleted from the proposed definition when it is published in the notice of proposed rulemaking.

2. Use of Foreign National Country of Birth as Criterion for Deemed Export License Requirement

NCITD is particularly concerned about the proposed requirement to use a foreign national's country of birth as criterion for deemed export license requirements. Under BIS's current policy, deemed export licensing requirements are based on a foreign national's most recent country of citizenship or permanent residency. As indicated in the ANPR, the OIG expressed concern that the current policy may allow foreign nationals who are born in countries of concern to obtain access to controlled technology without scrutiny by becoming permanent residents or citizens of countries to which the

export of the technology would not require a license.[2] As a result, the OIG has recommended that BIS require companies and organizations to submit a deemed export license in those cases where the person that may have access to controlled technology was born in a country where the technology in question would require an export license, regardless of his or her most recent citizenship or permanent residency.

Requiring U.S. organizations to apply for a deemed export license for an employee or visitor who is a foreign national and has access to dual-use technology and happened to be born in a country where such technology transfer would require an export license would lead to a significant increase in the number of deemed export licenses, will be difficult to implement and will not materially increase national security. As a result, NCITD believes that such a significant change in deemed export licensing policy is unnecessary and should be reconsidered.

The current practice utilized by NCITD members who are engaged in the production of products using controlled technology and employ foreign nationals[3] is to inquire into the current citizenship or permanent residency of such individuals and to request appropriate documentation about their citizenship and permanent residency status. Such documentation is relatively easy to obtain and allows the company to maintain and implement an effective internal export compliance program. Appropriate licensing decisions can then be made on a case-by-case basis after a review of the documentation. By contrast, to implement the proposed change in deemed export licensing policy, U.S. companies would be required to inquire into the place of birth of all foreign nationals employed by the company or for those who might receive controlled U.S. technology. In order to comply with the deemed export provisions of U.S. law, a company would have to obtain documentation (*i.e.*, a birth certificate) and keep such information on file to support a foreign national's response. Birth certificates are often very difficult to obtain. Moreover, companies that employ foreign nationals in their overseas subsidiaries may not be able to legally obtain such information due to privacy laws that prohibit the release of such information to employers (*see, e.g.*, the 25 countries of the European Union). This is particularly problematic with respect to deemed reexports.

In addition, we believe that the proposed change in deemed export licensing policy would greatly increase the licensing burden on industry without materially contributing to or enhancing U.S. national security. The OIG's report suggests that BIS's current deemed export licensing policy has or may lead to dual-use technology falling into the wrong hands. However, the OIG failed to provide any examples of actual cases in which sensitive technology was provided to citizens or permanent residents of countries of concern in the U.S. and then transferred to their country of birth. In addition, BIS has

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[2] 70 Fed. Reg. at 15,608.

[3] Significantly, the EAR does not define the term "foreign national". We therefore request that in the ANPR BIS define the term "foreign national" in the "Definition of Terms" section contained in Part 772 of the EAR.

not articulated in the ANPR how implementing this measure will enhance national security.

Moreover, the proposed changes to the deemed export provisions of the EAR are redundant, since several government programs already exist which are intended to guard against the illegal transfer of technology to foreign nationals. One such program is the State Department's Visas Mantis clearance process, which is used to screen visa applications for foreign individuals that are planning to study or work in the United States in certain sensitive scientific and technical fields. A second such program is the Bureau's Visa Application Review Program (VARP). VARP is intended to prevent the unauthorized access to controlled U.S. technology or technical data by foreign nationals entering the United States. In our view, VARP, which is intended "to detect and prevent possible violations of the Export Administration Regulations" and the Visas Mantis process obviate the need to add more restrictions on foreign nationals via the EAR.[4]

We also note that, in our view, the costs of implementing the proposed change in licensing policy (increase in number of license applications, requires revisions to compliance programs to capture additional employee data, etc.) will significantly outweigh the associated benefits of the policy change. While we are unable to quantify the number of new licenses that may be required under the proposed revision to the EAR (due to the difficulty in obtaining country of birth information from employees since companies do not maintain such information in the normal course of business), we respectfully suggest that BIS is better off directing its efforts elsewhere. For example, devoting funds towards educating those companies and organizations that are unaware of the deemed export provisions of U.S. law is likely to prevent more illegal technology transfers than requiring employers to submit deemed export license applications for all employees with access to controlled technology that happened to be born in Iran. Similarly, bringing enforcement actions against companies and organizations that choose to disregard the deemed export requirements is also likely to yield better results in the battle against illegal technology transfer.

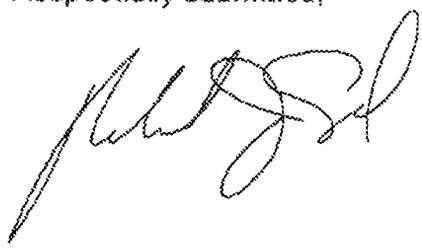
Finally, it should be noted that the ANPR does not address whether both the country of birth and the country of citizenship or permanent residence will be analyzed by BIS to determine licensing requirements or whether the analysis will simply be limited to the person's country of birth. Assuming that the proposed policy change is implemented, NCITD believes that the totality of circumstances (e.g., length of most citizenship or permanent residency, contacts with country of birth, etc.) should be considered by BIS before any deemed export licensing decision are made.

* * * *

[4] See http://www.bis.doc.gov/Enforcement/eeprogrm.htm.

NCITD appreciates this opportunity to submit these comments on the proposed changes to the deemed export licensing requirements and policies. We trust that BIS will consider these comments in drafting the notice of proposed rulemaking that will contain the specific changes to the EAR that are contemplated.

Respectfully submitted,



Michael J. Ford
Chairman
National Council on International Trade Development

Princeton University
Princeton Plasma Physics Laboratory
James Forrestal Campus
Office of the Director
P.O. Box 451, Princeton, NJ 08543

PPPL
PRINCETON PLASMA PHYSICS LABORATORY

FAX Cover Sheet

DATE: JUNE 23, 2005

TO: MR ALEX LODES
202-482-3355

FROM: PROFESSOR ROBERT GOLDSTON

PHONE: 609-243-2553

FAX: 609-243-2749

NUMBER OF PAGES: (including cover page) 4

MESSAGE:

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14th Pennsylvania Avenue NW
Room 2705
Washington, D.C. 20230
ATTN: RIN 6094-AD29
By Facsimile (202-482-3355)

June 23, 2005

Subject: *Proposed Rule for Revision and Clarification of Deemed Export Related Regulatory Requirements Volume 70, Number 58 Federal Register RIN 0694-AD29*

Dear Mr. Lopes:

The Princeton Plasma Physics Laboratory appreciates the opportunity to comment on the Department of Commerce (DOC) Notice of Proposed Rulemaking, Vol. 70 No. 58 Federal Register RIN 0694-AD29, regarding the proposed revision and clarification of deemed exports requirements. We recognize that it is a broad and challenging task to develop a rule addressing the conditions and criteria that govern the transfer of use technology to foreign nationals working at or visiting hundreds of institutions within the United States, including U.S. National Laboratories and Universities.

Having reviewed the conclusions expressed by the Commerce Inspector General in his report on Deemed Export Controls[1], I understand the desired intent of the proposed rulemaking. However, I have great concern that the proposed changes will have an overwhelmingly negative impact on the quality and pace of research, will significantly increase the costs of performing basic research, and will impose unnecessary limitations on the Laboratory's ability to recruit and engage the best and brightest scientists and students to participate in fundamental research.

The primary mission of the Princeton Plasma Physics Laboratory is to develop the scientific understanding and the key innovations which will lead to an attractive new energy source. Associated missions include conducting world-class research along the broad frontier of plasma science and technology, providing the highest quality of scientific education, and training the next generation of fusion scientists. Under the current interpretations of the EAR, as outlined in the Questions and Answers posted on the BIS website, the use of controlled equipment for fundamental research was believed to be exempt under the fundamental research exemption. The proposed revision, amplified by the aforementioned OIG inspection report, would require that technology related to controlled equipment (regardless of how 'use' is defined) be subject to the

[1] DOC Office of Inspector General Report IPE-16176 (March 2004)

deemed export provisions (and the requirement to license foreign nationals having access to that equipment), even though the research using the equipment is determined to be fundamental research. This is especially problematic in that the nature of the research at an unclassified facility (such as PPPL), would now require restriction of access to controlled equipment. If the proposed rule is approved, much of the work conducted by PPPL on fundamental research projects such as the International Thermonuclear Experimental Reactor (ITER), the National Spherical Torus Experiment (NSTX), the National Compact Stellarator Experiment (NCSX), and the Current Drive Experiment - Upgrade (CDX-U), will require determinations of the need for deemed export licenses in order for foreign students, faculty, visitors, technicians and collaborating research staff to work on such projects. These experiments (and the equipment used to support them) are vitally important to the mission of this Laboratory as a collaborative national center for plasma and fusion science. I am very concerned about the prospect of substantial delays in, or cessation of, important fundamental research endeavors. From a practical point of view, the direction of our research changes on a real-time basis and the imposition of the proposed rule changes would very likely preclude foreign collaborators from participating in these real-time changes simply because a potential deemed export constraint could arise coincident with the change in the research plan.

As a reference, PPPL can typically host approximately 200 foreign national collaborators and students in a given year, which could conceivably necessitate the submittal of hundreds of deemed export license applications from PPPL per year under the proposed rule. In addition, security measures will have to be imposed to preclude access to controlled equipment by non-licensed foreign national personnel. These measures will add unnecessary costs, at public expense, to the research conducted by the Laboratory. These costs would involve the development of extensive administrative systems to monitor and control equipment which is currently openly available to students and researchers within the Laboratory. Furthermore, the new rule will also require costly changes to the physical security systems at the Laboratory to prevent access to controlled equipment by non-licensed individuals.

I am similarly concerned about the provision to consider country of birth in addition to current citizenship for the purpose of deemed export controls. Not only would this effectively double the administrative burden of evaluating individual research participants against the Country List, but it raises serious questions about privacy, the intent of immigration policy, and the validity of reciprocity agreements established between the US and other countries.

It is my contention that these new requirements are completely inconsistent and incompatible with the "fundamental research" definition[2] established by National Security Decision Directive 189, which was most recently reaffirmed by Condoleeza Rice in 2001. To the maximum extent possible, the conduct of fundamental research should remain unrestricted. Where national security requires control, the mechanism for control of information generated during federally-

[2] "Fundamental research" is basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community. It is distinguished from proprietary research and from industrial development, design, production, and product utilizations, the results of which ordinarily are restricted for proprietary and/or specific national security reasons. Normally, the results of "fundamental research" are published in scientific literature, thus making it publicly available. *Research which is intended for publication, whether it is ever accepted by scientific journals or not, is considered to be "fundamental research."* A large segment of academic research is considered "fundamental research." Because any information, technological or otherwise, that is publicly available is not subject to the Export Administration Regulations (EAR) (except for encryption object code and source code in electronic form or media) and thus does not require a license, "fundamental research" is not subject to the EAR and does not require a license. Please see EAR §734.8 for a full discussion.

funded research in science, technology and engineering at colleges, universities and laboratories is classification. Similarly, I believe that it is through the immigration adjudication process, including the Visas Mantis review, that a foreign national's intent and ability to participate in non-classified research should be affirmed. Once an individual successfully navigates the visa adjudication process, universities should not be required to perform a secondary review and apply for deemed export licenses for those individuals participating in openly-published fundamental research.

The most alarming outcome of this proposed rule will be the substantial negative impact on attracting the best and brightest people from around the world to participate in the conduct of basic and applied research, which is of extraordinary social and economic value to the nation. US industry, and in fact the entire nation, depend on institutions of higher education to do this research, which in turn, sustains US leadership in scientific education and innovation. The principle of open and unfettered transmission of knowledge through research and education is the cornerstone for the creation of new knowledge through educational and scholarly activities.

In summary, it is our opinion that current federal policy, and the long-standing interpretations of that policy, already provide sufficient safeguards against technology transfer to undesirable foreign nationals and that classification remains the appropriate route to protect research that is considered to have a bearing on national security. The proposed changes to the existing rule completely misconstrue the nature of fundamental research and discount the benefits that have accrued to the United States through the open, international nature of unclassified research endeavors.

We thank you for providing the opportunity to comment on this very important topic.

Sincerely,

Professor Robert J. Goldston
Director, Princeton Plasma Physics Laboratory

Cc: M. Christy (Princeton University)
C. Elsgruber (Princeton University)
D. Jones (Princeton University)

MICHIGAN STATE
UNIVERSITY

June 23, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
Bureau of Industry and Security
Department of Commerce
Regulatory Policy Division
14th St. and Pennsylvania Ave., NW, Room 2705
Washington, D.C. 20230

RE: RIN 0694-AD29

Dear Mr. Lopes:

As you may be aware, Michigan State University (MSU) is a research-intensive institution that holds memberships in a number of university organizations. Among them are the Association of American Universities (AAU), the Council on Governmental Relations (COGR), and the National Association of State Universities and Land-Grant Colleges (NASULGC). MSU has been following the discussion in these organizations surrounding the recently proposed changes in export control regulations and believes some of the concerns to be well founded. With the following comments, we detail some of our concerns arising from the proposal of the Bureau of Industry and Security of the Department of Commerce to expand export control regulations by

- Changing the definition of equipment use to "use technology" to require a license when a foreign national uses export-controlled equipment in any way, including fundamental research
- Using a foreign national's country of birth, rather than country of citizenship, to determine whether a deemed export license is required

Experience has led MSU to believe that most universities share the agency's concern for national security. Universities are troubled, however, by the potential for these proposed changes to have extensive, unintended negative consequences for the nation's research enterprise without a corresponding increase in security. Like other universities, Michigan State University has instituted procedures to monitor activities for points of intersection with export controls and trade sanctions. Although universities are prepared to shoulder that additional administrative burden to enhance national security, they feel that a balance must be struck in order to preserve the ability of researchers to advance knowledge in their fields.

As currently proposed, the change in definition of equipment use appears to require universities to obtain a deemed export license for every foreign national who uses any piece of equipment on the Commerce Control List in any way, including purposes covered by the fundamental research policy found in National Security Directive 189 (NSDD-189).

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Compliance with these proposed changes would be very challenging for universities and would require a number of additional and costly reviews. All equipment (including items readily available for retail purchase in the United States) would need to be categorized and then compared to the list of controlled equipment and technologies. From the list of controlled equipment, universities would need to determine which equipment has the potential to contain "use technology." Then universities would need to determine who has access to that equipment and identify the country of birth of all foreign nationals with access to those technologies. That list would need to be cross-referenced with the Commerce Control List to determine whether certain individuals born in restricted countries should be prohibited from using the equipment. For a large university with thousands of foreign-born faculty and students and thousands of pieces of equipment, this series of tasks could prove particularly onerous and expensive. It is possible that the proposed change may simply need clarification if transfer of controlled technology contained within the equipment is the issue, rather than the specific "use" in the course of research activities to which a piece of equipment is being put. In this latter case, the administrative burden for universities would be decreased.

The proposal to use a foreign national's country of birth rather than country of citizenship to determine when a deemed export license is required is also troubling. A large percentage of faculty and graduate students, especially in the sciences and engineering, were born outside the United States. Many of them are not U.S. citizens. They are, however, an important pool of talent. Their work has advanced understanding of science and technology in ways that have contributed to the economic prosperity and security of the nation. These contributions have been essential to maintaining global U.S. competitiveness. The proposed changes in export regulations would seem to discourage these talented researchers from bringing their expertise to this country and would instead help advance research elsewhere, including countries considered to pose a national security threat to the U.S. It would seem that the Visa Mantis system may already provide a means to clear foreign nationals to use export-controlled equipment. The Student and Exchange Visitor Information System (SEVIS) also contributes to national security by helping the government track non-immigrant students and scholars during their time in the U.S. The proposed change seems to add a second layer of background checks to be conducted by institutions—universities—that are not equipped to conduct them.

Research-intensive universities stand together in encouraging the Department of Commerce to retain NSDD-189 as the central principle governing security controls over fundamental research. It seems to represent a careful balance between the needs of research institutions and the requirements of national security. The directive makes clear that openness is an important component of national security and other key national objectives. In this global age, when many countries have sophisticated laboratories where advanced research is conducted, it is unclear how restricting the dissemination of science and technology from the United States assures that it will not be available elsewhere to individuals willing to apply it

adversely. The process of classifying research projects remains available for limiting access of individuals without a government-issued security clearance.

We also believe that the academic community can effectively regulate itself so that national security is not compromised by university research. Universities already employ self-regulatory procedures to adhere to federal regulations that protect human and animal subjects of research. Each university could establish a committee of senior scholars responsible for informing researchers about classification, export controls, and other matters at the intersection of university research and national security.

University research has been a driving force in making the U.S. the strong global force that it is today. Moves that stifle that research without clear indications that doing so is essential for national security are likely to have a long-term negative impact on the scientific leadership position of the United States. MSU joins with other research-intensive universities to encourage the Department of Commerce to use alternative means to assure security without severely hampering research.

Sincerely,

J. Ian Gray
Vice President for Research and Graduate Studies

CC: Lou Anna K. Simon, President
Cordell Overby, Senior Assistant Vice President, Regulatory Affairs
Mike Poterala, Associate General Counsel
Howard Gobstein, Associate Vice President, Governmental Affairs
Peter Briggs, Director, International Student and Scholars

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- ____ Jenyse Belden
- ____ Kate Bielenberg
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- ____ Pat Hoversten
- ____ Tammy Michel
- ____ Nancy Paris

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- ____ Nancy Paris (294-2042)

IOWA STATE UNIVERSITY
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June 23, 2005

Alex Lopes
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14th Street and Pennsylvania Ave, NW, Room 2705
Washington, DC 20230
Attn: RIN 0694-AD29

Dear Mr. Lopes:

I am writing to on behalf Iowa State University of Science and Technology regarding the Advance Notice of Proposed Rulemaking published in the Federal Register seeking public input on the OIG recommendations regarding deemed exports. My comments echo those of Iowa State University Vice Provost for Research Jim Bloedel, which your office received earlier this week. These comments are in reference to RIN 0694-AD29 and the recommendation to the BIS contained in final report number IPE-16176-March 2004.

I would like to comment with regard to two specific issues. The first is the proposed changes in the definition of "use technology" as well as the proposed change regarding the use of a foreign national's country of birth as the primary criterion for determining whether a deemed export license is required.

Proposed Change in the Definition of "Use Technology"

In brief, the OIG, in its report, suggests changing the word *and* in the phrase "operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing" to "and/or." Several meetings on this question, including those with BIS participation, indicate that the issue of the "use" of controlled equipment and its relation to deemed export is ambiguous at best. Our colleagues strongly believe that it is critical that the BIS clarify the distinction between "use" of technology and the "transfer" of technology. The mere "use" of controlled equipment does not imply a circumstance related to deemed export, particularly during the conduct of fundamental research. Many pieces of technology on various control lists are publicly available in a variety of public settings as well as university laboratories.

Most importantly, the implementation of the OIG's suggestion would have a considerable negative impact on the performance of fundamental research at universities. It would be extremely difficult to predict, prior to the initiation of a research project, precisely which pieces of equipment would be utilized or which may be required to undergo modification during the course of the research. Given the number of foreign nationals involved in graduate research at our university as well as those at our

peer institutions, the practice proposed by the OIG would require deemed export licenses for many students involved in fundamental research activities. At the very least, it is necessary for the BIS to more clearly define and, hopefully, restrict those technologies for which export licenses are required. This list should be much more narrowly and appropriately defined than is currently the case. Furthermore, the adoption of the OIG's suggestion would initiate a very costly compliance process across the university system. This additional cost simply cannot be absorbed under the current budgetary circumstances facing most state-supported universities, including Iowa State University.

Country of Birth as a Criterion for Requiring a Deemed Export License

The suggestion of the OIG that the country of origin be determined by the country of birth of the foreign national implies that the current background checks required for visa applications by foreign nationals are not adequate. The process required to determine the country of birth of foreign nationals would place significant burden on the university to establish another level of background checks focused on students and faculty engaged in research activity utilizing instrumentation appearing on one of the export control lists.

In summary, we believe that the suggestions under discussion made by the OIG would have an extremely negative impact on the conduct of all types of technological research at Iowa State University. In addition, these suggestions would require the initiation of a very costly compliance system. Furthermore, the appropriate conduct of research projects, including the necessary re-design of equipment, would be greatly hampered by the proposed process. Consequently, we strongly urge that the recommendations made by the OIG to the Bureau of Industry and Security contained in final report number IPE-16176 not be adopted.

We also offer the following suggestions that we feel would significantly improve the current system:

1. The acceptability of using equipment on various control lists be determined at the time of the immigration of a foreign national.
2. The list of controlled equipment be reviewed and narrowed appropriately.
3. All information currently in the public domain should be deleted from control lists.

Thank you very much for considering these recommendations and concerns.

Sincerely,

Gregory L. Geoffroy
President

From: "Al Segall" <ASegall@engr.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 11:14AM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security

FROM:

SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Al

Albert Segall
Associate Professor of Engineering Science and Mechanics
Co-Chair of Intercollege Graduate Program in Materials
Engineering Science and Mechanics Department
The Pennsylvania State University
212 EES Building
University Park, PA 16802
(814) 865-7829
(814) 865-9974 (Fax)
aesegall@psu.edu

From: Amiya Sen <amiya@ee.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 3:52 PM
Subject: RIN 0694-AD29

Dear Ladies and Gentlemen,
I have strong reservations about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements.I must state that our cutting edge research thrive only in free and open exchange of ideas and methodologies.These revisions will srongly inhibit this and throttle the advance of Science and Technology.
Sincerely,
Amiya Sen
Professor

From: "brtesm" <brt4@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 11:51AM
Subject: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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Bernhard R. Tittmann, Ph.D.,IEEE Fellow
Schell Professor of Engineering
Director of Engineering Nanostructure-Characterization Center
The Pennsylvania State University
212 Earth and Engineering Science Building
University Park, PA 16802
Tel. 814-865-7827; Fax: 814-865-3626
Email: brt4@psu.edu; brtesm@engr.psu.edu
www4.esm.psu.edu/centers/ENCC_BRT

From: Christopher Muhlstein <clm28@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 09:19PM
Subject: Fwd: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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From: Frank Ritter <frank.ritter@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 8:33 PM
Subject: RIN 0694-AD29/ comments

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS).

The changes to Export Administration Regulations, well, these regulations are already vague and burdensome without what appears to me to be any benefit. I've spent about 20 hours with the university trying to figure out if they applied to one research project. the regulations need to be more clearly defined, and in fact, less restrictive for basic research.

I've also been an admissions tutor in a foreign country -- these restrictions will drive students away -- sometimes to our allies, and sometimes not.

Sincerely,

Frank Ritter
Associate Professor of IST, Psychology, and Computer Science

--

Frank Ritter@ist.psu.edu
School of Information Sciences and Technology
The Pennsylvania State University
University Park, PA 16802-3857
ph. (814) 865-4453 fax (814) 865-6426
http://ritter.ist.psu.edu http://www.frankritter.com
"I do not buy anything advertised via unsolicited email."

CC: <frank.ritter@psu.edu>

From: Michael Purdy <mpurdy@ldeo.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 08:58AM
Subject: RIN 0694-AD29

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
scook@bis.doc.gov

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would require discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment - would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my Institution's basic research program cannot be assessed completely, but I fear that it would compromise certain aspects of our work in earth and environmental sciences. Our studies of earthquake risk depend crucially upon high-grade GPS measurements, and in order to gain access to measuring sites globally we work closely with many foreign nationals. Likewise,

assessment of natural hazard risk from landslides needs precise mesaurements from high-precision laser ranging systems. And our Geochemistry laboratories, critical to our global climate change research, use some of the world's most complex chemical analytical systems. The need to apply for an export license for foreign nationals who would have access to certain equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force us to restrict some of our fundamental research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

G. M Purdy

--

****

G. M. Purdy
Director
Lamont Doherty Earth Observatory of Columbia University
Palisades NY 10964

Phone: 845 365 8348 Fax: 845 365 8162

****

From: Lee Samuel Finn <LSFinn@psu.edu>
To: <scook@bis.doc.gov>
Date: Thu, Jun 23, 2005 7:32 PM
Subject: RIN 0694-AD29

June 23, 2005

Alex Lopes
Director, Deemed Exports,
Bureau of Industry and Security

Dear Mr. Lopes:

Subject: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Respectfully,

Lee Samuel Finn Phone: +01 814
863-9598
Director, Center for Gravitational Wave Physics Fax: +01 814
863-9608
Professor, Department of Physics, Astronomy and Astrophysics
The Pennsylvania State University
104 Davey Laboratory, PMB#145
University Park, PA 16802

CC: <publiccomments@bis.doc.gov>

From: "Matthew Whim" <mdw13@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 7:20 PM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security

Dear Sir,

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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Sincerely,

Matthew Whim

Assistant Professor
Department of Biology
319 Mueller lab
Penn State University
State College
PA 16802
USA
Tel: 814-863-3891
FAX: 814-865-9131

From: "Paul Tikalsky" <Tikalsky@engr.psu.edu>
To: publiccomments@bis.doc.gov
Date: 06/23/05 08:21AM
Subject: Fwd: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

I would be willing to help in the issue if you need additional university input.

Dr. Paul J. Tikalsky, P.E., FACI
Professor of Civil and Environmental Engineering
Deputy Director of Pennsylvania Transportation Institute
201 Transportation Research Building
University Park, PA 16802
814-865-5194

From: "Reg Hardy" <h4h@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 12:31PM
Subject: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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H. Reginald Hardy, Jr.

Professor Emeritus

Energy & GeoEnvironmental Engineering

The Pennsylvania State University

From: Michael Allegretti <ma2293@columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 10:51 AM
Subject: RIN 0694-AD29

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a persons country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nations greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. The overwhelming number of students are highly trained emigrants, who remain in the U.S. after their Ph.D. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would discourage foreigners from coming to the U.S., as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work. My research efforts include fundamental structures of advanced materials and optical science; areas in which the student population is dominantly from overseas origin. The need to apply for an export license for foreign nationals who would have access to certain equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to restrict some of my fundamental research. It would also clearly and unequivocally hurt the very large number of U.S. start-up companies which originate from U.S. research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

Richard Osgood, Jr.
Higgins Professor

From: Russ Graham <rgraham@ems.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 01:43PM
Subject: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Russ Graham
Director and Associate Professor of Geosciences
Earth and Mineral Sciences Museum
19 Deike Bldg
The Pennsylvania State University
University Park, PA 16802

Phone: 814 865 6336
Fax:814-863-7708
Email:rgraham@ems.psu.edu

From: "Stephen A. Edwards" <sedwards@cs.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 4:51 AM
Subject: RIN 0694-AD29

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Ladies and Gentlemen:

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The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work. My group works on embedded systems and prototyping them often includes the use of cutting-edge computing equipment. The need to apply for an export license for foreign nationals who would have access to certain equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to restrict some of my fundamental research.

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Sincerely,

Stephen A. Edwards
Assistant Professor, Department of Computer Science
Columbia University

CC: "Stephen A. Edwards" <sedwards@cs.columbia.edu>

From: Susan Brantley <brantley@essc.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 11:57AM
Subject: Fwd: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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Susan L. Brantley, Prof of Geosciences

Earth and Environmental Systems Institute
http://www.eesi.psu.edu/
2217 Earth and Engineering Building
Penn State
Univ Pk, PA 16802
814 865 1619 (ph)
814 865 3191 (fax)

Dept of Geosciences
Pennsylvania State University
239 Deike Bdg
Univ Pk., PA 16802

Important URLs:

Dept of Geosciences
http://www.essc.psu.edu/~brantley/index.html

Biogeochemical Research Initiative for Education
http://www.ems.psu.edu/BRIE/

Center for Environmental Chemistry and Geochemistry
http://www.essc.psu.edu/CECG

Weathering System Science Consortium
http://www.wssc.psu.edu/index.html

Center for Environmental Kinetics Analysis
http://www.ceka.psu.edu

From: Yousry Azmy <yya3@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 09:01AM
Subject: Fwd: RIN 0694-AD29

Dear Mr. Lopes,

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

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Respectfully,
Yousry Azmy

Yousry Y. Azmy, PhD | The Pennsylvania State University
Professor of Nuclear Engineering | Dept. of Mechanical & Nuclear Eng.
Tel: (814) 865-0039 | 229 Reber Building
Fax: (814) 865-8499 | University Park, PA 16802
email: yya3@psu.edu |

From: "A. S. Grader" <grader@ems.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 12:20PM
Subject: RIN 0694-AD29

23.06.2005
Dear S. Cook,
Pleaes find the attached pdf file concerning the Deemed Export subject.
Thank you.

Penn State

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security
FROM: A. S. Grader,

Professor of Energy and Geo-Environmental Engineering
Penn State University
203 Hosler Building
University Park, PA, 16803

SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the *Federal Register* on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Thank you,

A. S. Grader

A. S. Grader

University of Pittsburgh

Office of the Provost

826 Cathedral of Learning
Pittsburgh, PA 15260
Fax: 412-624-4616

June 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Re: Comments on Proposed Revision of Deemed Export Related Regulatory Requirements: RIN 0694-AD29

Dear Sir or Madam:

Please accept these comments, submitted on behalf of the University of Pittsburgh – Of the Commonwealth System of Higher Education ("University") in response to the above referenced Revision and Clarification of Deemed Export Related Regulatory Requirements, which was published in the March 28, 2005 Federal Register (the "Revision"). The proposed Revision was developed from the recommendations of the Department of Commerce Inspector General ("IG") related to the application of the "deemed export" regulations in the university fundamental research area. The University supports the more general comments submitted by the Association of American Universities and the Council on Governmental Relations, and these comments are provided in supplement to those organizations' responses.[1] In short, implementation of the Revision will have a high cost, both in the form of tangible compliance costs and an intangible chilling effect on the research environment, and will do little to materially improve national security.

The University is a state-related institution of higher learning, founded in 1787, and offers comprehensive undergraduate and graduate degrees in a wide range of disciplines. As part of its commitment to excellence in research and education, the University accepts scholars and researchers from around the world into its research programs. While seeking to attract the best students and post-doctoral research assistants, the University also takes very seriously the need to

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[1] The University is a member of both the Association of American Universities and the Council on Governmental Relations. The University also supports the comments and recommendations contained in the white paper, "Security Controls on Scientific Information and the Conduct of Scientific Research," released by the Commission on Scientific Communication and National Security through the Center for Strategic and International Studies, June 2005.

ensure the nation's security. It was in recognition of the importance of ensuring the appropriate handling of information that is critical to national security, and the difficulty of ensuring that security in an open academic environment, that the University adopted a policy that it would not accept classified research on the University campus. Given the clear United States policy, as expressed in National Security Decision Directive ("NSSD") 189, that the federal government would rely on classification as the appropriate mechanism to control fundamental research information, the University believes that it has struck the appropriate balance between national security concerns and an open campus environment. Adoption of the recommendations proposed in the Revision would mark a significant departure from the policy expressed in NSSD 189, and would add little to national security protection, while imposing expensive and time-consuming new requirements for universities.

I. The International Nature of Fundamental Research

As the National Academies of Science noted in its recent report, *Policy Implications of International Graduate Students and Post-Doctoral Scholars in the United States*, (NAS Press 2005), "[i]nternational students contribute to US society not only academically and economically, but also by fostering the global and cultural knowledge and understanding necessary for effective US leadership, competitiveness and security." The University concurs with the findings of the National Academies' report, as foreign nationals are a vibrant and vital part of our academic community. In fiscal year 2003-2004, the University had 2,843 foreign nationals present on its main and branch campuses as students, staff, faculty and visiting scholars, representing 130 countries. Thus far in the current fiscal year, there are 2,641 such foreign nationals on campus, with additional students and scholars scheduled to arrive with the start of the next semester. The top five countries sending students, researchers and scholars to the University in the current fiscal year are China, India, South Korea, Taiwan and Turkey. Foreign nationals participate, whether as students or post-doctoral researchers, in research in all of the University's colleges and schools, including our School of Engineering, Schools of the Health Sciences, and the College of Arts and Sciences.

Like most academic research centers, research at the University takes place in an open and collaborative manner. Colleagues may discuss ongoing research, visit each other's laboratories, share equipment or move equipment to neighboring laboratories, work with multiple graduate students and freely exchange ideas. The ability of researchers to share their ideas, to critique each other's work, and to collaborate on new areas of inquiry are essential elements of the University's research environment. Unlike a corporate environment, the University does not, and will not, direct individual faculty members to pursue specific lines of research. Rather, the researchers on campus may follow their ideas wherever they may lead. Similarly, research may be conducted on campus at all times of the day or night. The nature of fundamental research simply does not lend itself to the type of bureaucratic micromanagement that the Revision, if adopted, will require.

It is significant to note that the federal government's position, as expressed in NSSD 189, recognized that an open research environment provided benefits to national security, as well as risks, and that those benefits were significant. An overly restrictive interpretation of the "deemed export" regulations is inconsistent with the balance set forth in NSSD 189 between openness in university research and protection of national security. The proposed interpretation set forth in the Revision, that an export permit is required for the use of controlled technology by foreign nationals on university campuses in the conduct of fundamental research, would constitute a major restriction on the conduct of that fundamental research. Such a restriction is inconsistent with NSSD 189's clear statement that, "no restrictions may be placed upon the ***conduct*** or reporting of federally-funded fundamental research that has not received national security classification" (emphasis supplied).

II. The Change in the Interpretation of the Scope of the Fundamental Research Exception Will Have a Material Negative Impact on University Campuses

As explained above, requiring foreign national scholars and researchers to obtain export permits to use certain equipment in the course of carrying out fundamental research on campus will have a negative impact on the open and collaborative environment that sparks innovation and fosters new knowledge. While this impact may be difficult to quantify, there are other impacts from implementation of the proposed Revision that can be estimated.

The University has in excess of 2,600 foreign nationals on campus at the present time. While it is difficult to exactly quantify the number of active laboratories on the University campus, based on records maintained by the University's health and safety office, there are over 1,800 distinct research laboratories active on the University's main campus. Given the large population of foreign nationals, and the large number of active laboratories, adoption of the recommendations set forth in the Revision would require the University to monitor and limit the activities of a large portion of our research community. This would both impair those scholars' ability to obtain the education that they seek and stifle innovation, as researchers will need to stop working and have a regulatory analysis conducted when foreign national colleagues become involved in research projects.

The burden of compliance in this case will be compounded by the fact that the current BIS regulations are not sufficiently precise in their definition of "use technology." The Commerce Control List is hundreds of pages long, and includes many imprecisely identified items. The University currently lists, in its financial accounting system, thirteen thousand, seven hundred and ninety-six (13,796) separate items of capital equipment (which is equipment with a value over $5,000) that were specifically purchased for research. For fiscal year 2004, the University purchased over eight million, eight hundred and ninety thousand dollars worth of new equipment (for equipment with a value over $5,000) specifically for use in research. This represented two hundred and eighty eight (288) new pieces of capital equipment. In order to ensure that equipment is appropriately classified, and as an example of the increased cost associated with compliance with the proposals contained in the Revision, the University recently

sought outside counsel regarding the appropriate status, under the export control regulations, of a piece of equipment which is available for sale in a European Union country. This equipment, which was purchased for use in a federally funded, fundamental research project, was to be used on the University campus, and consequently might be used by foreign nationals in the course of conducting the research. Outside counsel fees for this one analysis and determination on classification totaled approximately twenty thousand dollars ($20,000). This amount does not include the costs of internal personnel time. If the Revisions were adopted, future purchases of equipment would require review to determine appropriate classification. Assuming that half of the equipment purchased annually by the University would require this type of review, the *annual* outside counsel cost merely to determine the appropriate status of equipment under the BIS regime would be two million, eight hundred and eighty thousand dollars ($2,880,000) per year. This does not take into account the costs of obtaining necessary export licenses for equipment that is determined to be subject to control. This also does not take into account the expense of retroactively examining the equipment already on campus to determine its appropriate classification. Assuming that even ten percent of the existing capital equipment on campus would require this type of analysis, the outside counsel fee cost to determine the appropriate classification of the existing equipment would be twenty-seven million, five hundred, ninety-two thousand dollars ($27,592,000).

The open nature of university research and the byzantine nature of the current BIS definitions for "use technology" create a situation where even the most diligent of institutions will have difficulty ensuring compliance with the regulations. While the University conducts training and makes web-based educational materials on export control compliance available to the University community, adoption of the recommendations of the Revision will create a significant training challenge. National security will not be enhanced by creating a regulatory scheme with which it is all but impossible for institutions to comply.

III. Other Mechanisms Exist to Ensure Protection of National Security Concerns

The University does respect the significant concerns regarding national security that underlie the proposed Revision; however, such concerns may be addressed more effectively through other existing mechanisms. Most significantly, NSSD 189 identifies the single most effective tool for ensuring national security interests in research programs: classifying the research. This tool both ensures a more complete protection of the subject matter of the research, and allows universities to determine in advance whether they are willing to accept the restrictions associated with this type of research.

In those cases where research is not subject to classification, but national security concerns are present because of the particular foreign scholar and his/her proposed course of study, there is another tool that the federal government can use: the Visa Mantis process. Any foreign national coming to study or engage in research at the University must first be cleared through a rigorous review, in which federal agencies may advise the State Department as to whether a particular scholar in a particular course of study presents national security concerns. It

is through this mechanism that the federal government should make its determination about whether a foreign national should be permitted to join the research community in the United States. Once a foreign scholar has been approved through this process, he/she should be permitted to engage in fundamental research without further reviews, approvals, permits or other restrictions. In cases where concerns do arise, any additional licensing requirements could be made part of the visa approval process.

IV. Using Country of Birth as the Criteria for Determining if an Export License is Required is not Appropriate

The Revision also proposes that institutions review a foreign scholar's place of birth, rather than his/her current citizenship, in determining whether a deemed export license is required. The University is a state-related university, and does not discriminate in its programs based on national origin. The Revision assumes, without any independent analysis or empirical support, that a foreign scholar will retain allegiance to his/her country of birth, regardless of that scholar's current citizenship.[2] While citizenship and residency are appropriate categories for consideration, country of birth is a questionable criteria to use in determining whether a deemed export license is required. It is unclear whether the proposal contained in the Revision would pass constitutional review, as it is difficult to justify the proposal as "narrowly tailored" to meet a "compelling government interest," *see, City of Cleburne v. Cleburne Living Center*, 473 U.S. 432 (1985). More significantly, there is no empirical support offered to justify how this change could improve national security.

By creating the best universities and research facilities in the world, the United States has reaped scientific, economic, and political benefits. Foreign scholars studying here learn more than the subject matter taught in classes. They are exposed to the benefits of our open and democratic political system, and they become part of an international community of scholars, all committed to the basic principle of openness in research. The proposals set forth in the Revision, if adopted, would upset the careful balance of interests represented by NSSD 189, impose costly and cumbersome burdens on both universities and the BIS to implement, and deprive the United States of the benefits of being the international leader in research and higher education. The University recommends that BIS not adopt further requirements for deemed export licenses for fundamental research as set forth in the Revision.

Very truly yours,

George E. Klinzing, Ph.D.
Vice Provost for Research

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[2] Had this assumption been adopted as law during World War II, the United States might never have been able to utilize the expertise of the German scientists who worked on the Manhattan Project.

From: Randy Short <rdshort@lbl.gov>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 5:47 PM
Subject: RIN 0694-AD29

To Whom It May Concern:

Attached is the _Advance Notice of Proposed Rulemaking (RIN 0694-AD29) Revision and Clarification of Deemed Export Related Regulatory Requirement_ from Lawrence Berkeley National Laboratory.

Please contact me at 510-486-7026 if there is any problem with this transmission.

Sincerely,
Randy Short

Office of the
Deputy Director

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230

June 23, 2005

Re: Advance Notice of Proposed Rulemaking (RIN 0694-AD29)
Revision and Clarification of Deemed Export Related Regulatory Requirements

Lawrence Berkeley National Laboratory (LBNL) appreciates the opportunity to comment on the Bureau of Industry and Security's proposed rulemaking. These comments supplement and support those being submitted by The Regents of the University of California (UC) on behalf of its National Laboratories and Universities. LBNL agrees with the UC's interpretation of the Export Administration Regulations and shares UC's concern regarding the Office of Inspector General's (OIG) interpretation of these rules.

While these comments are specific to LBNL, the consequences we address are pertinent to all National Laboratories and Universities that conduct fundamental scientific research.

Unclassified Research Collaborations
LBNL pursues fundamental scientific research in order to advance U.S. interests in science, energy, defense, and the environment. The success of LBNL Federally-funded programs relies on collaborations with domestic and foreign research partners – primarily those with Universities and Laboratories. Collaboration is a key feature of LBNL's scientific endeavors. In the increasingly internationalized world of large scale science, the U.S. should draw from the best talent pool possible and maximize its flexibility to create breakthrough scientific discoveries, rather than restricting U.S. participation in international scientific collaborations.

OIG's proposed changes to the interpretation of these Department of Commerce rules would severely restrict such collaborations and would require a level of physical segregation for some foreign nationals. This would severely damage the open and collaborative scientific environment.

Use of Department of Energy (DOE), Office of Science National Facilities
The DOE operates several unique National User Facilities at LBNL used by scientific researchers from the U.S. and abroad. These facilities include the Advanced Light Source, National Center for Electron Microscopy, National Energy Research Scientific Computing Center (NERSC), and the soon-to-be completed Molecular Foundry (collectively "National Facilities."). These facilities share the common attribute of being operated and managed for the purpose of fundamental scientific research.

Ernest Orlando Lawrence Berkeley National Laboratory | Berkeley, California 94720
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Consistent with existing Department of Commerce rules, scientific users of our National Facilities have no access to export controlled technology that is not covered by an exemption in the regulations. The OIG's proposed changes could require a significant number of these users to acquire export licenses to perform their fundamental research. Many foreign nationals presently allowed to interact at LBNL were born in countries where they no longer reside. Should the OIG's proposed changes be adopted, certain foreign nationals could be barred from on-site interaction with LBNL even though they have no access to export controlled technology.

The proposed changes could result in LBNL filing thousands of export license requests on an annual basis, would cause major delays in the use of these National Facilities, and inevitably slow the progress of U.S. science. Principal Investigators would be required to name all possible graduate and undergraduate researchers months before these researchers were actually granted time at LBNL, to allow for acquiring export licenses. Flexibility to adjust to changing collaborations/students would be substantially reduced. Further, some of our facilities could need to undergo physical modifications if the proposed changes are adopted.

The Federal Government has committed substantial resources to create these National Facilities. Access to these facilities is managed by DOE to ensure usage only by qualified scientific users. All of this is consistent with the rules regarding Department of Commerce protected technologies. Placing further restrictions on the use of these National Facilities on the basis of country of origin rather than on country of citizenship, while ignoring potential scientific contribution, is not in the best interest of U.S. fundamental research.

Conclusion
The existing interpretation of export control regulations is important to LBNL, given its distinctive mission to conduct fundamental scientific research in the National interest. LBNL strongly opposes the OIG's suggested changes, and encourages the Department of Commerce to carefully consider the consequences of these proposed changes on the critical contributions that U.S. scientific research brings to the U.S. and the world.

Submitted by,

Graham R. Fleming
Deputy Director
Lawrence Berkeley National Laboratory

From: Kay Sizer <Kay.Sizer@ndsu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/23/05 04:21PM
Subject: RIN 0694-AD29

The comments in the attached document are submitted in response to the March 28, 2005 Federal Register Advance notice of proposed rulemaking regarding Revision and Clarification of Deemed Export Related Regulatory Requirements.

These comments have been prepared by the Office of the Vice President for Research, Creative Activities and Technology Transfer on behalf of North Dakota State University in Fargo, ND.
Thank you for your careful consideration of this important issue.

Respectfully submitted,

by Kay L. Sizer for Philip Boudjouk, Ph.D.
Vice President for Research, Creative Activities and Technology Transfer
North Dakota State University
Fargo, ND

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Comments from North Dakota State University
on Proposed Federal Regulations Regarding Deemed Export Controls
Re: RIN 0694-AD29

North Dakota State University (NDSU) hereby submits the following comments to the U.S. Department of Commerce Bureau of Industry and Security (BIS) regarding proposed revision and clarification of deemed export related regulatory requirements. This is in response to the call for comments solicited in the March 28, 2005 Federal Register.

NDSU recommends that careful consideration be given by the DOC–BIS before finalizing the proposed revisions to the regulations, based on the following concerns:

- The proposed revisions to the regulations are unenforceable, discriminatory, and possibly even unconstitutional.
- The proposed revisions would inhibit our ability to recruit talented faculty and students because of unrealistic restrictions based solely on their country of birth.
- The proposed revisions would impose severe restrictions on faculty, students, administrators, and other foreign-born researchers and prevent them from supervising, conducting research, or even entering laboratories even though they are U.S. citizens.
- The proposed revisions would compromise and place restrictions on the conduct of research in many disciplines at the cutting edge of science (e.g., computational science, material science, engineering, and virology) and involving leading-edge technologies such as sensors, lasers, and advanced computing, thus impeding research progress in these areas.
- The proposed revisions would limit universities' ability to contribute to the nation's technological and scientific position as the world's leader.
- The proposed revisions represent a punitive mandate that places an unrealistic oversight burden on universities when compared against the limited potential benefit that would be gained by it.

NDSU also supports the comments recently submitted by the following national organizations: American Association of Universities (AAU), National Association of State Universities and Land Grant Colleges (NASULGC), Council on Governmental Relations (COGR), and the Coalition of Academic Scientific Computing (CASC).

Thank you for your careful consideration of these and all other submitted comments.

From: Patrick Schlesinger <patrick.schlesinger@ucop.edu>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 9:58 PM
Subject: RIN 0694-AD29 - UC Comments

Please find the comments of the University of California attached.

Patrick Schlesinger
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UNIVERSITY OF CALIFORNIA

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OFFICE OF THE PROVOST AND SENIOR VICE PRESIDENT —
ACADEMIC AFFAIRS

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1111 Franklin Street, 12th Floor
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June 23, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230
ATTN: RIN 0694-AD29

Re: Advance Notice of Proposed Rulemaking (70 Fed. Reg. 15607)
Revision and Clarification of Deemed Export Related Regulatory Requirements

The University of California appreciates this opportunity to provide comments on the March 28, 2005 Advance Notice of Proposed Rulemaking (ANPR). The ANPR was issued by the U.S. Department of Commerce Bureau of Industry and Security (BIS) and requested comments on certain Office of Inspector General (OIG) recommendations concerning the deemed export rule under the Export Administration Regulations (EAR). The University of California operates a system of ten campuses and manages three national laboratories (at Berkeley and Livermore, California and at Los Alamos, New Mexico) for the U.S. Department of Energy.

The University would like to submit the following comments with regard to the specific OIG recommendations in the ANPR:

1. **Definition of 'Use" Technology.** The University does not object to the change in the definition of "use" so long as (1) BIS does not go further and rewrite and limit the "publicly available" information exemption; and (2) BIS does not adopt an interpretation based on what we believe to be the erroneous assumption of the OIG that "use" of controlled equipment necessarily entails transfer of controlled "technology".

2. **Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement.** The University is opposed to this proposed change, which would impose a significant and unnecessary burden on employers and vendors.

3. **Clarification of Supplemental Questions and Answers on Government Sponsored Research and Fundamental Research.** The University is particularly well qualified to comment on these issues based its long experience in managing national laboratories. We have submitted alternative proposed answers to questions A(4) and D(1) in the attached comments to this letter.

Because the OIG's recommendations on the "deemed export" rule raise a number of potential issues for all of the University facilities, the attached comments address these issues in the campus and national

laboratory context. In addition to the comments summarized above, there are three points the University would like to emphasize.

1. *The proposed change in the EAR's definition of "use" relates to "technology" and would not impose new restrictions on the actual use of equipment.* As BIS has noted in the past, the actual use of equipment by a foreign national is not controlled by the EAR. The issue is whether, at the time of use, the foreign national also receives export controlled "technology", or technical data, that is not publicly available.

2. *If the "technology" provided to a foreign national is "publicly available" under the EAR, no deemed export has occurred.* In most cases, the technical data related to the "use" of a piece of equipment is contained in a publicly available owner's manual that is provided to every customer who purchases the equipment, without regard to citizenship. Because this falls under an exemption under the EAR, the manual would not qualify as controlled "technology" even if it described how to operate, install, maintain, repair, overhaul, or refurbish the equipment. By contrast, if the equipment manufacturer is providing proprietary, non-public, export controlled information that may not be freely disseminated, such information could only be transferred to a foreign national under a "deemed export" license (assuming that a license is otherwise required).

3. *"Use" technology that arises during fundamental research is not subject to control under the EAR if it is openly disseminated within the scientific community.* There are times in performing scientific research that equipment is modified or used in a new way in a laboratory. If the information about the modification or use is disseminated by the researchers (and not treated as secret, proprietary information), it would fall under the EAR's fundamental research exemption.

These comments are explained more fully in the attached document. The University appreciates this opportunity to provide comments on the ANPR and the continued efforts of BIS to provide practical, workable guidance in a complex regulatory area.

Sincerely,

Lawrence B. Coleman
Vice Provost for Research

Att.

cc (w/att.): Provost and Senior Vice President Greenwood
General Counsel Holst
Senior Vice President Darling
Vice Chancellors for Research
Assistant Vice President Sudduth
Executive Director Auriti
Director Mears
Coordinator Yoder

Comments of the University of California
Advance Notice of Proposed Rulemaking (RIN 0694-AD29)
Revision and Clarification of Deemed Export Related Regulatory Requirements

The University of California appreciates this opportunity to provide comments on the March 28, 2005 Advance Notice of Proposed Rulemaking (ANPR). The University of California operates a system of ten campuses and manages three national laboratories (at Berkeley, Livermore, and Los Alamos, New Mexico) for the U.S. Department of Energy (DOE). The ANPR, issued by the U.S. Department of Commerce Bureau of Industry and Security (BIS), requested comments on recommendations contained in the Department of Commerce Office of Inspector General (OIG) March 2004 report on deemed export controls. Because the OIG's recommendations on the "deemed export" rule raise a number of potential issues for all of the University facilities, these comments address these issues in the campus and national laboratory context.

In submitting these comments, the University recognizes that the national laboratories, especially Los Alamos National Laboratory and Lawrence Livermore National Laboratory, operate in a different environment from the University campuses due to their national security missions. The laboratories have well-developed foreign visit and assignment programs and export control programs designed to protect export-controlled and other sensitive information in accordance with DOE directives. However, the comments outlined below are consistent with the missions of both the national laboratories and the campuses.

Background

The OIG concluded that the current application of the "deemed export" rule in the Export Administration Regulations (EAR) would provide access to foreign nationals from countries "of concern" to controlled "technology" as defined under the regulations. Among other recommendations, the OIG recommended revising the definition of "use" technology in the regulations and basing the requirement for a deemed export license on a foreign national's country of birth, rather than citizenship. In addition, the OIG recommended modifying certain regulatory guidance on the licensing of technology to foreign nationals working with government-sponsored research and research conducted in universities.

The OIG asserted that the misuse of the "deemed export" rule and certain exemptions in the EAR allows the transfer of sensitive U.S. technology to countries of concern. However, as other commenters have noted, these concerns are already being addressed by the Departments of State, Homeland Security, and other federal agencies. These agencies already perform extensive background checks on foreign nationals coming to the U.S. to perform research in academic laboratories through the Visas Mantis program. Once the United States government has approved a foreign national under a visa that permits study and research at a U.S. university, there should be only a very few and well-defined

instances in which the individual must face additional restrictions in working within the academic research community.

American universities and research laboratories should be allowed to do their part to protect national security by helping to maintain the scientific preeminence and economic health of the United States. When research is to be performed of a highly sensitive nature that could impair the security interests of the United States, such research is classified. The University well understands the need for this kind of research and has a long history of performing it for the United States at national laboratories managed for the U.S. Department of Energy. However, where the research is not classified, the academic and research community should be permitted to bolster the nation's security by attracting the best minds of the world and allowing them to perform their research. These researchers should be able to freely use advanced technology where such use does not involve a transfer of controlled technology, exchange basic research results with their colleagues, and continue to make the discoveries that have kept U.S. innovation second to none.

Control of Equipment versus Control of Technology

With respect to the regulations reviewed by the OIG, the University believes that much of the confusion referred to in the OIG report is related as much to the term "technology" as to the term "use" in the EAR. "Technology" does not refer to the controlled equipment itself but to the specific information necessary for the development, production, or use of a product. (15 CFR §772.1) We believe it is critical (1) to distinguish "equipment" from "technology;" and (2) to be clear that the deemed export rules apply only to transfer of certain "technology" (that is, specified technical information) to foreign nationals within the United States, and *not* to transfer or use of equipment. Furthermore, it is crucial to acknowledge that not all "technology" is subject to the EAR in the first place.

The EAR states that "publicly available technology" is not subject to the EAR (15 CFR §734.3(b)(3)). Publicly available technology includes:

- information that is or will be published;
- information that arises during, or results from, fundamental research; and
- educational information.

Thus, in reviewing the proposed change to the definition of "use" technology referred to in the ANPR, the University believes that it is important to note that, under the applicable regulations, the controlled "technology" at issue does not include information in any of the above-listed categories. At times, the OIG report appears to obscure the distinction between equipment and information in describing controlled "technology", and also implies that all technology must be controlled rather than recognizing that some may

qualify as publicly available. Both of these distinctions are critical to determining the applicability of the "deemed export" requirements.

The current framework of the EAR does not restrict the sale or purchase of equipment within the United States. As Undersecretary Kenneth I. Juster noted in his August 13, 2004 letter to Professor Alice P. Gast of MIT, "the actual use of equipment by a foreign national is not controlled by the EAR. Rather, the transfer of technology relating to the use of the equipment may be controlled." (Juster Letter, page 2, fn. 1 (emphasis added).) Whether such "technology" is controlled under the EAR depends on whether the technology for the use of the equipment is specifically listed on the Commerce Control List (CCL) and on whether such technology is "publicly available" as described above.

It is the University's experience that manufacturers of dual use equipment controlled under the EAR typically make freely available to all purchasers operation, or "user", manuals. These manuals are provided to the consumer along with the equipment, and are often posted on open websites of the manufacturer. (By contrast, manufacturers are likely to keep as confidential and proprietary their blueprints, engineering designs, and manufacturing techniques, for these provide a commercial advantage, unlike the "user" manuals.) Such user manuals do not require a license under the export regulations because the manuals are publicly available and manufacturers of dual-use commodities are not placing restrictive markings (such as "Export Controlled/Restricted to U.S. Citizens") on the manuals, nor are they securing an export license to transfer such manuals to the purchasers.

This understanding is based on the clear text of the export regulations, and was recently reconfirmed by BIS after the publication of the OIG report. In his letter to Professor Gast, Undersecretary Juster notes that there will be many situations in which a university would not need to seek a license to transfer "use" technology to a foreign national. He notes that the technology may be publicly available "because the technology has been published or is posted on the Internet" or the technology "may arise during or result from fundamental research." (Juster letter, page 3.)

In its report, the OIG stated that simply providing access to controlled equipment to a foreign national may result in the transfer of controlled "use" or other technology. However, BIS has carefully drawn a distinction between controlled information and information that is available to the public based on the use of the equipment itself. For example, in a December 6, 2004 advisory opinion on the subject of deemed exports, BIS discusses the sale of surplus government property to foreign nationals. The opinion was issued in response to a request for guidance that described a public sale in which a foreign national would be provided access to the purchased property and an opportunity for close examination of the equipment, perhaps even by taking the item apart. The advisory opinion states "[i]f the sale of the equipment is open to all members of the public, then any technology that might be transferred is deemed to be publicly available

under Part 734 of the EAR and, thus, not subject to these Regulations." (Citing Part 734, Supp. No. 1 (section I: Miscellaneous, Question (1).) The opinion goes on to note that where a government contractor's sales are open to all members of the public, "then the mere inspection of the equipment does not raise a deemed export issue." Thus, it is not enough to determine whether some kind of information about a piece of controlled equipment may be conveyed by its "use". The issue is whether such information is non-public controlled technology under the EAR.

Definition of "Use" Technology

The EAR places controls on "production", "development" and "use" technology for many of the items on the CCL. However, the OIG noted that definition of "use" presented particular compliance problems. "Use" is defined in section 772.1 of the EAR as "operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing", and concluded that the term encompassed too many activities to be useful for implementation and enforcement purposes. Because the OIG considered it unlikely that one individual would perform all six activities, it found that one would almost never determine that a license for the export of technical information related to "use" was required under the regulation as presently drafted. It therefore recommended that "or" be substituted for "and" in the regulation.

The University does not object to the change in the definition of "use" so long as (1) BIS does not go further and rewrite and limit the "publicly available" information exemption and fundamental research exemption; and (2) BIS does not adopt an interpretation based on what we believe is the erroneous assumption of the OIG that "use" of controlled equipment necessarily entails transfer of controlled "technology".

The University's position might best be understood by considering the following four scenarios.

1. *"Use" technology provided by the manufacturer which is publicly available*

This scenario describes the typical situation in which the manufacturer of a piece of scientific equipment that appears on the CCL also provides an owner's manual containing instructions on the operation, installation, and maintenance of the equipment. Where the manual is typically provided to every purchaser of the equipment, is publicly available, and contains no restrictions on the equipment purchaser's ability to freely distribute the manual, the University believes such technical data would qualify as "publicly available technology" under 15 CFR §734.3(b)(3) and 15 CFR §734.7. Even if a foreign national is using the equipment and reading and using the information in the manual, the University believes that no "deemed export" under the EAR has occurred.

The consequences of changing BIS's current interpretation of the "publicly available" information exemption cannot be underestimated. Not only colleges and universities but much of the U.S. industrial sector uses certain dual-use equipment in its operation. For example, one need simply consider the number of desktop computers that pervade the workplace, much less the use of high-end computers in the academic and high tech sectors. Most of the computers and software that are in use in the U.S. (and which can be purchased by any individual inside the U.S.) require a license to ship the computer or software to certain countries outside the U.S. The computer and software manufacturers make freely available their "user" manuals to the purchaser, since they want to make it as easy as possible for their customers to install and use their equipment. Further, the buyer of the computer is not interested in knowing the inner-workings of their computer; they simply want to use the computer in the performance of their job. Nonetheless, were the OIG recommendations to be interpreted overbroadly and were BIS to determine that the "publicly available" information exemption did not apply to the owner's manuals, there would be substantial disruption to the manufacturing and industrial sectors in the United States. First, manufacturers of any dual use equipment would have to secure an export license to provide the user manual to the purchaser. Second, the University (and other academic and business entities) could no longer allow foreign national employees working with valid visas to review the user manuals for their office computers without securing export licenses. The magnitude of such added responsibilities would be further compounded in the event that original place of birth was added as the criteria, as discussed below.

2. *"Use" technology provided by the manufacturer which is not publicly available*

The second scenario involves technical data (e.g. blueprints, plans, engineering designs and specifications) about an item on the CCL, which is provided by the manufacturer under some sort of non-disclosure agreement because it contains proprietary information. This information does not qualify as "publicly available" and did not "arise during, or result from, fundamental research" because it was created by the manufacturer and is not being freely disseminated. That the information might be used in fundamental research does not change the character of the information itself because it was provided under a non-disclosure agreement and cannot, therefore, be "ordinarily published and shared broadly within the scientific community". *See* 15 CFR §734.8.

We acknowledge that before such export-controlled and proprietary information provided under a non-disclosure agreement could be provided to a foreign national, the manufacturer and/or the University would be required to apply for a "deemed export" license if the information would require a license before being transferred to the home country of the foreign national. However, under University policy, the University's campuses and research laboratories are open to all researchers regardless of citizenship, residency status, or visa category. The University does not maintain research laboratories

on campus that discriminate on the basis of such categories between members of a scientific research team. Moreover, as a practical matter, even if a manufacturer or contractor wanted to provide such proprietary, export-controlled information, the open academic setting that is fundamental to the University's operations makes it infeasible to ensure that export-controlled information would be limited to those foreign nationals who could receive it without a license. Therefore, as a matter of policy and practice at the campuses, the University refuses to accept export-controlled, proprietary information that cannot be freely disseminated or published and returns any such information that it receives. That is not the case, of course, at the national laboratories. At the national laboratories, the University has implemented policies and procedures to protect export-controlled and other sensitive information that is not available to the general public.

3. *"Use" technology developed by the University that is published*

This scenario assumes that, in the course of performing the research work, a researcher develops some kind of "use" technology that was not provided by the manufacturer (whether in a publicly available owner's manual or under a non-disclosure agreement). Such technology might be obtained, for example, if the researcher had to modify a piece of scientific equipment to perform an experiment, and in making the modification learned something about operation or design of the equipment that was not previously provided. Typically, researchers in publishing their scientific results will also publish their methodology to ensure that their results are reproducible by other scientists. Such published information would have arisen during the performance of fundamental research (15 CFR §734.8) and, as published material would also qualify under the published information exemption in 15 CFR §734.7.

It is important to be clear that the fundamental research exemption includes the right of researchers to generate new information about how to use and modify controlled equipment they may be using in the conduct of their fundamental research at U.S. university campuses. An interpretation to the contrary would severely constrain the ability of universities to conduct fundamental research in the open academic environment that has been so critical to the success of this nation's academic research enterprise.

4. *"Use" technology developed by the University that is not published*

The final scenario assumes that the information developed at the University is not published. Under the export regulations, whether such information would require a deemed export license would depend on how the information is treated by the University and the researcher. If, for example, the researcher shared the information broadly within the scientific community, whether by sharing it with departmental colleagues, discussing it at open conferences, or by sharing it with researchers at non-University institutions, it would still qualify as having arisen during, and resulted from, basic and applied research that would qualify as fundamental research under 15 CFR §734.8. If, however, the

researcher or the University did not share the information freely and did not publish or disseminate it broadly within the scientific community, the information would no longer qualify as fundamental research.

To summarize, the University does not object to substituting "or" for "and" in the definition of "use" contained in 15 CFR §772.1 because, under current BIS regulations and interpretations, the University believes that the change would not result in "deemed export" licenses being required to perform fundamental research, except in the limited circumstances described above. However, it appears that the OIG does not interpret the EAR and the regulatory exemptions and definitions the same way BIS does. The OIG, for example, criticized a laboratory operated by the National Institute of Standards and Technology (NIST) because NIST did not secure the operations manual for a piece of controlled equipment (OIG report, page 28.), and no mention was made as to whether the operations manual was publicly available or had been provided confidentially by the manufacturer to NIST.

If, in implementing the OIG recommendation on the "use" definition revision, BIS were to also revise the regulatory exemptions or interpretation, such a change would have a significant and negative effect on the industrial base of the United States and its workforce, both for the manufacturer of dual-use equipment and for any company that uses such equipment in its operation, as well as on the University's ability to perform its research mission. The University therefore urges BIS, in the event that it does make the change to "use", to also make clear that the actual use of the equipment itself is not being controlled by such a change, that manufacturers may continue to make their user manuals publicly available, and that the change simply affects the section of the regulations governing technical data about controlled equipment, when such technical data is held as confidential or proprietary. In particular, we urge BIS to make clear that technology that arises during use of equipment in fundamental research (described in scenarios 3 and 4 above) is, itself, within the scope of the fundamental research exemption, as long as the technology is published or otherwise freely disseminated in the scientific research community.

Use of Country of Birth as Criterion for Deemed Export License Requirement

As stated above, under its export compliance plan, the University operates within the regulatory exemptions (including the "fundamental research" exemption) applicable to controlled technology that is publicly available. Therefore, it believes that it is not required under the regulations as drafted to obtain "deemed export" licenses before publicly available technology is provided to foreign nationals. However, should BIS change its interpretation of these exemptions and should the University be required to obtain "deemed export" permits, the change advocated by the OIG would place a substantial burden and cost on the University.

The initial cost would be placed upon any manufacturer or contractor providing formerly exempt material to the University, because they would be making the initial transfer of export-controlled technology. They presumably would have to verify the country of origin of each of the University faculty, staff or students to whom they were delivering the technology (as well as to all other purchasers of the commodity). An additional cost would then be incurred by the University because the University would have to determine which of its 350,000 employees and students were foreign nationals and manually review and verify the records of the foreign nationals to determine the country of origin for each foreign national. As a practical matter, University employees would be placed in a position of determining the veracity of birth-related documents from all manner of countries and jurisdictions. Many reputable people will not have access to this information; they will be delayed in becoming employed and efficiently integrated into the University. However, disreputable people will have the incentive and perhaps ability to provide false or forged documents.

It should be noted that country of birth is not a data element that must be collected or maintained by an employer under the Immigration and Naturalization (INS) Act requirements for determining eligibility to work. Many employers have not retained copies of the INS eligibility documentation and in most cases it would require the employer to recollect and record birthplace information. At that point, the University would have to try to determine, employee by employee and student by student, which controlled technology they were likely to encounter in performing their jobs and studies and which restrictions under the CCL would apply to each affected individual. In the University's open academic environment, information typically is freely and broadly shared in scholarly exchanges, classroom settings, and academic lectures, making it difficult to limit the burden by narrowing the documentation review to just a few individuals.

Beyond the very real record-keeping and verification burden and cost to the University, we believe that such a requirement would exacerbate the increasing problem faced by our campuses and national laboratories and other U.S. research institutions in attracting the very brightest faculty, students, researchers, and scholars from around the world. At a time when we want to nurture international exchanges and collaborations to enhance the effectiveness of academic research, we should be wary of bureaucratic procedures likely to heighten the perception that the United States is not welcoming of foreign students and scholars. Foreign-born students and scholars have contributed significantly to U.S. research and development, and discouraging them from coming here may damage immeasurably the vitality of our nation's research enterprise. A person who has spent several decades as a permanent resident of one country, and who has already met the State Department's entry and visa rules, may well feel unwelcome when faced with a new rule that singles them out because of their country of birth (which they may well have left in childhood). We urge BIS to carefully consider these "costs" as well, and to reject the OIG's recommendation to use country of birth as a licensing criterion.

Finally, the OIG report notes approvingly that the State Department's Directorate of Defense Trade Controls uses a country of origin approach in its administration of the International Traffic in Arms Regulations (ITAR). The OIG asserts that, because this approach is already being used by the State Department, it would be consistent and practical for BIS to use the same approach. The University believes that the ITAR's exemption for information in the "public domain" allows it to share information with a foreign national that would otherwise be controlled without obtaining an export license. 22 CFR §120.11. More importantly, it must also be noted that the items covered on the ITAR's U.S. Munitions List is far narrower than all of the "dual use" items that appear on the CCL. Therefore, the University does not support the use of the State Department's approach to country of origin by BIS.

Clarification of Supplemental Guidance – Answer to Question A(4)

The University agrees that the answer to Question A(4) in Supplement No. 1 to Part 734 of the EAR needs to be clarified. However, the correct answer would appear to depend on the reason for the prepublication clearance imposed by the Department of Energy (DOE) in the question. If DOE were to impose a prepublication clearance to protect patent rights, a temporary delay for such purpose would not violate the fundamental research exemption. 15 CFR §734.8(b)(3). However, if DOE imposed the clearance requirement for national security reasons, the release of such information under the EAR would be governed by 15 CFR §734.11. We have included our proposed text of the clarification in Attachment 1.

Clarification of Supplemental Guidance – Answer to Question D(1)

The University believes that the answer to Question D(1) is correct as stated, although it may be viewed as incomplete. Consistent with the discussion above, the University believes that the answer could be clarified to note that while a license is not required for a foreign student working in a laboratory as long as the research on which the student is working qualifies as "fundamental research," an export license would be required where, in working with a controlled piece of equipment, the student needed to receive controlled technology of a confidential or proprietary nature. Again, we have included proposed text for the clarification in Attachment 1.

Attachment 1
Supplement No. 1 to Part 734
Questions and Answers—Technology and Software Subject to the EAR

Question A(4): The research on which I will be reporting in my paper is supported by a grant from the Department of Energy (DOE). The grant requires prepublication clearance by DOE. Does that make any difference under the Export Administration Regulations?

Answer: It would depend upon the nature of the prepublication clearance to be conducted by the DOE. If the prepublication review is for the purpose of identifying patentable inventions or proprietary data provided by another and the review causes no more than a temporary delay in publication, then the activity would still qualify as fundamental research (§734.8(b)(2) and (3) of this part). However, if the prepublication review is for the purpose of controlling dissemination of the research results and the DOE reserves the right to withhold permission for publication, then the activity would be considered government research covered by contract controls (§734.11 of this part) and would be subject to the EAR. Once the federal sponsor approved the publication, and the contractual obligation has been met, then the publication of the results and further dissemination would no longer be subject to the EAR (see also Question and Answer E(1)).

Question D(1): Do I need a license in order for a foreign graduate student to work in my laboratory?

Answer: No license is required for a foreign graduate student to conduct fundamental research in a laboratory. Further, no license is required for a foreign graduate student to use equipment in the laboratory. However, in cases where: (1) the equipment is listed on the Commerce Control List; (2) the manufacturer of the equipment has provided (or the researcher has created) technical information about the production, development, or use of the equipment that is not publicly available under §734(b)(3) of this part; and (3) such technical information is also specifically listed on the Commerce Control List; an export license would be required to provide the technical information (defined as "technology" in the EAR) to the foreign student in cases where the EAR required a license to send such technology to the home country of the foreign student. In sum, the foreign student may use the equipment, but they may not be able to access non-publicly available technical information about the equipment, depending on whether the EAR requires a license to send such technical information to the student's home country.

From: "Marianne Rowden" <mrowden@aaei.org>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 4:44 PM
Subject: AAEI Comments on Deemed Export Regulations (RIN 0694-AD29)

Dear Sir or Madame:

On behalf of AAEI, we are submitting the attached comments concerning the Advanced Notice of Proposed Rulemaking regarding the Revision and Clarifications of Deemed Export Regulations, which was published in the Federal Register at 70 Fed. Reg. 15607 on March 28, 2005.

If you encounter any difficulty opening the attached document, please contact the undersigned immediately. Please note that AAEI's comments with original signature will be sent by U.S. mail.

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AAEI American Association of Exporters and Importers
The Voice of the International Trade Community Since 1921

June 23, 2005

Via E-Mail and U.S. Mail
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Room 2705
Hoover Building
14th and Pennsylvania Avenue, N.W.
Washington, D.C. 20230

ATTN: RIN 0694-AD29

Re: Comments on Advanced Notice of Proposed Rulemaking regarding the Revision and Clarifications of Deemed Export Regulations (70 FR 15607 and 70 FR 30655)

Dear Sir or Madame:

On behalf of the American Association of Exporters and Importers (AAEI), we respectfully submit the comments below on the Bureau of Industry and Security's (BIS) proposed regulations on deemed exports which was published in the Federal Register on March 28, 2005. *See*, 70 Fed. Reg. 15607. We appreciate the opportunity to comment upon the instant proposal.

AAEI has been the national voice of the international trade community since 1921. Its unique role, speaking for both importers and exporters, is driven by its broad economic base of manufacturers, distributors, retailers and service providers. With promotion of fair and open trade policy and practice at its core, AAEI speaks to international trade, supply chain, export controls, and customs and border protection issues covering the expanse of legal, technical and policy-driven concerns.

As a representative of private sector participants engaged in and impacted by developments pertaining to international trade, national security and supply chain security, AAEI is deeply interested in the proposed deemed export regulations under consideration. What is more, at the appropriate moment, we hope to assist BIS consider how best to serve and advance the interests of homeland security in the United States.

As such, AAEI urges BIS to reconsider any deemed export rulemaking until a government/industry/academic consensus is reached on what is to be controlled, to whom, and for what reason. We believe that this consensus, which has been the backbone of effective export control legislation in the past, does not currently exist in order to form the basis of effective export controls in this area.

The American Bar Association and numerous businesses, academic institutions and their trade associations have filed, or are in the process of filing, comments highly critical of the proposed deemed export rule, in general, and components of the proposed rule in particular. While they all are committed to strong export

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compliance, their comments -- and ours -- stand for the proposition that the proposed rulemaking is a problematic "refinement" of a control regime, and that there has been no demonstration of a compelling need for this new rule.

Many of the components of the proposed rulemaking are problematic under U.S. law and the laws of the countries within which our member organizations operate. Demanding the country of birth of a potential employee offends many state employment discrimination mandates, and is not generally acceptable under the laws of most industrial nations. Moreover, there is little information available to indicate that ethnicity is in any way linked to a propensity to illegally acquire and inappropriately transfer controlled technology.

Nationality is a strong standard of a person's allegiance to a particular nation. The example cited in the Federal Register notice of a person born in Iran who has established permanent residency or citizenship in Canada does not provide a compelling reason to change the current requirements. By the logic of the proposal, a Canadian born son or daughter of the Iranian born Canadian citizen would pose less of a risk than the Iranian born Canadian citizen. The proposed rule does not indicate that this new standard will be applied to U.S. permanent resident aliens or naturalized citizens: it should state as much.

In line with the foundation of U.S. export control policy (the balance between national security and national economic vitality), we also ask whether the tremendous burden placed upon our members by the proposal is warranted in light of the trade community's view that BIS has not demonstrated a compelling need for enhanced regulation. Many of our members not only trade with, but have operations in at least one of the "countries of concern". The burden upon their domestic and international operations must be balanced by a strong showing that the more draconian proposed rule is warranted by clear evidence that increased stringency of deemed export regulation is absolutely necessary, especially since deemed export controls are a Congressionally-disfavored *unilateral control*, not supported by *any* legislative authority. Moreover, AAEI believes that an expansion of the proposed deemed export rules is inappropriate when the U.S. export control regime is currently administered under emergency authority rather than Congressional reauthorization of the Export Administration Act.

Deemed export licensing data made available in the OIG Report and by BIS do not indicate an increased threat. In FY'04, BIS noted in its Annual Report that it reviewed 995 "deemed export" licenses, representing 6% of all licenses submitted to BIS, with 70% of such licenses being for Chinese or Russian nationals. Only 8% of these "deemed export" applications were returned without action for additional information or were rejected, resulting in a net rejection rate at 1%. It is fair to wonder why the approval rate of such applications is so high when the threat is considered so immense and is alleged to be in need of more stringent control.

Moreover, few, if any, of our trading partners who are signatories to the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies have a deemed export regulatory regime, presenting an additional, anticompetitive burden on our members. Placing additional burdens, such as the proposed rule, on U.S. companies could have a negative impact on the economic vitality of the U.S.

Finally, a preliminary review of open source materials on threat and response from the U.S. Government entities responsible for counterintelligence fails to provide a clear indication of a sufficient, tangible threat. While there are ample descriptions of illegal technology transfers by third parties and examples of industrial or state-sponsored espionage, it has been clearly established that there are sufficient, stringent laws in place to penalize the former, and that the latter is not the proper subject of export control regulation *See*, the 1987 Allen Report at page 154. Moreover, the adverse effects of the proposed regulation threaten robust innovation and academic research, a subject of concern to our members. *See*, the Corson Report (1982 and 1984 update), NSDD-189 and the recently released white paper of the CSIS Commission on Scientific Communication and National Security (June 2005). Additionally, AAEI believes that the findings of other federal agencies do not support any need for the proposed rule. First, a recent report of the Office of National Counterintelligence Executive found that there were no cases where foreign employees were responsible for stealing controlled U.S. goods or technology during 2004, the period reviewed in the report. *See*, Annual Report to Congress on Foreign Economic Collection and Industrial Espionage – 2004, Office of the National Counterintelligence Executive, at pages 2 – 3, 6 (April 2005), available at http://www.nacic.gov/publications/reports_speeches/reports/fecie_all/fecie_2004/FecieAnnual%20report_2004_NoCoverPages.pdf. Second, in the first eight months of FY'05, which began October 1, 2004, BIS officials reportedly expect nearly a 20% decline in the number of deemed export license applications they will receive.

It is our understanding that, regretably, the proposed rulemaking neither furthers the objective of repairing the deemed export regime, nor does it respond to actual accumulated experience on the nature and mechanisms of the illicit technology acquisition threat.

We recognize that the instant notice is a preliminary step to effect modifications in the deemed export process. However, in light of the significant, substantive issues which do not favor the proposed remedy, it seems only prudent for BIS to exercise leadership and call for an expeditious revisiting of the foundations of deemed export regulation by all constitutents: industry, academia and government.

Absent thoughtful consensus, legislation will remain stagnant and regulation will be piecemeal and ineffective, thereby placing an unnecessary burden on the trade community. Happily, consensus has been expeditiously and effectively built in the past: the 1976 Bucy report and 1987 Allen report were both quick and comprehensive, and served to guide both focused legislation and efficient regulation for years. AAEI believes that the leadership of BIS, the Defense Science Board and the National Academies of Science could again address the issues and provide Congress and BIS with timely, appropriate guidance.

AAEI supports fulfilling this course of action by withdrawing the proposed regulation and redrafting a rule after a consensus has been reached on the least intrusive method of controlling the export of truly critical technologies. AAEI appreciates the opportunity to comment on this notice of proposed rulemaking.

Sincerely,

Hall Northcott

Hallock Northcott
President & CEO

cc: Melvin Schwechter, Co-Chair, AAEI Export Compliance & Facilitation Committee
Phyliss Wigginton, Co-Chair, AAEI Export Compliance & Facilitation Committee

From: "Remy Nathan" <remy.nathan@aia-aerospace.org>
To: <publiccomments@bis.doc.gov>
Date: Thu, Jun 23, 2005 2:33 PM
Subject: RIN 0694-AD29 - Comments from Aerospace Industries Association

June 23, 2005

U.S. Department of Commerce
Bureau of Industry & Security, Regulatory Policy Division
14th and Pennsylvania Avenue N.W., Room 2705
Washington, D.C. 20230
Attn: RIN 0694-AD29

To Whom It May Concern:

The Department of Commerce has issued an "advanced notice of proposed rulemaking" outlining changes in the standards to determine the requirement and eligibility for licenses in advance of "deemed exports" (DE). The notice suggests a re-definition of "home country" as the country of birth rather than country of residence or citizenship, which is currently the basis to determine the need/eligibility for a license. The Aerospace Industries Association of America (AIA), the nation's largest professional organization of defense, civil aviation, and space transportation manufacturers, has identified a number of concerns with this proposed rule that would have a substantial negative impact on our companies' abilities to conduct business unless they constantly filed license applications in an effort to comply. The proposed rule would also have a chilling effect on international transactions and partnerships.

- U.S. laws generally prohibit questions regarding place of birth or immigration status other than asking if a person is eligible to work in the United States.

- AIA has been informed by its colleagues in Canada, Europe, and Australia that such inquiries are currently being challenged in their court system as illegal.

- The proposed rule does not provide any guidance as to how companies are supposed to prove whether or not a person requires or qualifies for a license (i.e., what does an authentic British birth certificate look like? How does industry read birth certificates written in foreign languages?).

NB: The rest of the arguments below assume that there is a legal and accurate way for companies to authenticate place of birth, which is by no means assured.

- The proposed rule does not provide any guidance on how to classify properly the person under question (.e.g a hypothetical German citizen with a British father and an Iranian mother born in China). By default companies will file for licenses (at a rate and number that could overwhelm the system) and let Commerce figure it out.

- In many cases, fairly mundane technology does not even require a license unless the person using it is from a country of concern. The new rule would now require

scrutiny and licensing for these categories of technology for **every non-U.S. person** (including employees, visitors, customers, and partners) on the off-chance of a birth connection to a country of concern. If there is any doubt, companies will file for a license (at a rate and number that could overwhelm the system) even for the mundane technology.

- This requirement would be particularly onerous in cases where the non-US person in question may be accessing foreign technology on U.S. soil that they developed and sold to the U.S. in the first place. If there is any doubt, companies will file for a license at a rate and number that could overwhelm the system.

- Companies can currently apply for a license to export overseas to representatives of a given foreign company with the assurance that the foreign company will comply with the security protocols for the license. Since this new "place of birth" standard will apply to this transfer of technology overseas, foreign companies would now have to screen for and provide evidence of the place of birth **of all of their local employees** to comply with the license requirements. As noted before, this scrutiny would also apply to many categories of technology that are currently not licensed at all except for export to certain countries of concern. The new rule would be onerous to our overseas partners/customers.

    - For example, before getting a license for a technology "export" to a British firm in the U.K., the rule may require the British company to screen all British citizens accessing the technology for possible birth connection to a country of concern.

- The new rule does not address the need for reexport authorizations for foreign recipients of U.S. exports who employ persons born in third countries (e.g. Italians working in the U.K. for a British company). In an effort to ensure strict compliance with the EAR, many foreign companies will file for export licenses to cover deemed reexports to their employees born in third countries. Sub-tier suppliers to these foreign suppliers also will apply for deemed reexport licenses for their employees born in third countries. Reexport DE applications will be submitted at a rate and number that could overwhelm the system. This added reexport burden will have a chilling effect on foreign participation in U.S. program and academic activities, adding both time and cost.

- The difficulty to comply with this proposed rule would be exponential for universities and SME's who may not have the resources to gather this information. The rule would therefore have a chilling effect on corporate collaboration/communication with either group. The pool of foreign scientific talent that works for these institutions may also dry up.

- U.S. companies may begin to find themselves subject to the same questioning in other countries in retaliation for this burdensome rule.

As an alternative to efforts to widen the pool of individuals subject to scrutiny by the United States, the members of AIA would favor instead a discussion between government and industry regarding what technologies are of most concern that should require more stringent security requirements for access. Thank you for your time and consideration of our viewpoints on this matter.

Sincerely,

Joel L. Johnson
Vice President, International Affairs
Aerospace Industries Association

UNIVERSITY OF
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The Honorable Jacques S. Gansler, Ph.D.
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June 24, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

SUBJECT: Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005 Federal Register

Dear Mr. Lopes:

As both the Vice President for Research and a Director of two research centers of the University of Maryland, I write to express my concerns regarding the potential impact on universities if the Bureau of Industry and Security implements the recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

These comments are provided based on my background and experience working in a University setting, as well as my prior experience in a senior position in the Department of Defense (as Undersecretary for Acquisition, Technology, and Logistics.) Last year the University of Maryland received in excess of $350 million in research funds. The proposed regulations could directly affect our ability to conduct similar research in the future.

I find myself wondering if all this is necessary. It remains difficult for those of us deeply enmeshed in research to see that it is. I recognize that maintaining the security of the country is a number one priority for all of us, and that compromise is necessary for purposes of national security. However, the sacrifice of U.S. innovation, U.S. competitiveness, and our national research and technology strengths must be balanced with our need for national security, so that we are not sacrificing our security in the name of security. I also have grave concerns regarding the potential compromise to our academic freedom, which is both vital to our nation's technology progress and a cornerstone of democracy. And, I worry about the great loss to U.S. competitiveness and innovation that could result from a significant reduction in the contributions made by foreign students and professors who will be driven away by the effects of the proposed rules if they are implemented. Before regulatory changes are made, a risk analysis must be conducted. It should weigh the real threats and the real costs to our nation's universities.

The threat to our national security from international students and scholars who have been cleared through the visa and visa mantis procedures is not clear, and has not been demonstrated in the materials made publicly available. I really can not emphasize enough the contributions these foreign national students and faculty make to developing and sustaining the University of Maryland's research and the significant cost which would be imposed in terms of stifling future research if the IG recommendations are adopted. A look at the number of foreign national students, who serve critical roles in the innovation taking place at the University of Maryland, should give you an idea of the importance of these scholars. Currently, of the 9,793 graduate students, 2,585 are foreign nationals.

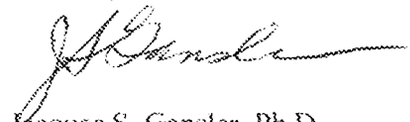
Do not exacerbate the trend we are already seeing. U.S. universities have seen a drop in international applications again this year. Nationally the numbers were down 28% last year with a loss of an additional 5% this year. International applications at the University of Maryland were down 37% last year and another 5% this year. Foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields and are heavily recruiting international students. As a result, the number of U.S. students seeking post-undergraduate S&E degrees is decreasing while the number of foreign students seeking such degrees outside the U.S. is increasing. Therefore, extreme caution should be used when imposing unnecessary barriers to participation by these scholars or they will chose to study elsewhere.

History has shown that a large majority of our foreign graduate students remain in the U.S. and that they contribute a very significant share of the innovation which keeps the nation ahead of the world. The costs of the IG recommended changes are high relative to the perceived risk expressed in the report. In a time where government and industry is looking to academia to perform research and groom the next generation of scientific and technological experts, the imposition of barriers on the ability of these foreign students and post-docs to freely participate in the academic process will adversely affect both my research and the nation's scientific and economic superiority.

Before implementing a regulatory program that will cause significant and permanent damage to both the university research enterprise and the nation's future economic and scientific leadership, there must be more thought and open dialogue with the academic community. Speaking as one cog in the giant wheel, I can offer this comment -- we can not sustain our technologic superiority if the proposed regulatory measures are implemented.

I thank you for this opportunity to provide input.

Sincerely,



Jacques S. Gansler, Ph.D.
Vice President for Research
Professor and Roger C. Lipitz Chair
Center for Public Policy and Private Enterprise

enclosure

cc: C. D. Mote

UNIVERSITY OF
MARYLAND
OFFICE OF THE PRESIDENT

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June 17, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

Re: Advance Notice of Proposed Rulemaking (RIN 0694-AD29):
Clarification of Deemed Export Regulatory Requirements, Bureau of Industry and Security, Commerce, 15 C.F.R. Parts 734 and 772

Dear Mr. Lopes:

The University of Maryland appreciates this opportunity to submit comments on the Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005, Federal Register. The Bureau of Industry and Security (BIS) has requested comments on the potential impacts on universities, industry and federal laboratories of accepting recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

On behalf of the University, I have had the opportunity to discuss our perspective with BIS and others. I stand behind my remarks delivered on May 6, 2005, at the National Academy of Sciences, a copy of which is attached. The following comments elaborate on the conclusions yet further.

The University does not support the OIG recommendations concerning the deemed export rule as applied to "use" technology. They are unwise and will work against our national security and economic development.

There is also no discernable basis for the recommendations. Despite our most diligent individual efforts and repeated requests for information, the University has not been able to learn of even a single instance of a graduate student who has undermined national security through access to "use" technology. On the other hand, we have found numerous federal programs whose goal is to "expand the boundaries of human wisdom, empathy and perception . . . through

education."[1] For example, in just the past two months, the President has announced the inauguration of educational exchange programs with Saudi Arabia[2] and the Republic of Indonesia.[3] These programs, and the many others like them, share the goal of "encourag[ing] international students to take part in our educational system [and the common belief that the] relationships that are formed between individuals from different countries, as part of international education programs and exchanges[,]. . . foster goodwill that develops into vibrant, mutually beneficial partnerships among nations."[4] It makes little sense to rely on international student and scholar exchange programs as a means of creating ambassadors abroad for democratic values and then raise barriers to the ability of international students and scholars to experience those values in practice upon their arrival at U.S. universities. It makes particularly little sense when no basis in fact can be found for creating such barriers.

I. Implications of Adopting the Recommendations

A. *Adopting the OIG's Recommendations Could Negatively Impact the Global Economic and Technological Competitiveness of the United States*

Numerous reports issued by The National Academies,[5] National Science Board,[6] the American Electronics Association, [7] the Task Force on the Future of American Innovation,[8] the

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1 From the remarks of Sen. J. William Fulbright on the occasion of the 30th Anniversary of the Fulbright Program in 1976, Fortieth Report of the J. William Fulbright Foreign Scholarship Board (2003–2004), available online at www.exchanges.state.gov/education/fulbright/ffsb/annualreport/2003/.

2 Joint Statement of President George W. Bush and Crown Prince Abdullah bin Adbulaziz Al Saud (Apr. 25, 2005).

3 Joint Statement Between the United States of America and the Republic of Indonesia (May 25, 2005).

4 Bureau of Educational and Cultural Affairs, U.S. Dep't of State, quoting President Bush, at http://exchanges.state.gov/education/educationusa.

5 *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, Committee on Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States, Board on Higher Education and Workforce, National Research Council (2005). http://www7.nationalacademies.org/internationalstudents/Intnl_news.html.

6 *An Emerging and Critical Problem of the Science and Engineering Labor Force, A Companion to Science and Engineering Indicators 2004* (NSB 04-07) (January, 2004) http://www.nsf.gov/sbe/srs/nsb0407/start.htm; *Science and Engineering Indicators 2004* (NSB 04-01) (May 2004), *Science and Engineering Workforce/Realizing America's Potential* (NSB 03-69) (Nov. 2003).

7 *Losing the Competitive Advantage? The Challenge for Science and Technology in the United States* (American Electronics Association) (March 2005). http://www.aeanet.org/publications/idjj_CompetitivenessOverview0205.asp?bhcp=1

Council of Graduate Schools,[9] and the President's Council of Advisors on Science and Technology[10] have documented the critical importance of foreign nationals in developing and sustaining this country's national security and scientific and economic superiority. They have also demonstrated that this superiority is fragile. These reports highlight the following concerns: (1) U.S. technological superiority cannot be taken for granted; (2) foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields; (3) foreign national students and post-docs are critical contributors to U.S. innovation, and (4) the number of foreign students seeking post-undergraduate S&E degrees outside the U.S. is increasing while the number of U.S. students seeking such degrees is decreasing.

University of Maryland figures support some of these conclusions. Foreign nationals are a vital part of this University's academic and innovation community. Twenty-six percent (26%) or 2,585 of our graduate students are foreign nationals, the 12th largest enrollment of foreign graduate students nationwide. The percentages are highest in the School of Engineering where 52% of the graduate students are foreign nationals and over 50% of the faculty plus the dean are foreign born and in the College of Computer, Mathematical and Physical Sciences where 45% of the graduate students plus the dean are foreign nationals. Sixty-nine percent (69%) of our foreign national graduate students are from Asia, mainly China (36%), India (24%), Taiwan (13%), and Korea (9%). The number of applications from international students to U.S. institutions of higher education has decreased nationally and at the University of Maryland. Applications from foreign nationals decreased nationally 28% for fall 2004 and 37% at the University of Maryland. The decrease for fall 2005 is an additional 5% nationally and at the University.

Our Office of Technology Commercialization collects citizenship information during patent filings from faculty and students who submit invention disclosures. Of the 801 faculty and student inventors between 2000 and 2004, 49% were not U.S. citizens. This percentage increased steadily during that period from 33% in 2000 to 60% in 2004. Fifty percent (50%) of the student inventors between 2000 and 2004 were not U.S. citizens. Our Office of Technology Commercialization also nominates inventions for *Invention of the Year* awards from fields in life, information and physical sciences and engineering. Again, the contributions of non-U.S. citizens

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[8] *The Knowledge Economy: Is the United States Losing Its Competitive Edge?* (Task Force on the Future on American Innovation) (Feb. 16, 2005). http://www.futureofinnovation.org/PDF/Benchmarks.pdf

[9] *Findings From 2005 CGS International Graduate Admissions Survey I.* http://www.cgsnet.org/pdf/CGS2005IntlAppRep.pdf *Survey of Foreign Student and Scholar Enrollment and Visa Trends for Fall 2004* (Council of Graduate Schools) (November 2004). *Survey of Foreign Student and Scholar Enrollment and Visa Trends for Fall 2004.*

[10] *Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities (June 2004).* http://www.ostp.gov/pcast/FINALPCASTSECAPABILITIESPACKAGE.pdf

are significant. Of the 50 inventions selected as finalists for that award between 2000 and 2004, 70% had at least one non-U.S. inventor. This percentage increased from a low of 56% in 2000 to a high of 89% in 2004.

In five years, 90% of all scientists and engineers in the world will be in Asia. Right now, the multinational corporation Intel does 75% of its business overseas. It has 5,000 employees in China and also announced this month it is investing $200 million in *Chinese* technology companies to stimulate Chinese innovation in hardware, software and services and doubling its efforts to train one million Chinese teachers and 45 million Chinese students on *using* technology to enhance teaching and learning.[11] The same international growth is true for large numbers of other companies such as GE, Cisco, *et al.* We are not the only game in town anymore. It is vital to U.S. innovation, global technical and economic security, and national security to identify ways to encourage the best and brightest in S&E to study in the U.S., work in the U.S., and stay in the U.S. We need to use extreme caution when imposing unnecessary barriers to our competitive position. And, let us be clear: there has been no demonstrated basis for the proposed barriers.

B. Adopting the Recommendations Could Very Likely Impede Basic Research at Universities

BIS officials and most other persons with a passing familiarity with the EAR know those regulations are complicated, confusing, and hard to apply to specific facts. They cannot be explained let alone implemented. If BIS were to adopt the OIG recommendations regarding "use" technology in universities, universities would have to undertake the same consuming, complicated analyses industry now performs to assure compliance. The key distinction between industry and universities, however, is that industry is generally affected by only a few commodity categories. This is not true for universities. Universities use technologies that involve all ten CCL categories and many ECCNs. There is little chance the deemed export analysis that a university would conduct in one laboratory would carry over to other laboratories. The list would undoubtedly grow in time for the risk of deleting ECCNs would be too great. The growth of the CCL over time is the appropriate predictor of this outcome.

In the light of this reality, faculty and staff at universities and indeed university counsels wishing to be diligent in their efforts to comply with the deemed export rule would be forced to undertake the following reviews:

- Identify by ECCN every piece of EAR-controlled technology -- equipment and software -- in every lab; *and*
- For each piece of controlled technology identified, determine what "use" technology is controlled; *and*
- Identify all foreign national students, post-docs, visitors, interns, part-time scholars, and employees and their home countries (and possibly their country of birth) who have access to or use *each* piece of controlled technology; *and*

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[11] "Intel establishes technology fund in China," www.chinaview.cn (June 13, 2005).

- With respect to foreign nationals for whom a license would be required as a condition of receiving controlled technology:
  - Determine if the information they would access qualifies as "Technology" – "specific information necessary for the development, production, or 'use'" of the controlled ECCN; *and*
  - For each foreign national who would access "Use" technology in CCL Categories 4, 5, 6 and/or 9, determine if that Technology is "Required;" *i.e.*, "peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions;" *and*
  - Determine if each controlled Technology:
    - Is "Publicly available"; *or*
    - Is subject to the TSU license exception; i.e., the "minimum necessary for the installation, operation, maintenance (checking), and repair of those products that are eligible for License Exceptions or that are exported under a license." "N.B. The 'minimum necessary' excludes 'development' or 'production' technology and permits 'use' technology only to the extent 'required' to ensure safe and efficient use of the product. Individual ECCNs may further restrict export of 'minimum necessary' information;" *or*
    - Arose during the course of or resulted from the performance of fundamental research; *or*
    - Qualifies as "educational information."

Diligent universities would have to conduct these assessments continuously to take into account changes in foreign national student enrollment, the hiring and assignments of foreign national post-docs and employees, and the research projects in which foreign nationals participate, procurements of new equipment, and the expected amendments to the CCL. The need to conduct these complicated assessments would slow down, if not altogether halt in some cases, research on campuses. Conducting the assessments would also have a bone chilling effect on exchanges of *unclassified scientific* information between students and faculty in laboratories and courses and could possibly create divisive relationships among foreign nationals and U.S. students and faculty.

It is virtually impossible to offer any definitive figures on the personnel and financial impacts to universities to implement the reviews and processes described above. We know too little about what a final rule would say; about what, if any, additional guidance BIS would provide, and whether BIS would implement the recommendations over time or make them effective immediately. The interpretation of the rule and the Control List would also change with time once the principle was established. Nonetheless, the University has attempted to provide a *very* rough estimate of *initial* costs to identify the ECCN for capitalized equipment ($5,000 or greater) and determine what "use" technology is controlled for each controlled piece of equipment, assuming that BIS *would make clear* that information contained in user and

equipment manuals provided with equipment and/or available on the Internet would qualify as information in the public domain.

The University of Maryland has over 1,000 research laboratories and related facilities, each of which would be subject to a deemed export audit. As of April 2005, the University inventory listed 22,487 pieces of capitalized equipment (defined as equipment valued at $5,000 or more) and sensitive equipment (defined as computers and audio-visual equipment valued at $1,000 or more and firearms regardless of value). The inventory number does not include common scientific equipment such as GPS systems, radiometers and oscilloscopes, or software that do not qualify as either capitalized or sensitive equipment. Using a commercial rate of $150/hour to determine the ECCN for each piece of equipment, we estimate it would cost roughly $3.3 million to make an initial commodity classification for existing equipment. That decision would be only one of many decisions the University would have to make. Our estimate also does not reflect the costs to develop and maintain a compliance infrastructure.

An export compliance infrastructure would require the creation of an equipment database of each piece of controlled equipment identified by ECCN, location, and CCL controls. Since new equipment is bought year round, we would have to develop, implement and maintain a centralized mechanism for identifying purchases of all new equipment, not just capitalized equipment, and conducting a CCL classification. In addition, the University would have to develop a mechanism to identify each foreign national working in each laboratory on each piece of equipment by current nationality and country of birth, preferably months in advance to allow for applying for licenses should that be necessary. It is possible the University also might have to implement considerably more complex lab security measures than currently exist.

Establishing and maintaining the infrastructure and protocols to support such assessments would obviously require significant time and expense. Richard T. Cuppitt, Ph.D., the Associate Director of the Center for International Trade and Security at the University of Georgia, has estimated that a "good [export] compliance program may cost in the neighborhood of $400,000 - $500,000 a year," an estimate that does *not* take into account deemed export analyses.[12]

The true cost and the most damaging loss, however, would be to the disruption of the research programs and the reduced involvement and contributions of foreign nationals to the security and economic development of the United States. This is the principal problem.

I am aware BIS officials have speculated that were BIS to adopt the OIG recommendations, universities would find, after completing the necessary reviews, a deemed export license was not required in most situations. I tend to think this is wishful thinking on BIS' part. Adopting the OIG's recommendations would not make the regulations any less

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12 Testimony before the Senate Committee on Banking, Housing, and Urban Affairs, *Establishing an Effective, Modern Framework for Export Controls by Means of the Export Administration Act*, (S.149) (Feb. 7, 2001) at 18.

ambiguous or easier for industry or universities to interpret and apply, to which industry can surely attest. Universities would struggle, as industry does now, to understand and apply to countless factual situations such ambiguous EAR terms as "specially designed," "minimum necessary" and "required." In the face of these ambiguities and strict liability for violations, many universities could decide the risks associated with making self-assessments are too great and, to be on the safe-side, would submit requests to BIS for interpretations, guidance and deemed export licenses. Time will tell. What should be expected as an outcome is that neither our universities nor their students will accept the burden of these license reviews on any substantial scale. The result will be a substantial decline in foreign student and scholar participation in the academy. This is the true cost to our country.

C. *Adopting the Recommendations Would Constitute a Major, and for All Intents and Purposes, Permanent Change in BIS Interpretation and Application of the Deemed Export Rule in Universities*

At first glance, changing "or" to "and/or" in the definition of "use" and distinguishing between using controlled equipment and receiving information on how to use that equipment would appear to be a harmless amendment with little or no impact on U.S. universities. The intent could be nothing further from that outcome. The OIG recommendations to modify the application of the deemed export rule to the release of "use" technology in the context of teaching and conducting basic research activities would *not* simply codify long-standing internal BIS interpretation of the deemed export rule, as some have claimed. On the contrary, adopting the recommendations would constitute a significant and essentially permanent shift in how BIS has interpreted and applied the deemed export rule in the university context for almost 20 years.

Since at least 1989, BIS policy has excluded from the license requirement the release of technical data about designing and manufacturing controlled equipment – information that goes beyond the release of operational or maintenance data -- to foreign national students and researchers as "educational information" when the information is released in catalog courses and associated teaching labs at universities. [54 Fed. Reg. 40643 (Oct. 3, 1989)]. BIS guidance on this point remains unchanged in the current version of EAR Part 734, Supplement 1, Question C (1):

> *Question C (1)*: I teach a university graduate course on design and manufacture of very high-speed integrated circuitry. Many of the students are foreigners. Do I need a license to teach this course?
>
> *Answer*: No. Release of information by instruction in catalog courses and *associated teaching laboratories* of academic institutions is not subject to the EAR (734.9 of this part [The definition of "Educational Information."]) (emphasis added).

Prior to the 1994 amendments to the EAR, the deemed export rule applied only to disclosures of technical data to foreign nationals in the United States with "knowledge or intent that [the data] will be shipped from the United States to a foreign country without a general or

validated license." [Former EAR § 779.1(b)(1)(c)] Moreover, general license GTDR, which existed as early as 1982, "permit[ted] the transfer of information concerning almost all nonmilitary industrial process technology throughout the free world." [54 Fed. Reg. 40643 (Oct. 3, 1989)] This position was fully consistent with BIS' long standing interpretation that the fundamental research exclusion exempts University faculty and researchers from obtaining a license as a condition of allowing foreign nationals to work in university laboratories to perform fundamental research and, by implication, learning how to use equipment in those laboratories to conduct that research. [EAR Part 734, Supplement 1, Question D (1)][13]

Adopting the OIG recommendations would constitute a significant departure from years of unchallenged interpretations of the EAR.

III. Alternatives

A. Grant Deemed Export License(s) for all Foreign National Students and Researchers Cleared through the VISA/VISA-MANTIS Program

BIS should grant all foreign students and visiting scholars deemed export licenses to access controlled "use" technology at the time the State Department clears them to enter the U.S. to study, conduct research or work in a particular field at universities or in industry. In Homeland Security Presidential Directive – 2, the President stated: "The United States benefits greatly from international students who study in our country. The United States Government shall continue to foster and support international students." As proof of the importance of those benefits, the President directed the Secretary of State, the Attorney General, the Secretary of Education, the Director of the Office of Science and Technology Policy, the Secretary of Defense, the Secretary of Energy, and other departments to implement "measures to end the abuse of student visas and prohibit certain international students from receiving education and training in sensitive areas, including areas of study with direct application to the development and use of weapons of mass destruction [and also to] prohibit the education and training of foreign nationals who would use such training to harm the United States or its Allies."

These departments have developed programs that satisfy HSPD-2. Nonimmigrant visa applicants must now undergo a personal interview, and security and background clearances as part of the visa application process. The Visa Condor program imposes additional security checks on foreign nationals from specific countries who wish to enter the U.S. The Visa Mantis program implements additional interagency security reviews of persons "who may pose a threat to our national security by illegally transferring sensitive technology." These reviews primarily affect foreign national students and visiting scholars.[14] Once foreign students and scholars are

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[13] Question/Answer D (1) has appeared virtually unchanged in the EAR since 1989. 54 Fed. Reg. 40643 (Oct. 3, 1989).

[14] *Homeland Security: Performance of Foreign Student and Exchange Visitor Information System Continues to Improve, but Issues Remain* at 20, GAO-05-440T (March 17, 2005).

admitted to the U.S., the SEVIS program protects against visa fraud. SEVIS imposes specific strict entry and exit controls over foreign national students and post-docs and requires universities to monitor and report changes in the status of such foreign nationals. These programs are proving to be quite effective in implementing national policy to *prevent* persons who support or engage in terrorist activity or are otherwise found to be potentially dangerous from entering the United States, track visiting scholars and students who are granted entry, and prosecute or deport those who fail to enroll in universities, change their course of study after entry or attempt to overstay their visa. The pre-entry security checks and post-entry monitoring are effective tools for protecting the United States. Nothing of substance would be gained from requiring universities and industry to undertake complicated deemed export reviews of "use" technology except undermining the very benefits the United States has identified of having international students and scholars in the United States.

B. Impose a Moratorium on Acting on the OIG Recommendations Pending Completion of a Thorough, Public Review on the Deemed Export Rule

The University of Maryland has previously asked BIS to impose a moratorium on all changes to the EAR (other than amendments updating and narrowing the CCL) until it has conducted and submitted for notice and comment a thorough review of the deemed export rule. The OIG determined that BIS had not previously conducted such a review.

BIS should involve representatives from other federal agencies, the Office of Technology and Security Policy, The National Academies, the Association of American Universities and other associations that represent scientists, universities and industry in the study. It would be imperative for BIS to involve scientists with intimate knowledge of CCL technologies. BIS should look to the Colson Panel as a model. At a minimum, the study should:

- Review the CCL and greatly narrow the list/scope of controlled technologies:
  - Remove technologies whose manuals are available in the public domain, in libraries, over the Internet, or from the manufacturer.
  - Examine each technology in a risk/benefit analysis and retain only those technologies that are most critical to national security
  - Remove all equipment that is available for purchase on the open market overseas
- Conduct a detailed cost-benefit analysis of the effect of the deemed export rule on U.S. trade, U.S. global economic and technology competitiveness; national security, and S&E education and research in the U.S.;
- Review the deemed export laws of other countries;
- Identify the most critical sources of "leaks" of U.S. technology; e.g. degree-granting programs at U.S. universities, industry transfers to foreign subsidiaries, government sponsored espionage, etc.;
- Weigh the relative contributions of changes in the immigration and entry regulations to those of the deemed export rule with respect to national security;

- Assess the short-term and long-term impact of the deemed export rule on the quality of U.S. higher education, and
- Decide, in the light of the evidence gathered, what recommendations are likely to resolve particular issues and significantly improve national security and national competiveness.

The completed study should be published in the Federal Register for notice and comment. If BIS determines that one or more of the OIG recommendations are efficacious *after* completing and receiving comments on the study, BIS should issue another ANPR for comment. In addition, any expansions that BIS ultimately might make to the deemed export rule should be implemented over time, as occurred with the implementation of the recently adopted laws and regulations governing the use of and access to select agents.

IV. Conclusion

These comments may be lengthy, but the actions of BIS in response to the OIG Report will have a far-reaching and essentially permanent impact on all U.S. universities and our nation.

We appreciate the opportunity to comment on this important matter and stand willing to assist BIS in its efforts to understand the recommendations' potential impacts on U.S. universities.

Respectfully submitted,

C. D. Mote, Jr.
President and Glenn L. Martin Institute
Professor of Engineering
University of Maryland

Enclosure
cc: Association of American Universities
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NORTHWESTERN
UNIVERSITY

June 24, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security,
Regulatory Policy Division
14th & Pennsylvania Avenue, N.W., Room 2705
Washington, DC 20230

Re: RIN 0694-AD29

Dear Mr. Lopes:

On March 28, 2005, the Department of Commerce Bureau of Industry and Security (BIS) published a notice in the Federal Register announcing that BIS is reviewing the recommendations contained in the U.S. Department of Commerce Office of Inspector General Report entitled "*Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.*" BIS is seeking comments on how proposed revisions would affect industry, the academic community, and U.S. government agencies involved in research.

On behalf of Northwestern University, a major academic research institution, we offer the following comments in hopes that these proposed revisions are soundly rejected and that BIS reaffirms the protection of "Fundamental Research" as defined under the Export Control regulations, and as administered by American academic institutions:

"The key to maintaining U.S. technological preeminence is to encourage open and collaborative basic research. The linkage between the free exchange of ideas and scientific innovation, prosperity, and U.S. national security is undeniable."
—Condoleezza Rice, November 1, 2001
Letter to the Association of American Universities

U.S. technological preeminence, as referenced above by Dr. Rice, will be at risk as a result of proposed changes which, if enacted, will adversely impact American universities in general, and Northwestern University in particular. The fundamental research exemptions embedded within the U.S. export control regulations were incorporated specifically to

address the unique environment in which American universities must operate. Our fear is that BIS' proposed rulemaking will endanger our ability to continue to supply cutting-edge research results by imposing an unrealistic and unreasonably secure environment which will ultimately result neither in increased security nor in the continuance of U.S. technological preeminence.

Proposed actions such as transforming the "use" rules applicable to controlled equipment, reducing the scope of Fundamental Research, and equating "country of origin" with "country of birth" will have a chilling effect on Northwestern's research enterprise. In fact, these proposed actions threaten to undermine the very nature of how American universities contribute to the national wellbeing. After a careful review, we have concluded that BIS' proposals, if adopted, will result in a substantial increase to the Northwestern administrative infrastructure, will further deplete our available pool of highly skilled research candidates, and will seriously undermine our ability to perform research and train researchers for the U.S. work force using necessary equipment and technology.

The U.S. export control regulations, in their present form, incorporate National Security Decision Directive 189, and already provide for both an effective and successful balance between the legitimate security concerns of the U.S. federal government and the circumstances as they exist in the academic environment. This balance has been effective for decades, and Northwestern has steadfastly remained in full compliance. We fully acknowledge that there is no "blanket exception" for all information that is transferred in the context of university research. However, academic institutions that do not perform classified research, such as Northwestern, exist for one fundamental purpose: the creation and dissemination of knowledge for the public good. Forcing qualified academic institutions to discriminate on the basis of national origin and to restrict the flow of unclassified information is a rejection of this purpose and goes against fundamental American values of fairness and non-discrimination.

Fortunately, any change to the regulations is subject to formal rule-making review and must be minimally intrusive and narrowly focused to achieve a specific result. The currently proposed changes, if adopted, appear not to pass this test, and an achievable result has not been sufficiently communicated. Any recommendations must be minimally burdensome and realistic from a practical standpoint. Because federal agencies are better qualified to handle security matters, the shift of responsibilities from federal agencies to universities must be avoided.

In reviewing the recommendations concerning "use" technologies, it is important to understand the nature of the burden which is being considered. Northwestern University already tracks over 5,400 pieces of scientific equipment across two campuses, each item having a capitalized value greater than $5,000. However, the requested projection of how much equipment with sensitive technologies would be subject to licensing at universities is complicated by the lack of clarity in the current regulations on "use technology." Given the open campus research environment, universities may need to assume that any foreign student or researcher may receive controlled technology at any time. The number of

foreign nationals on campus may be more determinative than the number of items of equipment controlled for use technology in determining the number of licenses required. The added costs in administrative infrastructure to further identify and designate the relevant export controls requirements may be staggering. A substantial study would be required just to arrive at a full estimate of costs associated with the inventory process.

If the proposed equipment "use" rules are adopted, Northwestern University would take all steps necessary to remain in full compliance, however one possible course of action might be to remove all such equipment from campus, as Northwestern's facilities are generally unrestricted. As a result, the quality of research would suffer unnecessarily, and without a corresponding increase in national security.

Northwestern's people are its most important resource and provide the strength of its research enterprise. The determining factor for a researcher's participation in a research program is his or her academic and intellectual qualifications. Criteria such as gender, national origin, race, or religious beliefs have long ago been rejected as illegitimate and not related to the qualification determination. Northwestern, like other academic institutions, relies upon the immigration and visa issuing process of the federal government to determine which foreign nationals are eligible to enter the campus to study or perform research.
Northwestern feels so strongly about maintaining an open and non-discriminatory environment, that the University's official policy specifically bars any actions which discriminate against its personnel, including researchers, on the basis of citizenship status. Northwestern can no more single out an individual on the basis of citizenship than it can on the basis of age, race or religion.

At any given time Northwestern may have more than 3,000 foreign nationals, from almost every nation on Earth, serving in a variety of roles on campus. However, the university has limited resources for monitoring foreign nationals once access is granted at the federal level. Northwestern is fully compliant with existing regulations, including the Student and Exchange Visitor Information System (SEVIS) maintained under the U.S. Immigration and Customs Enforcement (ICE), the largest investigative arm of the Department of Homeland Security (DHS). The mission of SEVIS is to balance Homeland Security needs with facilitating foreign student and exchange visitor participation; this mission has been successfully carried out.

BIS' proposed change in requiring universities to monitor a foreign national's country of birth, rather than citizenship or most recent permanent residency, would impose additional costs to Northwestern. Compliance may at a minimum require 2 full time administrative staff at the central administrative level, additional administrative monitoring IT systems, as well as additional commitments of resources at the department level. Most universities do not collect country of birth information, and may expose themselves to legal claims of discrimination by asking for this data. Further, the resources necessary to track equipment being used by researchers based upon their country of birth currently does not exist. One possible outcome in response to such a requirement would be to reallocate already limited

resources to perform this function. Another possibility is to remove from both campuses, ALL equipment which could not be made available to all researchers regardless of their place of birth. Such a policy would completely undermine Northwestern's ability to effectively conduct important research.

The existing regulations as they are currently being enforced are already having a chilling effect on research, which arguably has lessened our nations' technological pre-eminence, potentially making us less secure. Foreign institutions, in competition with U.S. institutions for the best and brightest research minds, have directly benefited from the U.S. imposition of visa delays and increased administrative obstacles upon foreign students who wish to receive student or research visas to study and conduct research in the U.S. Traditionally, it was the U.S. that had benefited from a worldwide "brain drain".

The value of drawing on the brightest minds the world has to offer cannot be overstated. Instead, foreign institutions are seizing upon what they perceive as their golden opportunity to seize the initiative away from the U.S. As a result foreign institutions are aggressively pursuing these highly sought-after researchers and removing unreasonable barriers to entry. The result is that for three straight years, there has been a decline in applications from foreign students to U.S. institutions in general. The effect is that many research universities are now faced with either insufficient numbers of researchers to perform important tasks, or the need to lower their standards and seek out less qualified researchers. The gain to foreign institutions becomes our collective loss.

In light of the above, Northwestern University, as a major American research institution, goodwill ambassador, and respected member of the academic community, respectfully recommends that the consideration of the proposed rulemaking by BIS be soundly rejected. Existing laws and regulations are more than sufficient to address national concerns without undermining the pillars of the academic community. The harm to both the academic environment and the national wellbeing of such proposed rules would be wide ranging, and the benefits uncertain at best. It is a fallacy to consider that any action, regardless of the consequences, is better than inaction. Northwestern University looks forward to working with BIS to arrive at workable solutions which achieve our collective goals.

Sincerely,

Henry S. Bienen

Henry S. Bienen
President

UNIVERSITY OF MARYLAND

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June 24, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

SUBJECT: Advance Notice of Proposed Rulemaking (ANPR) published in the March 28, 2005 Federal Register

Dear Mr. Lopes:

I am writing as both a Technology Transfer official of the University of Maryland and as a citizen of the United States to express my concerns regarding the potential impact on universities if the Bureau of Industry and Security implements the recommendations contained in the U.S. Department of Commerce Inspector General Report titled "Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004) (OIG Report).

These comments are provided based on my background and experience working in a University setting. I am the Executive Director of the Office of Technology Commercialization at the University of Maryland and regularly review research results in the areas of Life, Information and Physical Sciences. The proposed regulations could directly affect the ability of this office to comply with the mandates of the Bayh Dole act. It would become harder to license University-generated technologies overseas. And in the climate that now exists it is indeed harder. We have experienced this in attempting to license technology to a Canadian company for mineral exploration. The technology could also have military use.

I find myself wondering if all this is necessary. It remains difficult for those of us deeply enmeshed in research to see that it is. I recognize that maintaining the security of the country is a number one priority for all of us and that compromise is necessary for purposes of national security. However, the sacrifice of U.S. innovation, U.S. competitiveness, and our national research and technology strengths must be balanced with our need for national security, so that we are not sacrificing our security in the name of security. I also have grave concerns regarding the potential compromise to our academic freedom, which is both vital to our nation's technology progress and a cornerstone of democracy. Before regulatory changes are made, a risk

analysis must be conducted. It should weigh the real threats and the real costs to our nation's universities.

The threat to our national security from international students and scholars who have been cleared through the visa and visa mantis procedures is not clear and has not been demonstrated in the materials made publicly available. I really can not emphasize enough the contributions these foreign national students and postdoctoral fellows make to developing and sustaining the research programs I review and the significant cost, which would be imposed in terms of stifling research if the IG recommendations are adopted.

Do not exacerbate the trend we are already seeing. U.S. universities have seen a drop in international applications again this year. Nationally the numbers were down 28% last year with a loss of an additional 5% this year. International applications at the University of Maryland were down 37% last year and another 5% this year. Foreign countries are working aggressively to improve the quality of science and engineering (S&E) education and increase their international competitiveness in those fields and are heavily recruiting international students. As a result, the number of U.S. students seeking post-undergraduate S&E degrees is decreasing while the number of foreign students seeking such degrees outside the U.S. is increasing. Therefore, extreme caution should be used when imposing unnecessary barriers to participation by these scholars or they will chose to study elsewhere.

History has shown that a large majority of our foreign graduate students remain in the U.S. and that they contribute a very significant share of the innovation, which keeps the nation ahead of the world. The costs of the IG recommended changes are high relative to the perceived risk expressed in the report. In a time where government and industry is looking to academia to perform research and groom the next generation of scientific and technological experts, the imposition of barriers on the ability of these foreign students and post-docs to freely participate in the academic process will adversely affect both University research and the nation's scientific and economic superiority.

Before implementing a regulatory program that will cause significant and permanent damage to both the university research enterprise and the nation's future economic and scientific leadership, there must be more thought and open dialogue with the academic community. Speaking as one cog in the giant wheel, I can offer this comment – we can not sustain our technologic superiority if the proposed regulatory measures are implemented. I thank you for this opportunity to provide input.

Sincerely,

James A. Poulos, III Esq.
Executive Director

cc: C. D. Mote
J. Gansler
A. McKeown

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June 24, 2005

U.S. Department of Commerce
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Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
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ATTN: RIN 0694-AD29

Fax: (202) 482-3355
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Re: Revision and Clarification of Deemed Export Related Regulatory Requirements Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 (RIN 0694-AD29)

This memorandum is a response to the request for comments on the proposed change of the Export Administrative Regulations. I am gravely worried about the possible consequences of the change in interpretation of the regulations. We share the appropriate concern over the possible misuse of advanced technology by those who wish to harm the United States. However, potential terrorists can be stopped by methods less damaging to our universities. The withdrawal of the research exemption for basic and applied university based research could be quite harmful to our country.

In preparing our comments, Ms. Patricia A. McClary, Associate University Counsel, requested that Cornell faculty write brief observations of how the new regulations might affect their research. The comments have been summarized in an extensive document that is attached as an appendix to this letter. The new regulations are likely to place an expensive burden on the management of our research. A more important result is likely to be the permanent change in the nature of the modern American research university.

Throughout the past century, the great economic success of the United States can be traced to innovation derived from scientific research in our universities. Much of that research has been done in collaboration with foreign nationals who have come to our universities for training and to engage in the most advanced research. The research has been exempted from export controls because the results of the work have been shared broadly, much to the benefit of US science and technology. Our universities, and Cornell in particular, have been open institutions with free access given to all members of the community - students, faculty and legitimate visitors. An important key to the success of our research enterprise has been the open nature of the work. Critical ideas have frequently come from the newest participants in the science, many of whom were not US Nationals.

The restrictions upon who might be able to use advanced equipment are likely to result in counterproductive research practices. For example, let me recount the consequences at Cornell of the restrictions upon the use of Select Agents (pathogens). The date the Patriot Act was passed we had 38 Principle Investigators on the Ithaca Campus who maintained

moderate quantities of different pathogens on the list. In every case the investigators had been careful to control the use of the substances, with particular attention paid to safe handling. Their research was directed toward fundamental studies of the materials in order to eventually develop methods of fighting the diseases caused by the pathogens. Two years after the passage of the Patriot Act, there were only 2 Principle Investigators at Cornell who continued to study Select Agents. The other 36 had decided to abandon research on the materials because of the perceived difficulties associated with additional registration of users and control of the pathogens. They found it more convenient to study other species of bacteria or viruses. The ultimate goal of the pathogen research is find vaccines or cures for the diseases. The inadvertent effect of the Patriot Act restrictions was to drive a large number of scientists away from studying the dangerous pathogens.

Similarly, the inadvertent consequence of restricting the use of equipment subject to export control is likely either to discourage our scientists from using the most advanced equipment or discourage them from accepting foreign-born students as associates. Both results would be very detrimental to the competitiveness of US technology. Our university-based research is a principle driver of the US economy. The use of less than optimum equipment jeopardizes the effectiveness of the research. With regard to collaborations with non-US nationals, science is international. Important discoveries are just as likely to occur in Europe or Asia as in the United States. The relationships American scientists have nurtured with foreign scientists over the past 50 years are critical to keeping our work competitive. If we attempt to isolate our scientific community the US will be left behind as the rest of the world advances.

Sincerely,

Robert C. Richardson

Robert C. Richardson
Senior Vice Provost for Research
Cornell University

APPENDIX

Summary of Comments from Cornell University Faculty

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW, Room 2705
Washington, D.C. 20230

ATTN.: Revision and Clarification of Deemed Export
Related Regulatory Requirements
RIN 0694-AD29

Ladies and Gentlemen:

We appreciate the opportunity to offer comments concerning the changes to the export regulations proposed in the Advance Notice of Proposed Rulemaking published in the March 28, 2005 Federal Register. Cornell University strongly opposes the proposed changes and urges thoughtful consideration of an alternate approach. The changes would be harmful to Cornell University and to higher education generally and are not in the best interest of the nation. Cornell solicited input from its faculty and staff engaged in scientific research. The result was an outpouring of dismay and distress over the implications of the proposed changes and the assumptions underlying those proposals. Below is a distillation of over 100 of their comments.

In sum, the faculty at Cornell believe enforcement of the proposed export regulations will have a profoundly negative impact on their ability to conduct their research at the frontiers of science:

•Fundamental research is critically important to the prosperity and security of this country (p. 3-4).

•Institutions of higher education rely heavily on foreign students in conducting fundamental research (p. 4-5).

•The proposed expansion of the deemed export fiction to cover use technology integrally related to the conduct of fundamental research:

-has not been sufficiently justified (p. 11-12);

-is not well suited to the academic environment (p. 5-9); and

-would have serious, negative impacts (p. 9-10).

•These negative consequences can be avoided by relying on an alternative approach utilizing the existing and proven mechanisms of the visa and classification systems (p. 12-13).

Higher education has been and remains committed to do its part to preserve national security. We submit these comments to assist the Bureau of Industry and Security (BIS) in addressing the legitimate security concerns of the Inspector General without seriously and unnecessarily compromising scientific research at research universities.

In addition to the comments below, we support and endorse the comments submitted by the Association of American Universities and the Council on Governmental Relations.

I. Definition of "Use" Technology

The Office of Inspector General (OIG) stated that confusion existed over the definition and implementation of controls associated with the "use" of equipment by foreign nationals in the United States. The OIG concluded that when equipment is used by foreign nationals at a U.S. university or federal research facility, it is most likely accompanied by some transmittal of use or other information or instruction constituting "technology." At the OIG's suggestion, BIS has proposed revising the definition of "use" in §772.1 of the Export Administration Regulations (EAR) to replace the word "and" with the word "or," as follows:

> "Use." (All categories and General Technology Note)—Means all aspects of "use," such as: operation, installation (including on-site installation) maintenance (checking), repair, overhaul, or refurbishing.

Cornell believes that the proper application of the fundamental research exemption should obviate the need for deemed export licenses regardless of the definition of "use" employed by BIS.

The proposed change would, however, significantly broaden the definition of use and consequently have unintended consequences --particularly with respect to the mere operation of equipment. Would, for example, showing a foreign national how to flip a switch and turn on a machine, or worse yet, allowing a foreign national to be present while someone else is turning on a machine, require a deemed export license?

It is unclear to us that national security would be advanced by such an expansion. We submit that the target of regulation should be set at a higher threshold -- such as information required for the recipient to design, develop, or produce controlled equipment, i.e. operation technology that would not fall under the TSU license exception.. Information needed to operate a piece of equipment would virtually never provide technology required to achieve the relevant performance parameter for which the equipment itself is export controlled. The marginal gain in security to be afforded by the licensing of all use would be far outweighed by the harm to fundamental research and the resultant loss of this country's prominence in cutting edge science. Such harm would itself jeopardize the nation's security, both military and economic. This narrow and shortsighted approach should be abandoned in favor of an approach that takes into account the big picture.

A. The Importance of the Fundamental Research Exemption

In the guise of "clarifications" to the deemed export rule, the proposed change in the definition of use represents a significant narrowing of fundamental research exemption. Under the proposed change, the access of foreign nationals to information related to the use of export-controlled equipment in research applications would not be subsumed under the fundamental research exemption. The proposed change would undermine the ability to conduct fundamental research that the regulations, as currently written, are clearly intended to preserve.

The proposed rules evidence an inadequate appreciation for the strategic importance of fundamental research and the crucial role that it plays in maintaining our military preeminence and the strength of the U.S. economy. Basic scientific research feeds all U.S. industries through technology transfer and licensing.

With the growing dependence on technology in virtually all aspects of life, and notably the military and medical fields, the rationale underlying the fundamental research exemption has become more, rather than less compelling.

Hampering fundamental research would have devastating consequences. Detrimentally affected would be work on the planet's most pressing problems: natural resource management, poverty alleviation, biocomplexity, food safety, sustainable agriculture, effective health care, and global warming. The nation would also suffer as the quality of information provided by university research to federal agencies to assist them in making informed scientific and regulatory decisions declines.

Students and other researchers cannot conduct scientific research without knowing how to use the relevant equipment. Safety concerns for the individuals involved, the campus at large, and the equipment itself dictate the need for training on the use of high tech equipment. Moreover, OSHA requires proper training of all employees regardless of nationality.

We respectfully submit that a sweeping licensing scheme is not the best response. Fundamental research should be conducted without government restrictions on the participation of researchers or the publication of results. And, any departure from this principle should be the result of a thorough legislative process rather than a clarification to a regulation.

B. The Importance of International Students and Scholars

Research at U.S. institutions of higher education depends heavily on foreign talent. Foreign students play an important role -- not just in terms of the tuition dollars that they bring in, but, more importantly, because of the intellectual talents and diversity they contribute to our campuses.

As the destination of choice for the world's scientific talent, U.S. universities have had the benefit of the very best and brightest minds. Any further tightening of the rules affecting foreign students in the U.S. will discourage them from studying at U.S. institutions. The Council of Graduate Schools (CGS) International Graduate Admissions Survey data show international graduate applications for fall 2005 are down by 5 percent as compared to applications for all 2004, which in turn declined 28 percent from the previous year.

Foreign students and scholars will not want to come here if it is uncertain whether they will be granted licenses to pursue the research in which they are interested. The net effect would be to accelerate the already worrisome migration of talented foreign students to Europe and Asia where they will not be similarly isolated and constrained. Leading science and technologies will be developed overseas where, basic research can be conducted in a freer environment. In the end, the quality of university-based research in the U.S. will suffer. In the long run, this lack of new talent would harm industry and the military, which are equally dependent on university research.

Cornell currently has over 3,200 international students on its campus -- comprising over 15% of Cornell's total enrollment. More significantly, international students make up close to 40% of Cornell's total graduate and professional school enrollment. These students come from 123 countries. The largest representations (besides Canada) come from China, South Korea and India.

Cornell has also been fortunate to be able to attract world-renowned scholars from throughout the world to teach and conduct research on its campus. Cornell currently has over 1,600 foreigners on its academic staff. The greatest representation is from China and South Korea. Given these large numbers, the impact of the proposed regulatory changes would be significant.

The environment for international students and scholars has already been seriously harmed by a mood of suspicion and by bureaucratic delays in the issuance of visas. This is not the welcoming environment it once was. If today's foreign scientists are deprived of the prospect of a stable life in the U.S. by a shortsighted deemed export policy, these eager and able students and scholars will contribute their talents elsewhere.

This step is particularly inopportune at a time of growing internationalization. U.S. institutions of higher education are increasingly extending their presences throughout the world by establishing branch campuses and other programs abroad. The impact of the proposed regulatory changes would be even greater on overseas campuses where there is a much higher percentage of foreign nationals -- over 50% of faculty and staff and over 80% of students.

Licensing constraints would also foreclose international funding opportunities where local collaboration is typically required. International cooperation in intellectual and scientific pursuits is one of the most promising avenues of fostering international goodwill and combating terrorism and ignorance. Our faculty serve as ambassadors. We must not underestimate the value of the opportunity to study or work in the U.S. for fostering multi-cultural understanding. This opportunity brings to our shores many talented people, many of whom stay and contribute to this nation. This country's nuclear and space programs would not have been possible without the major contributions of -- often leadership roles played by -- foreign born scientists including Albert Einstein, Enrico Fermi, Hans Bethe, Hyman Rickover and Werner Von Braun. Foreign students who spend a few years studying here and then return home, take with them an appreciation of American culture, personal ties with American people, and positive memories of their experience here. As former students rise to positions of influence and respect, their positive impressions of the U.S. stay with them, factoring into the future decisions they make. A few examples include: Hu Shih (Cornell B.A. 1914), Chinese philosopher and statesman; Lee Teng-hui (Cornell Ph.D. 1968), president of the Republic of China (Taiwan) 1996-2000; Vaclav Klaus (Cornell post-doctoral fellowship 1969), current President of the Czech Republic.

C. The Proposed Changes Reflect a Lack of Understanding of the Academic Research Environment

Neither the proposed regulations nor the OIG Report to which they are responding demonstrate an understanding of the nature of academic research or the environment in which it is conducted.

Fundamental research relies on an open, collaborative and spontaneous research environment. If the proposed regulatory changes are adopted, the c open, international research environment that has been the hallmark of U.S.-based science will be irrevocably altered. We must safeguard this national resource and not let it deteriorate any further.

The scientific community is an international community. Modern research is, of necessity, international. The depths of the ocean and the vast reaches of the cosmos belong to no nation and their exploration has long been international in scope. Science will advance with or without U.S. participation.

The proposed changes would create a contradiction in the research policy of the United States. Funding agencies are increasingly encouraging research collaboration. The mandate of many federally funded scientific facilities includes providing access to many thousands of users and visitors annually.

D. The Use of Equipment in Research

Implementation of the proposed licensing regime poses many problems.

The Commerce Control List (CCL), on its face, appears to describe many broad categories of equipment. The drafters of the regulations may not be aware of how pervasive technologies such as high performance computers, global positioning systems, oscilloscopes, lasers, chromatography and spectrometry, multi-data stream processing, optical sensors, and genetic manipulation are in academic research. Many are ubiquitous core technologies used for gathering and processing data in diverse fields. Camera systems are used to track tigers and leopards in remote areas. Lasers are used in body scanners for apparel research. Eastern Equine Encephalitis virus, Bacillus anthracis, and aflatoxins are endemic in the natural environment and routinely studied in agriculture and veterinary schools. The isotope helium-3, an inert byproduct of tritium decay with no obvious weapons or defense applications to justify export control, is found in instruments which are essential to the study of low-temperature physics and therefore in common usage in almost every physics department in the country. This equipment is also in common usage at research universities in other countries making any effort at "control" futile.

The tools of scientific research are both extremely varied and variable. The tools change on a day-by-day basis. Avenues of pursuit and, therefore, licensing needs cannot be predicted in advance. Research agendas do not have the planned goals and schedules found in industry. Significant advances in fundamental research are often serendipitous. Scientific research could be paralyzed by the need to stop and ask what equipment and analytical methods will be used and which researchers are licensed to use them.

As a practical matter, it will often be very difficult to draw a line between research and equipment used in research. Equipment is often developed, modified or customized as part of research effort. Foreign students often write the software to operate advanced equipment used in research.

The long time frames involved in tenure appointments and graduate and undergraduate degree programs do not fit well with a list of dual use items that is constantly in flux. Are we to send people home? Suspend their research activities while a licensing effort of uncertain result is pursued? Pay them for doing nothing?

The CCL does not appear to keep pace with advances in technological capabilities, e.g. bit transfer rates, pixel density, data processing speed, resolution and other performance parameters. Many items that appear to fall within the descriptions of controlled technologies are widely available throughout the world -- many as close as Radio Shack or eBay; many within the competence of a bright high school student to build. Fast-paced advances in the state of technology render futile attempts at unilateral control. For example, given the widely disseminated advances in parallel processing, the assembly of a supercomputer from a cluster of low-cost, off-the-shelf work stations available anywhere in the world becomes trivial even if we prevent foreigners from using fast computers in the U.S.

The classification of *all* equipment used in academic laboratories would be a monumental task -- very difficult, time-consuming and expensive. Much of this equipment is non-standard and one-of-a-kind. Much of it has been modified or customized for unique applications.

Unlike industry, universities do not have a narrow product line falling into a single CCL category. Academic research spans all categories and much of the equipment on campus could fit into one of these categories. The burden of these regulations on higher education would therefore be greater -- a need to master the intricacies of all categories -- with no prospect of profit from product sales in overseas markets to offset the investment in infrastructure and the development of in-house expertise.

Many students learn to use high tech scientific equipment in laboratories associated with university courses or in their home countries before coming to the U.S. It does not make sense to draw an artificial distinction between these permitted avenues and the fundamental research context. How are we to ascertain competence as to each piece of equipment before students arrive in this country? Implementing the proposed changes into the existing regulatory framework would produce the incongruous result that a foreign national could use controlled equipment on our campuses but not look at it or learn how to use it without a license. Compliance is ultimately dependent upon the cooperation of all involved. It would be difficult to promote respect within a learned community for such a set of regulations.

There would be a very high cost and virtually no benefit to retroactively applying such rules to equipment currently residing in campus laboratories. This equipment has been available in an uncontrolled environment to generations of students and scholars in the context of conducting fundamental research. This equipment is effectively in the public domain. The task of classifying all of this equipment and tracking the nationality required by application of the deemed export rule is an unwarranted and unnecessary burden.

Beyond the administrative burden that the proposed regulatory changes would create, inability to interpret with confidence this massive, and often confusing set of regulatory requirements and the harshness of the potential penalties will have a chilling effect on scientific inquiry.

The uncertainty engendered will produce a reluctance to employ foreign nationals as graduate students or as researchers and will discourage international collaborations.

Similarly, insecurity on the part of funding agencies will likely cause them to exercise an excess of caution and include controls as part of standard contract terms without realizing the profound implications -- the resultant loss of fundamental research exemption. We are already seeing this over-reaction manifested in standard contract language for basic research agreements that would restrict publications and the participation of foreign nationals.

Regardless of the number of deemed export licenses ultimately required, the proposed regulatory change would necessitate tracking the nationality of members of the campus communities. Security in private industry and at military contractors entails foreign nationals wearing identifying badges. If they stray into a restricted area, electronic sensors set off alarms. Such stigmatization would not fit the educational environment on our campuses. Having federal regulations dictate who can participate in academic and research activities is antithetical to the principles upon which our education system is built.

We have already witnessed a glimmer of this new world in the recent experiences of scientists having to deal with ITAR regulations imposed on space exploration projects with NASA. These rules and the nervousness they engendered made collaboration difficult. Examples included barring foreign nationals from accessing science or mission files on certain computers, significantly delaying foreign instrument providers from access to information required to properly interface their instruments with the rest of the payload, even preventing certain researchers from entering mission support areas based on their nationality. At times it was as if these scientists were conducting a secret spy mission rather than an open international mission of space exploration. The bureaucracy and additional security measures imposed led to decreased efficiency, avoidable mistakes, and a greater work burden on (sometimes less qualified) U.S. nationals. It was embarrassing to see many of our distinguished colleagues from other countries treated with suspicion and disrespect. These experiences cause us to have grave concerns about the even broader potential application of the deemed export rule.

The isolation of U.S. science from advances in the rest of the world has the potential to do far greater harm to our national security than would be done by treating the use of equipment as an integral step in the course of fundamental research.

E. Deemed Exports Differ from Other Exports

Deemed exports are fundamentally different from physical exports. The concept of a "deemed export" is, after all, a fiction that requires no intent or knowledge that the information will be transferred out of the country or of the use to which it will be put. The deemed export concept applies to information -- the acquisition and dissemination of which is the core mission of universities. BIS should take this into account in developing its approach to regulating research in higher education. This broad fiction -- which is not supported by any statutory language and is not utilized as an export control mechanism by any of our allies -- should not be extended beyond information that permits the production or development of controlled equipment. We are not talking about letting the equipment itself leave the U.S. Mere operation of equipment in a university laboratory does not pose a risk if foreigners have no access to this equipment outside of the U.S.

Any extension of the regulatory licensing scheme must take care not to tread into the area of protected First Amendment speech. In some fields, up to 50% of faculty

would be dependent on the granting of a license to do their jobs. This is at odds with the constitutionally recognized principle of academic freedom.

Prior restraints on the dissemination of technical information raise substantial First Amendment concerns. The established standard for prior restraint is a clear and present danger. This requires both concreteness and immediacy -- not a generalized fear. Speech does not lose its protected character solely because the circumstances of the case give rise to a reasonable fear that other persons could be moved or enabled by the speech to do dangerous things at remote times and places. See Brandenburg v. Ohio, 395 U.S. 444 (1969). See also, New York Times Co. v. United States, 403 U.S. 713 (1971).

The First Amendment right of Americans to communicate with foreigners, even if the foreigners are citizens of U.S. adversaries, has been recognized by the Supreme Court. See Lamont v. Postmaster General, 381 U.S. 301 (1965); Kleindienst v. Mandel, 408 U.S. 753 (1972).

F. Economic Impact

The proposed change in the application of the deemed export rule will harm the international competitiveness of U.S. higher education -- one of the few industries where the U.S. has a very favorable balance of trade.

Much of fundamental research is funded by the federal government. This regulatory change would greatly increase the cost of doing research by those institutions that elect to continue doing research under this regime and diminish the pool of research institutions available to conduct such research by the number of institutions that decline to participate because the requirements would be at odds with their fundamental educational philosophy.

The regulatory changes to the deemed export rule would be tremendously expensive to implement. BIS has asked for specific input on the impact of the changes in terms of cost, resources and procedures. It would, however, be impossible to quantify the financial impact of the proposed changes without first engaging in the very extensive and costly classification exercise that we argue is unreasonably onerous.

University laboratories have items that may fall into all 10 categories of the CCL. Cornell has over 3300 laboratory rooms on its Ithaca campus, over 1000 additional laboratory rooms at its medical college in New York City, and another 250 located throughout the state. Virtually every lab has at least one item of potentially controlled equipment. Cornell's Ithaca campus has approximately 15,000 pieces of research equipment in its inventory system (which only tracks assets with a value over $5,000).

The classification process would need to involve consultations with expert outside counsel, principal investigators, and the manufacturers of the equipment. Legal fees alone for classifying the equipment on Cornell's main campus have been estimated to be over $5 million by our outside counsel. For standard laboratory equipment, the burden of identifying controlled technology should fall on the manufacturers who are in the best position to know what technology is embedded in the equipment. This approach would be efficient in that the entity that produces thousands of the same piece of equipment would only need to perform a single classification for that piece of equipment. In contrast, imposing this burden on institutions of higher education would result in duplicative efforts at each institution having a single piece of that equipment.

In addition to the cost of classification will be the costs of purchasing, installing and implementing sophisticated security for 4,500 laboratory rooms, creating the infrastructure needed to manage user access, preparing license applications (which we have been advised by industry may take 10 or more person hours per item by the time one gathers the information, verifies it and submits it), and administering and tracking these compliance efforts.

Even after the lengthy and costly initial implementation phase, the university would have to maintain an administrative office to manage the complex task of keeping track of who is learning what, which new equipment is purchased, any changes to the CCL, and who has what permissions. Given the annual turnover in the student population and the dynamic nature of scientific research, this effort would need to be ongoing and not a one-time event.

These costs will fall on institutions already heavily burdened by unfunded regulatory mandates. Fundamental research itself is a break-even undertaking at best, and usually requires institutional subsidy or cost sharing. Research universities could not afford these costs without federal support or a significant reallocation of existing scarce research dollars from the actual research to this administrative undertaking. These costs will ultimately be borne by taxpayers through sponsored research cost recovery and by those paying tuition for an education. This major dislocation of limited resources would be a setback to scientific progress.

The cost of delays in research are not quantifiable at this time as they are dependent on the turnaround time at BIS and the result of the license applications. What happens to the students and academics currently in place on our campus if their license applications are denied? Does the research come to a halt while we wait for a license and while the time on the visitor's visa runs and the visitor's salary continues to be paid?

G. Impact on BIS

If the OIG recommendations are implemented, the only way to maintain an open and international research environment while assuring deemed export licensing requirements are met may be to apply for licenses for all 5,000 foreign nationals on campus to use the thousands of pieces of research equipment on campus so they may go anywhere and participate fully in all educational opportunities -- a verifiable deluge of millions of individual applications to the BIS per institution.

We understand that BIS currently processes only about 1000 license applications a year. Has thought been given as to how BIS could handle this increased volume while maintaining a 45-day turnaround time? When uncertainty arises, will universities be able to rapidly obtain regulatory guidance from BIS?

We respectfully suggest that Commerce may want to reconsider its stated agreement with the OIG recommendation.

H. Inadequate Justification for the Proposed Changes Has Been Provided

Beyond invoking the vague notion of national security, the OIG Report fails to articulate a specific justification for such a drastic change. We are not aware of any instance where information from university research was used to advance a terrorist agenda. Presumably, if such cases existed they would have been used to make the

argument for change more compelling. Presumably, such an example would have been covered in the media.

Adequate justification cannot be provided in terms of broad generalizations about the potentially harmful applications of technology. The unfortunate reality is that virtually any technology has the potential to be applied to a nefarious purpose by those determined to do so. More harm than good will be done by over regulation. We also question how effective these rules would be. We are hard-pressed to think of technologies that we teach students that are not also taught in universities in several dozen countries around the world. This regulatory challenge calls for a more focused and nuanced approach than that embodied in the CCL.

We are being told that only 1% of license applications are denied, and that 99% of the proposed information exchanges are permitted. This proposal would effect a profound change in the nature of higher education for that 1%. Surely there is a more efficient way to address this issue. It is extremely risky to make changes that would go to the very core of academic collaboration that has proven so productive when there are other better tailored, and less intrusive means of achieving the same ends.

On the same day that the National Academies of Science hosted a workshop on Deemed Export Policy with Peter Lichtenbaum, Acting Under Secretary of Commerce for Industry and Security, the Washington Post ran two articles pertaining to threats to our national security. One reported on the continued lack of progress in the effort to secure Russian nuclear materials and prevent them from falling into the hands of terrorists. The article stated that only a small percentage of such material had been secured to date due to bureaucratic red tape and the routine circumvention of security procedures. The second article reported on U.S. immigration officials' efforts to deport a former American University researcher who had obtained sensitive technology under false pretenses and sold it to the Chinese government. Resources would be better spent at preventing these very real and identified risks to our national security rather than on unduly burdening bona fide students and bona fide university research.

I. National Policy

Barriers and sanctions will only lead to the isolation and stagnation of American science. History has too many examples demonstrating the shortsightedness of that strategy. We hear that the OIG recommendations are driven in large part by concern over the transfer of technology to China. It would be wiser to look to Chinese history for an important lesson in the detrimental effects of isolationism.

A haunting parallel to pre-war Europe also suggests itself. When opportunities for scientist there were limited because of racial or religious prejudice, this situation led to a migration to the West. Hans Bethe, an emeritus Cornell professor who passed away this year, and Albert Einstein whose contributions to physics are being celebrated in this World Year of Physics, were two refugees of such an environment. It is ironic that we in America which has benefited so much from these misguided policies would ourselves contemplate moving down that path.

Discrimination on the basis of national origin and the conduct of science behind locked doors are antithetical to the academy, and to American ideals that serve as the foundation of this great nation. Discrimination on the basis of national origin is, therefore, prohibited by other bodies of federal and state regulation with which the proposed rule would be in conflict.

J. Alternate Proposal

The proposed changes would unnecessarily erect barriers to conducting fundamental research. Existing safeguards, if properly implemented, can adequately address the concerns raised in the OIG Report.

The *visa system* addresses security concerns related to individuals. The visa process is intended to carefully screen foreign individuals and to assess their threat to national security before approving their entry into the country for purposes of pursuing an education. Visa applications are investigated thoroughly by federal agencies, including the Departments of State and Homeland Security. If, after extensive background screening of a foreign student or researcher, our government approves the individual's entry, that individual should be permitted to join fully in the academic research community of the university. Students are subsequently tracked during their enrollment through the Student and Exchange Visitor System (SEVIS) system.

The solution to the need for technology-specific controls lies in the long-proven approach of *classification on national security grounds* whereby access is limited to individuals with appropriate security clearances. National Security Decision Directive (NSDD) 189 provides that classification is the only appropriate mechanism for government control of fundamental research information.

National Security Decision Directive 189, dated September 21, 1985, provides:

> "... our leadership position in science and technology is an essential element in our economic and physical security. The strength of American science requires a research environment conducive to creativity, an environment in which the free exchange of ideas is a vital component.
>
> . . .
>
> It is the policy of this Administration that, to the maximum extent possible, the products of fundamental research remain unrestricted. It is also the policy of this Administration that, where the national security requires control, the mechanism for control of information generated during federally funded fundamental research in science, technology and engineering at colleges, universities and laboratories is classification.
>
> . . .
>
> No restriction may be placed upon the conduct or reporting of federally funded fundamental research that has not received national security classification, except as provided in applicable U.S. Statutes." (emphasis added).

This policy position was reaffirmed in a November 1, 2001 letter from then Assistant to the President for National Security Affairs, Condoleezza Rice. In that letter, Dr. Rice stated:

> "On behalf of the President, I would like to respond ... The key to maintaining U.S. technological preeminence is to encourage open and collaborative basic research. The linkage between the free exchange of ideas and scientific innovation, prosperity, and U.S. national security is undeniable."

As national policies are reviewed and clarified, we ask that lawmakers and regulators not lose sight of this fundamental and guiding principle. Any departure should be accomplished through specific legislative enactment rather than regulatory reinterpretation.

The attempt to create a middle ground between classified information and open information may result in the worst of both worlds -- prohibiting productive transfers of information while, due to the unmanageable breadth and ambiguity of the regulatory framework, not completely effective in guarding against transfer to foreign countries. With clear demarcation provided by classification, institutions of higher education can make informed decisions as to whether or not to engage in specific research projects.

These visa and classification processes should be adequate. There is no need for redundancy.

II. Answer to Question D(1)

BIS proposes to revise the answer to Question D(1) in Supplement No. 1 to state that, whereas no license is required for the transfer of technology to conduct fundamental research, a license may be required if, in conducting fundamental research, the foreign graduate student needs access to technology in order to "use" equipment.

In light of the comments above, we believe that the transfer of technology to use equipment should be considered a "transfer of technology to conduct fundamental research" and not be subject to the EAR.

This would be consistent with the (unchanged) regulatory language that provides that items not subject to the EAR (15 CFR §734.3) include technologies that:

> (ii) arise during, or result from, fundamental research as described in §734.8 of this part (emphasis added).

This interpretation would also be consistent with BIS' December 6, 2004 advisory opinion, which stated, in relevant part:

"If the sale of ... equipment is open to all members of the public, then any technology that might be transferred is deemed to be publicly available under Part 734 of the EAR and, thus, not subject to these Regulations. ... Thus, the mere inspection of the equipment does not raise a deemed export issue."

If, nevertheless, BIS proceeds with the proposed change to Answer D(1), it would be helpful if BIS would also provide clarification of the "publicly available" exception and articulate easily applied tests so that colleges and universities could better identify the technology that would be affected by this new guidance. Narrowing of the fundamental research exemption would force universities to rely more heavily on other aspects of the "publicly available" exemption. The concept of "publicly available" must be precisely defined rather than left to universities and medical centers to interpret at their peril.

In particular, under 15 U.S.C. § 734.3, items not subject to the EAR include:

> "...printed books, pamphlets, and miscellaneous publications" (without regard to cost) (15 CFR §734.3(b)(2)).

This provision, presumably included to permit the regulations to withstand constitutional challenge under the First Amendment, would appear to cover equipment operation manuals, taking their content out of the reach of the deemed export rule.

Also excluded from the EAR are technology and software (734.3(b)(3)) if the information is "published" as defined by §734.7:

> (1) Publication in periodicals, books, print, electronic, or any other media available for general distribution to any member of the public or to a community of persons interested in the subject matter, such as those in a scientific or engineering discipline, either free or at a price that does not exceed the cost of reproduction and distribution . . .

The purchaser of written materials cannot know whether the price it pays exceeds the "cost of production and distribution." Indeed, it is unclear what elements go into that cost. Publishers typically have to cover the cost of royalties to contributors, storing inventory, editorial compensation, etc. These costs, which are necessary costs of making printed works available, should properly be part of the cost of production and distribution. Why should the profitability of a publisher be a factor in defining what is publicly available?

> (2) readily available at libraries open to the public or at university libraries . . .

The library test is equally difficult to apply. There is no way of knowing what is available in the collections of individual libraries without directing a separate query to each one. Deposit in the Library of Congress as part of copyright process would appear to satisfy this standard.

> (3) Patents and open (published) patent applications available at any patent office;

The patent application is required by law to "contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention." 35 USC §112. Given this mandatory disclosure, use technology for patented inventions should be in the public domain.

Imposing on universities the burden of confirming the requisite facts for utilizing these "publicly available" exemptions in the context of use technology would be to require a difficult, needless and time-consuming exercise with no net benefit. At the end of the day, there would appear to be little or no EAR-controlled use technology remaining to justify the imposition of a cumbersome licensing mechanism with respect to any equipment on campus that is not provided subject to manufacturer imposed non-disclosure conditions. It would be far simpler to make the operative test the unambiguous and easily verified presence or absence of such manufacturer-imposed conditions. If equipment is generally available for purchase in the public marketplace, the equipment and its related use technology should be considered to be publicly available.

III. Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

BIS proposes to amend its policy to require that for purposes of applying the deemed export rule, foreign nationals will be treated as being from their country of birth rather than from the country of their most recent citizenship or permanent residency.

We understand that the "permanent residency" referred to means permanent residency in countries other than the U.S. (for example, an Iranian national who permanently resides in Canada), and that the rule change proposed for foreign nationals would not affect naturalized U.S. citizens or green card holders. While the Notice in the Federal Register is somewhat ambiguous, we take comfort in the fact that no change has been proposed to the current definition of "foreign national" which includes:

> 1. "[P]ersons lawfully admitted for permanent residence in the United States" [such as those who hold green cards]; and
>
> 2. "[P]ersons who are protected individuals under the Immigration and Naturalization Act (8 U.S.C. 1324b(a)(3))" [such as U.S. citizens and nationals, refugees and asylum holders].

15 C.F.R. § 734.2(b)(2)(ii) (2004).

Any discrimination against U.S. permanent residents would likely be unconstitutional. Such a broad-brush approach would likely fail to satisfy the strict scrutiny standard applicable to discrimination on the basis of national origin and therefore be unconstitutional. See Nyquist v. Mauclet, 432 U.S. 1 (1977), where the Supreme Court held that denying resident aliens financial assistance for higher education violated the Equal Protection Clause. Treating all green card holders as foreign nationals would not even appear to have a rational basis, let alone the compelling rationale required to survive a strict scrutiny standard.

Even a place of birth rule limited to true foreign nationals is ill-conceived. Is a person who relinquishes his or her citizenship in a country more likely than anyone else to travel to that country or to communicate with current citizens of that country against the interests of the U.S.? More likely than those who were born elsewhere but have chosen citizenship in a country that supports terrorism?

A person controls his or her citizenship, but the country of birth is, of course, not at all in the control of the individual. This rule would hold people responsible for actions taken by their parents before their birth. It would be strange in the extreme to prohibit the children of journalists, aid workers, exchange scholars, etc. from being trained in the use of modern equipment decades after their parents returned home.

Many of the individuals negatively impacted by this rule change could have fled from a country in their childhood. The change would penalize those escaping oppressive regimes. A country of birth rule is contrary to American values in this country of immigrants.

Verification and tracking of place of birth would impose significant new administrative burdens. What type of proof would be required? This information is not currently kept in the university's databases. For all of these reasons, we do not believe that the proposed change represents an improvement over the current system. At the very least, no change should be instituted until a U.S. Citizenship and Immigration Services (USCIS) sponsored mechanisms are in place to gather and verify this information.

IV. Answer to Question A(4) on Government Sponsored Research and Fundamental Research

BIS proposed to modify the answer to Question A(4) to state that if the government sponsor imposed restrictions on publication of the research, then the technology would continue to be subject to the EAR.

We suggest a few minor editorial changes. First, we recommend using a term more precise than "prepublication review," i.e., "the right to approve the publication" or conversely, "the right to prohibit publication of research results." Contractually granting to the sponsor of research the right to review and comment, but not to prevent publication, should not have any effect on the status of the work as fundamental research.

Use of the word "continue" is inaccurate because fundamental research would not be subject to the EAR until such a publication restriction was imposed.

It is important for the answer to reaffirm that research will qualify as fundamental research once all restrictions have expired or have been removed (§734.8).

> §734.11 Government-sponsored research covered by contract controls states:
>
> (a) If research is funded by the U.S. Government, and specific national security controls are agreed on to protect information resulting from the research, §734.3(b)(3) of this part will not apply to any export or reexport of such information in violation of such controls. However, any export or reexport of information resulting from the research that is consistent with the specific controls may nonetheless be made under this provision.

In the absence of this provision, it is unclear under what authority such research could ever be published.

In conclusion, we request that BIS not expand the deemed export rule in a way that would have a severe negative impact on higher education when the existing regulatory framework for issuing visas and classifying information can adequately address the concerns raised in the OIG Report.

Penn
University of Pennsylvania

Office of the Vice Provost for Research

June 24, 2005

Mr. Alex Lopes
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Room 2705
14th & Pennsylvania Avenue, NW.
Washington, DC 20230

ATTN: RIN 0694-AD29

Dear Mr. Lopes:

We are writing in response to the request for comments in the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29). The ANPR seeks comments on a number of recommendations contained in the U.S. Department of Commerce Office of Inspector General (OIG) Report entitled ``Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.'' (Final Inspection Report No. IPE-16176-March 2004).

General Policy Considerations

According to the National Science Foundation, in 2002, international students who were not U.S. citizens received 58.7% of all doctorates awarded in engineering in the U.S., 35.4% of all doctorates awarded in the physical sciences, and 18.0% of all doctorates awarded in the life sciences.[1] Many of these students stay in the U.S. after completing their studies, contributing significantly to this country's scientific productivity and economic development, and in order to help the U.S. continue to compete in these crucial fields, universities need to encourage non-residents to come to the U.S. to study science and technology disciplines.[2]

We believe that the unmodified implementation of the OIG's recommendations will have severe consequences on the economic and scientific competitiveness of the United States by continuing to make it less desirable for the best and brightest scientists and engineers to come to the U.S. to study and remain in the U.S. to innovate. Additionally, the success of the United States system of higher education is predicated in large part on the openness and free communication among scholars within and outside the United States. Part of that communication involves scholar exchange and collaborative work at institutions around the world. Progress in science and engineering is as dependent on foreign scholars being able to visit and work unfettered at U.S. academic institutions as it is on the ability of U.S. scholars to work in similar circumstances at foreign institutions. We are concerned that the proposed

[1] See "Policy Implications of International Graduate Students and Postdoctoral Scholars in the U.S.", prepublication version available at National Academies' web site, http://www.nap.edu/books/0309096138/html/ [last visited May 17, 2005]
[2] Ibid.

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changes in the Export Administration Regulations (EAR) will have a chilling effect on scholarly exchange.

The history of the Nobel Prizes offers a quick illustration of the impact that restriction of foreign nationals from sensitive technologies could have on the economic and scientific competitiveness of the U.S. Of eighteen Nobel Laureates who have had an affiliation with the University of Pennsylvania prior to their award, five were foreign born and nine of nineteen of their collaborators were also foreign nationals. Nobel annals are replete with similar examples of international collaborations. We believe that the proposed changes place such collaborations in jeopardy. It is true that the proposed change would not prohibit certain exchanges of controlled technology, and only require application for a license from the government prior to conducting such exchanges of controlled technology. However, requiring individuals or universities to apply for licenses prior to the exchange of such controlled technology illustrates a serious misunderstanding of how the scholarly process of fundamental research occurs, and is largely impractical.

Apart from the problem of scholarly exchange, institutions such as the University of Pennsylvania draw on the best and brightest students from the U.S. and from around the globe to move science, engineering and biomedical research ahead in future years. The United States' next generation of scholars and scientists will be trained at institutions such as Penn. Limiting foreign students' access to fundamental research where controlled technology may be involved is problematic. For an undergraduate research project, waiting an average of 45 days, in a best case scenario, to obtain issuance or denial of a deemed export license is impractical; half of the semester or more will have expired before any work could be done. As a result, this approach to scientific training will wither because of bureaucratic impediments.

The Department must carefully weigh the economic and scientific implications of the implementation of the proposed changes, and whether a significant economic and security risk is posed in not implementing the proposed changes. The OIG report does not cite any specific example where national security was or might have been undermined because a student obtained non-public information about the use of equipment on campus as part of his or her fundamental research.

With respect to deemed exports, the University of Pennsylvania does not think the issue here is whether the word "and" should be changed to the word "or" in Section 772.1 of the Export Administration Regulations (EAR). The University believes the issue is whether the sharing of non-public technology about a piece of equipment in furtherance of research that is exempt as "fundamental research", should or should not require the University to apply for a deemed export license if the recipient of the non-public technology is a foreign national. We respectfully disagree with the OIG's interpretation; the **University believes that the transfer of "use" technology related to equipment to a foreign national, in furtherance of fundamental research, has been and should continue to be considered part of the fundamental research itself**, and, therefore, not require application for a deemed export license.

Specific Impact of Proposed Changes

At the University of Pennsylvania, we have approximately 3,500 foreign undergraduate students, of which approximately 700 work and study in the engineering and science disciplines that most likely would be impacted by any change in how BIS interprets the fundamental research exemption and when a deemed export license is needed. Penn also sponsors visas for approximately 900 other foreign scholars on an annual basis. In addition there are a substantial number of foreign-born faculty and visitors who would need to be tracked. If BIS were to adopt the OIG's recommendations on the transfer of "use" technology, the University's administrative burdens would include these individuals as well.

At a May 6, 2005 public meeting at the National Academy of Science, Hon. Peter Lichtenbaum, Acting Under Secretary, Bureau of Industry and Security (BIS) at the Department of Commerce, said that, although foreign nationals from anywhere in the world conceivably could be required to obtain a deemed export license before being permitted to "develop", "produce", or "use" controlled technology on a university campus (depending on the ECCN classification), BIS was particularly concerned with individuals from China, Russia, certain former Soviet Union countries, India, and the "T-6" countries of Cuba, Iran, North Korea, Libya, Sudan, and Syria. As an example, therefore, as of April, 2005, the University of Pennsylvania had at least the following number of students and scholars/post-docs who, to the University's knowledge, were born in the following countries:

	Students/Scholars
China	577 individuals
India	546 individuals
Iran	23 individuals
Russia	58 individuals
Other countries mentioned	at least 37 individuals

Thus, in considering the time, effort and costs involved in connection with the proposed changes BIS is considering, the University knows of at least 1150 individuals it would have to assess, from countries the Acting Undersecretary highlighted (which, of course, are not all of the countries that need to be checked under the existing or proposed amended EARs.) If the University is successful in its efforts to attract more foreign scholars to study and teach at Penn, this number will rise in the coming years.

It is impossible to predict in advance what labs any of these 1150+ individuals might visit while on campus, even if the University knew where the individual was anticipated to spend most of his/her research time. Of course, it is also impossible to predict in advance whether controlled technology about "use" of equipment might be transferred to any one of these individuals while carrying out research on campus. Because what constitutes controlled technology often can differ under the ECCN, depending upon the nationality of the individual, one approach to compliance might require the University to seek, in advance and prophylactically, a deemed export license for each of these 1150+ individuals (and repeat the process each time an individual transfers from another university, visits from another

university, etc.), for each of the labs on campus where there might be any controlled technology. Since the deemed export licenses usually last no longer than one year, the process would have to be repeated annually. We conservatively estimate the cost to the University of this process to easily approach $1MM a year in added staff salary and benefits. We also assert that this approach would require a significant administrative burden not justified by the hypothetical risk identified.

At any point in time, the University also has nearly 14,000 items of equipment (>$5000 in acquisition value) that might be listed on the ECCN. The University also accumulates approximately 1000 new items of equipment annually. This inventory does not capture the innumerable items which cost the University less than $5000, which might be controlled on the ECCN. We understand that the use of controlled equipment is not a deemed export (under the current EAR), and that a deemed export occurs only if controlled technology is transferred to a foreign national. Under the regulations, however, the definition of technology includes certain types of information about the "use" of equipment, and whether such "use" technology is controlled depends upon the specific technology as categorized in the ECCN. However, as a practical matter, to search for a particular "technology" in the EAR and determine whether it is controlled, one must know what equipment the technology relates to. An understanding of the equipment and its uses, and what is and is not publicly available "technology" related to the equipment, is necessary, before one can begin to determine whether one needs to apply for a deemed export license before transferring "use" technology related to that equipment to a foreign national.

Further, Sec 734.2(b)(3)(i) of the EAR defines "release" of technology or software as:

> *(i) Visual inspection by foreign nationals of U.S.-origin equipment and facilities;*
> *(ii) Oral exchanges of information in the United States or abroad; or*
> *(iii) The application to situations abroad of personal knowledge or technical experience acquired in the United States.*

The inclusion of "oral exchanges" or "visual inspections" of controlled technology is also of grave concern. Even if the University obtains licenses proactively for all of the potential foreign nationals on campus who we expect to work in a particular area with equipment that we learn might include controlled technology, it is impractical on an open campus environment to stop "oral exchanges" and "visual inspections" for casual or unexpected visitors to a lab. If the work being conducted in the lab is fundamental research, adopting the OIG's interpretation of the current regulations would require the University to police every person who steps through the doors of a facility where there is a piece of equipment about which certain "technology" might be controlled, depending upon the nationality of the individual stepping through those doors. This University does not believe its role should include such an intrusive monitoring function, and we are not aware of another practical solution for compliance, should BIS adopt the OIG's interpretation.

The determination of whether "use" technology for any of these items of equipment would require seeking licenses for use by foreign nationals would consume inordinate amounts of

time and effort (for, in our view, limited national security benefit.) Thus we anticipate that a multiperson office would need to be established at a cost of $150,000/annum/person to make the technological and legal determinations that any particular technology may be export controlled when used by one individual, and not be controlled for another.

Suggestions for Alternatives

As previously explained, the University of Pennsylvania believes that the transfer of "use" technology related to equipment to a foreign national, in furtherance of fundamental research, should not be categorized as a deemed export, and should be exempt under the regulations as an integral part of fundamental research. Rather than adopt the OIG's recommendation on this issue, BIS should clarify the regulation to expressly make such transfer exempt.

We also believe that the issue is not changing the word "and" to "or". We believe that either definition is unworkable in a teaching and fundamental research environment, if interpreted to mean that foreign scholars and scientists cannot receive necessary technical data and information in order to "use" equipment to conduct fundamental research, without first applying for and obtaining a deemed export license from the U.S. government. Moreover we believe the intent of this regulatory change is misguided and will serve to profoundly alter how basic science and engineering research is done in the United States.

If BIS disagrees, and adopts the OIG's recommendation on this issue, the University encourages BIS to clarify the regulations further by adding explicit language to the regulations or provide explicit examples in the Questions and Answer section to aid the academic community in interpreting the "use" definition.

If BIS adopts the OIG's recommended changes in how the existing regulations are interpreted regarding "use" technology, we fear the time to obtain license grants or denials from BIS will become unreasonably long. Although BIS asserts that it tries to grant or deny licenses within 45 days, BIS will receive a huge increase in license applications. Institutions will submit such requests because they do not have the resources to make the initial determinations, even if ultimately licenses are not required. In a dynamic research environment within a university setting, waits of two or three months, or longer, will negatively affect the ability to perform research and, therefore, meet obligations to funders, including the federal government sponsoring fundamental, unclassified research.

Regardless of whether BIS adopts the OIG's recommendation that country of birth be used when determining deemed export license requirements, the University urges the Department to consider whether deemed export control licensing requirements should be imposed on foreign visitors who already are subject to visa and immigration control and review prior to entering into the United States. We believe that clearance by the Department of State to enter the country should suffice in permitting legally admitted foreign nationals to access controlled technology if done in the context of fundamental research, in the same fashion as their U.S. citizen counterparts, especially when working with commercially available

equipment. (See our further comments regarding the visa process and the proposed shift to use of "country of birth", below.)

One alternative approach proposed by the Council on Governmental Relations with which we agree, is to redefine controlled "use" technology to encompass only proprietary technology that is not generally available on an unrestricted basis in the U.S. If a foreign national requires access to such technology to perform his/her research, then a determination should be made as to whether licensing requirements may apply. If, however, the controlled technology is embodied in equipment that is generally available to any person in the U.S. without restriction, and the user has access only to an instruction or user manual that also is available for legitimate purchase or from public sources in the U.S., this type of use of controlled equipment should not be subject to licensing requirements. In such cases, there is insufficient benefit to justify controlling access by foreign nationals to such information, especially when such information is readily available in the U.S. This interpretation also would be more consistent with the core concept that publicly available information and technology is outside of the scope of the export regulations.

Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

The University objects to the IG's recommendation that deemed export license requirements be based on a foreign national's country of origin, rather than most recent country of citizenship or residency, because: (1) it would require the university to open itself to allegations of discrimination based upon national origin under the federal and state constitutions, Title VI of the Civil Rights Act of 1964, and other state and local statutes; (2) the government should use its visa screening processes to make individualized legal determinations of who should be permitted to enter and stay within the U.S., and what he or she may do while in the U.S., rather than force the university to treat entire classes of individuals differently based solely on their national origin; and (3) from a policy perspective, we do not agree that country of birth is a better predictor for the government of possible foreign loyalties than most recent country of residence or current citizenship.

We question the constitutionality of a regulation requiring distinctions among classes of individuals based solely on national origin. Additionally, even if one were to assume that a regulation determining whether a deemed export license was required based upon a foreign national's country of birth ultimately would be held to be constitutional and not in violation of any laws, we question why universities should have to defend themselves against the inevitable lawsuits that would be brought challenging the regulatory change. These inevitable lawsuits would cost the University of Pennsylvania significant money, time, and attention.

We believe that use of a foreign national's country of birth as a criterion for applying the deemed export requirement is unworkable and not based on sound principles. The country of birth is fundamentally flawed as an indicator of assumed loyalty to a particular government. If an individual were born in a country which today is subject to export controls, and then attained citizenship in another country as an infant, would that individual pose more or less of

a risk to the U.S. national security? We argue that place of birth is inherently no more predictive than country of citizenship when trying to assess whether an individual has a propensity to use controlled technology improperly. We also believe that requiring the University to obtain country of birth information from every individual who might visit a laboratory where controlled technology might be shared imposes information gathering requirements that extend beyond those required under current regulations. Although difficult to estimate at this time, the University of Pennsylvania estimates that it might take several employees many hours to collect country of origin information from all foreign national post-doctoral, doctoral, graduate, and undergraduate students. The University of Pennsylvania also is not certain at this time how to quantify the time and cost to attain similar information from all visiting scholars and researchers who might visit a laboratory or otherwise come onto our campus. We also do not know how we would validate information that we might be required to solicit with regard to place of birth of students, scholars, or casual visitors to the University of Pennsylvania.

As we discuss above, if the federal government has performed its responsibility to screen a foreign national prior to entry to the U.S., and the federal government grants such foreign national a visa, and the University has assured itself that the visa remains valid, this "individualized assessment" should suffice as a more practical approach to limiting use of controlled technology, as well as meet federal constitutional and statutory requirements not to discriminate based on national origin or other impermissible factors. The federal government should not require universities to make categorical exclusions from educational opportunities, based simply on gross and possibly unsubstantiated generalizations about categories of people who happened to be born in a particular country, such as China or Russia. The proposed change would lead to unnecessary litigation against universities asserting discrimination based upon national origin and other violations of law.

Clarification of Supplemental Questions & Answers on Government Sponsored Research and Fundamental Research

Answer to Question A (4): The University does not think the answer to Question A(4) needs to be changed, because we respectfully believe the OIG has misinterpreted EAR Sec. 734.11(a), second sentence.

> Section 734.11(a) states: *"If research is funded by the U.S. Government, and specific national security controls are agreed on to protect information resulting from the research, §734.3(b)(3) of this part will not apply to any export or reexport of such information in violation of such controls.* ***However, any export or reexport of information resulting from the research that is consistent with the specific controls may nonetheless be made under this provision.****" (Emphasis added)*

We believe the correct reading of Section 734.11(a) is that, if the University agrees in a federally-funded research agreement to specific national security

controls, the export or reexport of information resulting from the research that is consistent with the specific controls may occur, without applying for a deemed export license, pursuant to "this provision", that is, Section 734.11(a). In other words, Section 734.11(a) is an additional exemption from certain licensing requirements under the EAR, as are Sections 734.7, 734.8, 734.9, and 734.10. (See, also, Section 734.8(b)(6), which specifically says that, although the "fundamental research" exemption may not apply if a university accepts specific national security controls, "the provisions of [Section] 734.11 of this part will apply.")

By changing the answer to Question A (4) as BIS proposed, we respectfully suggest that BIS will be ignoring the plain language of Section 734.11(a), second sentence. If, however, the OIG has correctly interpreted EAR Sec. 734.11 (a), then we recommend that the Department of Commerce propose amending the second sentence of Section 734.11(a) itself to clarify when Sec. 734.11(a) does and not apply.

Answer to Question D (1): Question D(1) posits whether a foreign graduate students who "works" in a lab might need a deemed export license, and the current answer says "no", if the research is fundamental research. The OIG suggested that this answer might be misleading, because, in the OIG's view, a deemed export license might be needed to "use" certain equipment.

In its comments on the OIG report, BIS agreed that the answer to question D(1) requires clarification and BIS proposes to revise the answer for D(1) to qualify the statement that no license is required, by stating that, whereas no license is required for the transfer of technology to conduct "fundamental research," a license may be required if, in conducting fundamental research, the foreign graduate student needs access to technology to "use" equipment if the export of the equipment itself to the student would require a license under the EAR.

For reasons we discuss under "use" technology, the application of this concept to fundamental research would severally cripple American institutions' ability to conduct research of critical importance to the United States. We urge the Department to consider approaches that would permit unlicensed fundamental research especially in situations where foreign nationals are present in the U.S. under valid conditions (such as a valid visa), and where the "controlled technologies" are also commercially and publicly available.

Summary of Comments

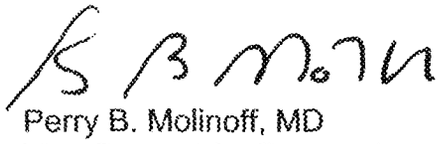
The University of Pennsylvania believes that: (1) the OIG's report does not provide evidence of a problem with the existing deemed export regulations, and, therefore, asserts that the disadvantages of the proposed changes outweighs any purported benefit of increased national security; (2) the federal government itself should use the individualized visa process

to screen a foreign national before he or she enters the U.S., and not require private entities, such as universities, to police who should or should not be permitted to tour a laboratory or have a casual discussion with a professor on campus; and (3) classification of information using National Security Defense Directive 189 (as reaffirmed on November 1, 2001 by the then National Security Advisor, Dr. Condoleeza Rice) is the appropriate mechanism for government control of information that the government does not want shared with a category of individuals, so that the University can elect whether to perform classified research on its campus or not.

Thus, for the reasons stated above, we urge BIS: (1) not to adopt the proposed change in the definition of "use" (Section 772.1 of the EAR) or interpret the EAR to require a foreign national to apply for a deemed export license before receiving controlled technology for use with equipment as part of his/her fundamental research; and (2) not to require use of country of birth when determining whether an individual needs to apply for a deemed export license.

We thank you for the opportunity to comment on these issues and to present our views, which we believe to be in the long term interest of American science and engineering as well as the long term national security interest.

Respectfully submitted,



Perry B. Molinoff, MD
Vice Provost for Research
A.N. Richards Professor of Pharmacology Emeritus

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Dr. P. Conn, Provost
C. Carnaroli
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THE UNIVERSITY OF
CHICAGO
OFFICE OF THE PRESIDENT

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Chicago, Illinois 60637

June 24, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20231

Attention: RIN 0694-AD29

Dear Mr. Lopes:

On March 28, 2005 the Department of Commerce (DOC) issued an advanced notice of proposed rulemaking seeking public comment on revisions to deemed export related regulatory requirements based upon recommendations of the DOC Office of the Inspector General. We write on behalf of the University of Chicago to describe how these proposals, if implemented, would affect the University and our research activities. We briefly describe the University; comment on the impact of these revisions on fundamental research and education; assess the balance between the demands of homeland security, technological competitiveness and fundamental research, and suggest changes to the DOC's proposals. In supporting this balance, we seek to retain the openness of inquiry by all qualified students and scholars that is characteristic of major research universities.

The University of Chicago is a world-class research university located in Chicago, Illinois. We offer over 90 advanced degree programs to approximately 8500 graduate and professional students, and 51 areas of concentration to approximately 4200 undergraduate students. As a research university, our mission is education and research through the creation and dissemination of new knowledge. In 2004, the Times Higher Education Supplement ranked the University of Chicago 13th in its global list of the top 200 research universities, and noted that we are second in the U.S. in the international nature of our faculty. We are strong in technological innovation; in 2004 the MIT Technological Review ranked us 11th among US universities based upon the number and relevance of issued patents.

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International students, staff and faculty are essential to the University. More than 2033 graduate and professional students are foreign nationals, citizens of 93 countries; of these, over 822 are East Asian. These students are enrolled in doctoral and advanced professional degree programs such as law, medicine and business administration. Foreign nationals tend to cluster in particular programs; for example, over 100 students from the People's Republic of China are enrolled in doctoral programs in the physical sciences. Of the University's postdoctoral appointments reported to the National Science Foundation in 2004, foreign nationals represented 85% of the 160 appointments in the biological and biomedical sciences and 62% of the 101 appointments in the physical sciences. Thirteen percent of our 2686 faculty members are non-permanent residents.

The recruitment of faculty, researchers, visiting scholars, postdoctorals and students at the University of Chicago is global. Academic or research merit is our selection criterion, not country of origin or of citizenship. We seek excellence wherever it originates and share with the world the benefits of our education. Our research extends the education and training of the next generation of world leaders. We assert that this open approach to scholarship by our leading research universities has significantly contributed to America's position of leadership in research, technology, education, innovation and economic competitiveness. Indeed, over one-third of the members of the National Academy of Sciences in the U.S. are foreign born. This open approach must not be casually surrendered even when balanced against other needs such as homeland security and technological competitiveness.

In dealing hitherto with deemed exports, universities have principally relied on the fundamental research, published information and educational information exemptions. With regard to the fundamental research exemption, we strongly support the policy set forth in National Security Decision Directive 189 (NSDD 189) that the products of fundamental research are unrestricted. We also fervently believe, as set forth in NSDD 189, that classification should be the principal mechanism for the control and protection of information raising national security concerns. Yet, we are dismayed by the DOC's apparent departure from its previous guidance on the application of the fundamental research exception to the conduct of research in university laboratories. In our mind the use of equipment, the dissemination of publicly available use technology, and the research results that flow from the utilization of equipment and the release of technology are inextricably linked. Limiting the exemption to the product of fundamental research, yet withholding it from the means of obtaining product results is counterintuitive and significantly undermines the way research is currently conducted in U.S. universities.

We are concerned that the DOC has underestimated the impact of the deemed export license process on the pace, nature and productivity of university research and teaching; and the contribution of that research to our economic well-being. If the DOC's proposals are implemented, they will have the unintended consequence of severely and negatively impacting the way in which academic research is performed. These proposals will exercise severe chilling effects if deemed export licenses must frequently be sought.

The most troubling consequence we see is the inevitable delay in the conduct of research. Significant time and effort must be expended to evaluate whether or not a license should be sought for a particular individual or project or technology or use, to complete and submit a license application to the DOC, and to await a definitive decision from the DOC.

The frontiers of academic research move quickly. Delay can be critical or even fatal to a fast-moving, competitive project. A first to file rule for patent applications places a premium on rapid completion of a promising research topic.

We also fear that faculty who are averse to bureaucracy and paperwork will skew their selection of research topics and perhaps avoid precisely those areas of technologically competitive research that our continued leadership will depend on. A perverse incentive may be established: if nothing of technological or national security interest is researched or developed, no licenses need be sought. Also at risk is the free-flowing, informal discussion of day-to-day research progress, problem solving, and sharing of expertise, typical of laboratory group meetings, that will be chilled by anxiety about "deemed exports." Can a potentially sensitive use technology be freely discussed in front of the group, if the group contains – as is highly likely at the University of Chicago – members from sensitive countries? Furthermore, the procurement of research equipment may be chilled. This is not a desirable outcome for continued technological innovation or U.S. economic competitiveness.

Confusion about national security objectives and economic or commerce issues arising from the dissemination of technological information has contributed to genuine uncertainty in the university community about how to respond effectively to the DOC proposals. Clear and uniform statements from the DOC must address the goals, the regulations necessary to achieve these goals, and the procedures to ensure compliance by reasonable people.

As the DOC considers revisions and clarifications to existing deemed export regulations, it must be mindful that compliance by the university community requires that the regulations and procedures be effective in a university research setting. We are concerned that administration of the deemed export requirements will differ markedly in form from that involved in, say, human and animal subjects, recombinant DNA research, proprietary information, or use of lasers or radioisotopes. In these areas the decision is clear-cut and can be taken well in advance – does the proposed research involve human subjects, or lasers, or proprietary information? If so, established procedures that are widely accepted by the university community are in place. Deciding exactly when and if a proposed research topic or use of certain equipment generates a deemed export is much less clear. For example, our current inventory of capital equipment identifies over 6,000 items. We have no way to track certain other export-controlled equipment with a purchase price less than $5,000 which therefore does not appear on our inventory. Further, a "use technology" that did not require a "deemed export" license in its early stages may rapidly evolve in a direction that requires such a license. Procedures that effectively require a scientifically-trained University administrator to "look over the shoulder" of each foreign-born researcher would of course be completely unworkable. We are at serious risk of false positives and false negatives in our license assessments. Although the cost of compliance is not the principal argument against the proposals, it must enter when universities look to tight resources and to their ability to assure effective compliance.

After carefully assessing the proposed regulations and their impact on the conduct of fundamental research at the University of Chicago, we offer the following recommendations:

- Devote more resources to improving the visa system. Rather than making changes to an international academic research environment that has benefited our nation immensely, both technologically and economically (and, as far as we are aware, has not resulted in significant risks to national security), the DOC and other relevant federal agencies should work with the Department of State to use the visa system to control entry into the U.S. more effectively. It should not be necessary, nor will it be effective, to shift the burden to the university community to police the activities of individual students, staff and faculty once they are lawfully admitted to the U.S.
- Clarify that information arising during the conduct of fundamental research involving the use of a controlled item is not a "deemed export." Activities central to fundamental research such as design, creation and fabrication of new equipment, or the improved performance of existing equipment ("tweaking"), or the combination of equipment in novel ways, must not be considered "deemed exports."
- Reassert the validity of NSDD 189 for fundamental research and the role of classification in protecting sensitive information. It is our understanding that such information arising in the course of fundamental research is and would continue to be covered under the fundamental research exemption, but this must be clearly stated by the DOC.
- Take all reasonable steps to narrow the scope of any final regulations covered by deemed exports to those areas truly at risk. For example, any information which is already publicly available or easily accessible outside the University (e.g. over the web) should be clearly excluded from the deemed export license requirements.
- Develop a "use technology" definition explicitly for deemed export license consideration and eliminate the current "use" definition. The proposed clarification in the "use" definition is still murky and does not ease the tension between the DOC's expectations and our understanding of the exact meaning of "use" of equipment.
- Require use technology licenses only when proprietary or trade secret information is involved. This seems obvious and relevant to our understanding of the DOC's concerns. Mechanisms to achieve such restrictions are already in place at research universities, and are common for the protection of intellectual property. Extending the mechanisms to cover deemed exports of a proprietary or trade secret nature would be largely compatible with present research university culture and likely to be minimally invasive to the research process.
- Eliminate the country of birth aspect to the regulation. We question the premise that individuals retain loyalty to their country of birth in preference to their new country of permanent residence or citizenship. We also question whether such distinctions based on an individual's country of birth will be deemed discriminatory if challenged in court. We wonder how the international community, especially our close allies and friends, will respond when we challenge the participation of their citizens in American university research based on their country of birth.

The University of Chicago is committed to preserving this nation's security, and as always, we will work diligently to comply with the export control requirements of the DOC and all

other federal agencies. Yet, we believe screening through the visa process and classification offer effective tools to accomplish national security objectives while preserving the strength of the university research environment that has served the U.S. well.

We also wish to express our support and concurrence with the comment letters provided to you by the Council on Governmental Relations and the Association of American Universities. We hope that our comments will assist the Department of Commerce in reassessing its proposed rule making.

Thank you for the opportunity to comment.

Yours sincerely,

Don M. Randel
President

Richard P. Saller
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COGR

an organization of research universities

June 24, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Dear Mr. Lopes:

This letter responds to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) asking for comments on the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

The Council on Governmental Relations (COGR) is an association of 160 research intensive universities, affiliated hospitals and research institutes in the United States. COGR works with federal agencies to develop a common understanding of the impact that federal policies, regulations and practices may have on the cutting edge research conducted by these institutions. The application of "deemed export" requirements to fundamental research at universities is a matter of great interest and concern to the COGR membership.

The university community is committed to helping protect the country against potential threats. However, COGR believes that the changes recommended by the Commerce Department Inspector General report (IPE-16176, March 2004) are based on misunderstandings of the fundamental research exclusion from export controls and of the university research process. Both would be seriously harmed if the IG recommendations were implemented. The IG has presented no evidence as to why these changes are necessary or how the existing mechanisms of visa screening of foreign nationals and classification do not adequately protect U.S. national security interests.

In the following sections of this letter we discuss our concerns in more detail. We appreciate the interest of the Commerce Bureau of Industry and Security (BIS) in evaluating through the ANPR the impact the changes would have on U.S. academic institutions. We ask that BIS:

1) reconsider and not accept the IG's interpretation of the scope of the fundamental research exclusion from export controls;
2) clarify the Export Administration Regulations in a number of ways that would help establish clearer compliance standards and facilitate university compliance (see in particular #8 below); and
3) seek to foster a continuing high level dialogue among stakeholders both within the government and the regulated communities. This dialogue should include federal research funding agencies, the Office of Science and Technology Policy, the government security community, the National Academies, and academic and industry groups to assure the necessary balance among the full range of physical and other security interests. This dialogue should focus on undertaking a cost benefit analysis of the IG's recommendations, taking into account any as yet to be identified specific security concerns that are not being addressed by the current visa and classification processes and the burden on university research that would also ultimately undermine national security.

Our comments cover the anticipated impacts, review existing protections, describe the university fundamental research process and the university research environment, discuss the nature and volume of university equipment, note the confusion caused by the discussion of equipment use and use technology in the IG report, suggest an alternative approach, and respond to the IG's recommendation on country of birth. Further discussion of these points and references are provided in the attached Background section. We expect that COGR member institutions will provide you in their individual responses with additional information as to the potential impacts of implementing the IG recommendations on their individual campuses, to the extent they are able to make these determinations.

Summary of COGR Comments

1. Implementation of the IG recommendations will adversely affect U.S. economic competitiveness and national security since it will make US universities appear much less welcoming.

Implementation of the IG recommendations will adversely affect U.S. economic competitiveness and national security since American universities will be seen as (and in fact will become) much less welcoming to foreign students and researchers. Even the perception may pose a greater threat to our national security in the long-term than would any risk associated with allowing foreign nationals to receive technology to use equipment freely available for purchase in the U.S. in conducting fundamental research at universities. Recent reports from a variety of respected sources indicate that the international competitiveness of U.S. universities has declined since the events of 9/11/01. The reports also demonstrate that the contributions of foreign students and scholars are critically important to U.S. science and engineering and to our national innovation capability. We concur with this view.

2. Primary reliance should continue to be placed on the existing visa and classification process.

In order to assure the necessary screening for those foreign nationals who may actually threaten U.S. security, primary reliance should continue to be placed on the existing visa process before admitting individuals to the U.S. for study and research at U.S. universities. The classification process should continue to be used for the limited subset of university research that may pose real security threats. The IG report provides no evidence that the existing visa and classification processes fail to adequately address concerns about transfer of sensitive technologies. It does not cite any example where an inappropriate transfer has occurred. The visa screening process has been under ongoing review and improvement to make it more effective and efficient. Extensive background checks are conducted on foreign students and scholars entering the United States to study or do research. Once cleared to enter through this process, foreign researchers should be free to conduct fundamental, unclassified research without requiring special licenses to use, or receive information or instruction on how to use, equipment.

3. The products of university generated fundamental research and the process for obtaining the research data are not separable.

We do not agree with the IG's premise that the products of fundamental academic research and the process for obtaining the research results are separate and distinct. The use of equipment and the conveyance of technology on how to use equipment are inseparable in academic research. The only reasonable interpretation of the fundamental research provision in the Export Administration Regulations (EAR) is that it must include the right for foreign students and researchers to use, alter and create, and to receive information on how to use, alter and create, controlled equipment while conducting fundamental research. We ask BIS to reconsider its interpretation with regard to the proper scope of fundamental research. We believe that the IG position would eviscerate the fundamental research exclusion. Its acceptance would be a serious error and a challenge to longstanding government policy on controls on fundamental research that the present Administration has confirmed. Acceptance of the IG's position in fact substantially changes universities' understanding and Commerce's administration of the present rules.

4. The open campus research environment is different from that which characterizes most corporate research, and this difference needs to be recognized in considering security measures appropriate for universities.

We disagree that the IG's premise that security measures appropriate for industry research are equally appropriate for the university research environment. A variety of federal policies recognize that there are fundamental differences (e.g. Federal Acquisition Regulations, Office of Management and Budget cost principles as well as the export regulations). Regardless of the number of deemed export licenses actually required, acceptance of the IG recommendations would alter the whole context of university fundamental research in critical ways, delaying or

precluding members of research teams and their colleagues from the university community from freely visiting each other's laboratories, participating at the spur of the moment in work with equipment, and conveying ideas and information, without constraint. These are essential attributes of the university environment. In addition to fundamentally changing the open nature of university research, implementation of security measures typically found in corporate research labs will be very costly. This concern heightens the need to carefully examine whether these measures are appropriately justified.

5. Foreign nationals at U.S. universities use a substantial amount of equipment that is controlled for transfer of "use" technology to these foreign nationals.

The requested projection of how much equipment with sensitive technologies would be subject to licensing at universities is complicated by the lack of clarity in the current regulations on "use technology." In addition, universities cannot fully define in advance the specific roles individuals will play in research or when or how they may receive controlled technology. Given the open spontaneous campus research environment, universities may need to assume that any foreign student or researcher may receive controlled technology at any time. The number of foreign nationals on campus may be more determinative than the number of items of equipment controlled for use technology in determining the number of licenses required.

Universities have identified to COGR a range of research equipment in their inventories, but this equipment requires identification and designation of the relevant export control requirements. COGR asked member universities to estimate the number of deemed export licenses that might be required under the IG's interpretation, but the difficulties in interpretation and application of the regulations in a university setting and the high cost of making determinations (see #6 below) made it impossible for universities to quantify this number with any degree of precision. However it is evident that the large number of foreign students and scholars and the volume of research equipment at our campuses would result in a substantial increase in license applications. We note, for example, that some universities report that close to 6,000 individuals on campus could require licenses; a six-fold increase over BIS' current total annual deemed export licensing volume just for a single campus.

6. Universities face a substantial burden simply in determining what equipment on their campuses may be subject to controls on transfer of "use" technology.

The administrative burdens and costs for universities are based on both assembling the inventory of potentially sensitive equipment and on the determination of whether and how each item of equipment to be used in research would be controlled for use technology. A typical research university has thousands of pieces of research equipment in its inventory, and hundreds if not thousands of new pieces are acquired each year. Indeed, one university reports that it has more than 50,000 pieces of equipment with an acquisition cost of more than $5,000 each. This does not include the substantial number of items of equipment below $5000 that are not maintained in the capital equipment inventory, but also may be controlled. Another university reports more than 70,000 pieces of equipment and one university system reports almost 140,000 pieces of equipment spread over many campuses. Each item of equipment would need to be evaluated for

controls in relation to each foreign student and researcher on campus because, unless the open research environment is profoundly altered, any member of the campus community could encounter and receive use technology relating to any piece of equipment.

COGR asked a number of universities on a blind basis to estimate the burden of assessing the need for deemed export licenses for foreign nationals working in specific laboratories on their campuses. Several universities calculate that it would cost as much as $5 million initially for each of them to classify all of the research equipment and apply for deemed export licenses for their researchers and millions of additional dollars in ongoing annual compliance costs. Universities with substantial amounts of equipment have estimated it would take 40,000-60,000 person hours necessary to complete the analysis and apply for licenses. The only way universities could pay the cost for such additional manpower would be through a significant reallocation of existing research dollars.

7. The IG report appears to confuse access to equipment with the type of technical information the Export Administration Regulations were designed to control through the deemed export provisions.

It is not the nature of the use of the equipment but the transfer of certain use technology that is the focus of deemed export concerns. Mere operation of equipment without any transfer of controlled use technology, other than information on how to operate or alter it, should not require a license. We urge the BIS staff to clarify the distinction. The current regulations confuse rather than clarify the issue in implying "use" includes "operation." Changing "and" to "and/or" in the EAR Part 772 definition of "use" as proposed by the IG will further confuse the distinction and will not address the issue of what constitutes "use technology." One possible solution would be to revise the General Technology Note in the EAR to indicate that mere access to or operation of, and mere observation or demonstration of how to operate, equipment controlled on the CCL does not in and of itself constitute the export of technology required for use of that equipment.

8. Controlled "use technology" within the context of university fundamental research should be defined to encompass only information that is not generally available to the public in the U.S. without significant restrictions. The focus should be on situations where proprietary information is transferred on an exclusive basis or under a non-disclosure agreement that significantly restricts access.

Controlled use technology needs to be clearly defined in the regulations. The EAR itself does not clearly define "use" technology but clarification is necessary to establish clear compliance standards. We propose that BIS amend the regulations to clarify that controlled "use technology" within the context of university fundamental research encompasses only information (including information in user manuals and information that may be subject to a click-on or other non-exclusive license) that is not generally available to the public in the U.S. All other technology that is generally available without significant restrictions to anyone in the U.S who is willing to pay for it should be considered publicly available for purposes of being excluded from deemed export licensing requirements. The EAR 734 Supplement No. 1 "Qs & As" implies this

understanding, which needs to be confirmed either through a modification of the current Q's and A's or a specific definition in the EAR.

In considering an appropriate definition of "deemed exports through controlled use technology," BIS should focus on situations where proprietary information (e.g. source code, blueprints or engineering designs) is transferred on an exclusive basis or under a non-disclosure agreement that restricts access to a limited group of individuals. In such cases, a foreign national performing U.S. university fundamental research involving access to such information would have access to information that clearly is not actually publicly available, but would be controlled, i.e. pursuant to confidential non-disclosure agreements.

9. The Department of Commerce should weigh carefully the constitutionality and practical implications of creating new regulations that discriminate based on place of birth.

The IG's recommendation that deemed export license requirements be based on a foreign national's country of origin rather than on the individual's most recent country of citizenship or permanent residency should be reconsidered. As proposed it will raise questions with regard to constitutionally proscribed national origin discrimination and may not be legally defensible.

In any event, the proposal seems to lack strong logic because it is based on the erroneous assumption that individuals retain a lifelong allegiance to their countries of birth that will always take precedence over their adopted countries, and that a foreign-born person is more likely than anyone else to export technology. Universities do not presently track this information, and would incur significant additional costs and burdens in doing so. We question both the legality and the logic of such a requirement.

In Conclusion

In addition to our own comments, we agree with and endorse the comments submitted by the Association of American Universities, the National Association of State Universities and Land-Grant Colleges, the Association of American Medical Colleges, and the discussion and recommendations on export controls in the *White Paper on Security Controls on Scientific Information and the Conduct of Scientific Research* submitted by the Center for Strategic and International Studies (CSIS).

We hope that BIS will consider our concerns, particularly with regard to assessing the burdens of implementing the IG recommendations versus the benefits achieved. COGR and its member research universities are strongly committed to supporting national security. However, we believe that the implications of acceptance of the IG's position coupled with the lack of clarity in the current regulations threaten this objective. We hope that BIS will carefully consider the options discussed above.

We appreciate the opportunity to comment.

Sincerely,

Katharina Phillips
President

Attachment

Background Discussion and References

1. Implementation of the IG recommendations will adversely affect U.S. economic competitiveness and national security since it will make US universities appear much less welcoming.

A variety of respected sources have documented the increasing international competition for scientist and engineers, and the importance of science, technology, engineering and mathematics ("STEMS") as drivers of the national and global economies. The June 2004 report of the President's Council of Advisors on Science and Technology (PCAST) on *Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities* (at http://www.ostp.gov/pcast/FINALPCASTSECAPABILITIESPACKAGE.pdf) cautions that the U.S. is falling behind other nations in STEM fields, and that this threatens the nation's leadership in innovation and the global economy.

The PCAST report notes that "Clearly stated, foreign students and scholars are critical to our national vitality," and that "The openness of our campuses to students, scholars, and faculty from all over the world is one of our greatest strengths, and is at the heart of the phenomenal success of the American research university..." PCAST also notes that "[w]hile U.S. students' interest in STEM careers is declining, foreign countries are significantly increasing the number of STEM graduates...of their universities, enabling them for the first time to attract technology-based jobs in very large numbers." This places the U.S. at serious risk of falling behind other nations in these fields, and ultimately of losing its leadership in innovation and the global economy. The PCAST report concludes that due to the trends discussed above, "our entire national innovation ecosystem is at risk. It would be difficult to overstate the importance of this issue." We join industry in this concern about the country's future competitiveness.

The recent report of the National Academy of Sciences Committee on Science, Engineering , and Public Policy (COSEPUP), *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States* (May 2005; available at http://www.nap.edu/books/0309096138/html/) elaborates on the concerns expressed by PCAST. The report finds that "Innovation is crucial to the success of the U.S. economy. To maintain excellence in S&E research, which fuels technologic innovation, the United States must be able to recruit talented people. A substantial proportion of those people—students, postdoctoral scholars, and researchers—come from other countries." Almost half the U.S. Nobel laureates in science fields since 1990 were foreign researchers (61 of 130). 16% (87 of 535) of the total Nobel prizes in science fields between 1907 and 2004 were credited to U.S. institutions and won by foreign researchers; see http://nobelprize.org/nobel/nobelmuseum/). The report also notes that "Other countries are expanding their technologic and educational capacities and creating more opportunities for participation by international students." COGR believes that we need to find a way to welcome and integrate these students, not to reject or alienate them.

The COSEPUP report contains much data on the participation of foreign nationals in U.S. science and engineering (S&E). For example, in 2003 foreign students earned 38% of the S&E doctorates and 58.9% of the engineering doctorates awarded by U.S. institutions. Temporary residents constituted 59% of S&E postdoctoral scholars in 2002. In FY 2003, there were 939, 216 foreign students and exchange visitors (F-1 and J-1 visa classes) in the U.S. in all fields. These included over 35, 000 from South Korea, over 20,000 each from India and China, and over 15,000 from Russia.

According to data from the Institute of International Education, there were over 260,000 foreign students (undergraduate and graduate) in S&E fields enrolled in universities in 2003/04 (see http://opendoors.iienetwork.org/?p=49936). Leading countries of origin were India, China, Korea, Japan and Canada (http://opendoors.iienetwork.org/?p=49933). As documented in the PCAST and COSEPUP reports, U.S. science and engineering is vitally dependent on these individuals. The reports also found no displacement effect on U.S. citizens.

However, evidence indicates that this talent source is declining. Recent data from the Council of Graduate Schools (CGS) International Graduate Admissions Survey documents a decline in foreign students. The CGS data show that U.S. international graduate applications for fall 2005 are down by 5 percent as compared to applications for fall 2004, which in turn declined 28 percent from the previous year. With regard to field of study, declines are shown in all fields of science and engineering. Engineering applications declined 36% from 2003 to 2004 and another 7% from 2004 to 2005. For physical sciences the declines were 22% and 3% respectively; for life sciences 24% and 1%; and for social sciences 20% and 4%.

The IG recommendations must be viewed in the context of their potential for further enhancing the perception or the reality that U.S. universities are less welcoming and less desirable for foreign students and researchers. COGR believes that the resulting loss of productivity and innovation would present a grave threat to U.S. national security.

2. Primary reliance should continue to be placed on the existing visa and classification process.

It is our understanding that when foreign students or other visitors apply to study or perform research in technology areas that may give rise to security concerns, concerned federal agencies advise the State Department as to whether individual clearances should be granted ("Visa Mantis"). The academic community has worked closely with government agencies including the State Department, Office of Science and Technology Policy and others over the past year to improve and make this process more effective and efficient. In addition, the Student and Exchange Visitor System (SEVIS) provides verification that individuals are pursuing the approved course of study or research. If, after screening a foreign student or researcher, our government approves the individual's entry into our country under a visa that permits study and research at a U.S. university, that individual should be permitted to join the academic research community and fully participate. No additional barriers should be imposed such as subsequently requiring export licenses to use research equipment or receive technology on its use as part of fundamental research.

Recently, COGR joined with 40 leading academic, science and engineering associations in recommending to the Department of State some additional improvements in the visa system. The May 18, 2005 statement also recommended that "the federal government should not require that export licenses be obtained for international scientists and engineers to use equipment required to conduct unclassified, fundamental research in the United States... Requiring such licenses would further discourage top international scientists and engineers from making the United States their destination, prompting them to seek research opportunities overseas."

Careful screening at the entry level, combined with the already existing export controls and classification options would present a more promising approach than implementing a burdensome and costly deemed export control regime. Should the government subsequently obtain information about a particular individual that raises concerns, the university should be notified as recommended in the CSIS White Paper.

3. The products of university generated fundamental research and the process for obtaining the research data are not separable.

The IG report asserts that confusion exists on the part of universities over the definition of use and implementation of controls associated with the use of equipment controlled for use technology under the EAR by foreign nationals conducting fundamental research on U.S. campuses. The IG maintains that technology relating to the use of controlled equipment—regardless of how use is defined—is subject to the deemed export provisions of the regulations (EAR 734.2(b)), even if the research being conducted with that equipment is fundamental. We disagree with the IG. This interpretation is not supported by the way in which fundamental research is conducted, irrespective of particular disciplines. While BIS indicated its agreement with that interpretation in its response to the IG's report, BIS had not previously embraced this interpretation, nor is it supported in the "Qs and As" in Supplement No. 1 to Part 734. The IG report itself notes that in BIS' interpretation, "the same definition of use does not seem to apply to "deemed exports." We urge BIS to reconsider before accepting this new interpretation.

The research process cannot be segmented as implied in the IG report. Whatever activities are included in "use" (e.g., operations, repair, etc.), fundamental research cannot be conducted without using equipment and conveying information visually, through demonstration or otherwise, on how to use equipment. The path to discovery and new knowledge and an individual's role in research and likelihood of receiving new use technology cannot be predicted. It does not matter whether a piece of equipment is controlled for some aspects of "use" technology and not others. As noted in the Summary, for the fundamental research exclusion from export controls to be meaningful, it must include the ability of researchers to freely use otherwise controlled equipment, to alter existing equipment when a new idea or theory arises, to create new equipment, to install, repair and otherwise deal with the equipment, and to freely convey information on how to do all of these activities during the research process.

Existing Commerce guidance does not provide support for the IG's interpretation. The reinterpretation by the IG would amount to a major change in midstream. Denying that this is a

change and minimizing its resulting impact is not an acceptable option. Current U.S. government policy provides that classification is the preferred, appropriate and prevalent mechanism for government control of fundamental research information. This policy is expressed in National Security Decision Directive (NSDD) 189 which was confirmed by the current Administration in 2001. That Directive provides that "No restriction may be placed upon the conduct or reporting of federally funded fundamental research that has not received national security classification, except as provided in applicable U.S. Statutes." The CSIS White Paper discusses the background of NSDD 189 and the inconsistency of the IG's recommendation with that policy directive.

4. The open campus research environment is different from that which characterizes most corporate research, and this difference needs to be recognized in considering security measures appropriate for universities.

As discussed above, there are many foreign nationals on U.S. university campuses and their contributions have been critical to the nation's innovation capacity, economic health and security. If we are to maintain the critically important open and free-flowing university research environment, universities must assume that any foreign student or researcher on campus may receive any controlled technology that exists on campus at any time.

Under the IG's interpretation of deemed export licensing requirements, universities would have to track and segregate foreign nationals from the rest of our campus communities and condition-limiting at worst, and significantly delaying at best- their participation in research, wherever they could encounter equipment controlled for use technology, regardless of the volume of such equipment. As indicated in #5 below, a substantial amount of equipment controlled for use technology is used in research at U.S. universities. Security procedures to restrict access to university laboratories would be needed. In practice, universities either will have to exclude foreign nationals from their campuses or implement security on their campus that resembles security in classified research. Experience with the recent new "select agent" regulations that apply to academic research indicates that many university researchers may not want to conduct research under conditions that restrict open collaboration. They will abandon pursuing such research, thus adversely impacting U.S. science. The experience of those few universities who conduct classified research has demonstrated that it must be done in controlled segregated facilities. This would fundamentally change the research environment and in our view undermine the success of U.S. academic research.

The only practical approach to maintaining an open, international research environment would be for universities to apply for deemed export licenses for all use controlled equipment for all foreign students and researchers on campus. The number of foreign nationals on campus, not the number of items of equipment controlled for use technology, would drive the number of licenses needed. This approach would significantly delay a foreign researcher's or student's research participation, and the effect is likely to be the same as a complete bar. Universities would expend significant resources in segregating foreign nationals from the research that proceeds while foreign nationals wait for export licenses. In the meantime, foreign nationals at U.S. universities would lose opportunities to participate. Under such constraints, the best and the brightest will pursue education and research outside the U.S.

5. Foreign nationals at U.S. universities use a substantial amount of equipment that is controlled for transfer of "use" technology to these foreign nationals.

A blind sample of COGR member universities indicated that they are pursuing fundamental research where foreign nationals have access to categories of equipment subject to technology controls including but not limited to ECCN's 2D101, 2E101, 2E301, 3E292, 6E101, and 6E201 for equipment such as chemical vapor deposition (CVD) furnaces, specialized cameras, oscilloscopes, certain sensors, carbon nanotubes, monitoring systems, lasers, pumps and specialized electronic equipment. Some of these categories are controlled for "use" technology transfers to every foreign national except those from Canada. There may also be equipment on campus controlled for use technology under categories 1E351, 2E301 and 9E102. In addition to what is noted above, every campus surveyed had thousands of pieces of equipment subject to "AT" controls for use technology. We recognize that this equipment is controlled for different aspects of use technology. However, university researchers may engage in all aspects of "use" as currently defined in the EAR as dictated by research needs.

We recognize that BIS' current interpretation is that the mere operation of equipment without access to any accompanying proprietary information would not trigger licensing requirements for "use" technology, but we are concerned that this interpretation would not permit additional instruction on campus on how to use the equipment. Moreover, while it is true that low-level equipment such as computers and GPS equipment frequently include publicly-available operating manuals, in our experience, many types of the highly sophisticated equipment on campus include proprietary operating manuals that do not meet the definition of "publicly available" under the EAR precisely because of specialized nature of the equipment.

6. Universities face a substantial burden simply in determining what equipment on their campuses may be subject to controls on transfer of "use" technology.

Universities typically have a substantial volume of equipment which would require determinations. A blind sample of COGR universities indicates that universities purchase significant amounts of research equipment. Some in the sample have 2,500 to more than 20,000 different types of equipment and as many as 50,000 individual pieces of equipment with an acquisition cost exceeding $5000 (the federal capitalization "threshold"), and acquire as many as 2,000 pieces of such equipment annually.

Each type of equipment must be reviewed individually to determine if technology controls apply to the equipment. Moreover, classifying individual pieces of equipment is a time-consuming process. Many manufacturers do not have the information readily available. University researchers, administrators and counsel must spend significant time reviewing the equipment and determining what technology controls would apply. One university received a commercial bid of $1.5M just to survey the equipment and develop a list of items controlled for use technology. This does not include the time necessary to make individual license determinations, complete the licenses, and follow-up on license implementation, which likely will be more time-consuming

and expensive than the classification of the equipment itself. Several universities have estimated the total direct costs of assessing existing inventories and applying for deemed export licenses at $5M per institution for the initial classification and licensing, with as much as $1M annually thereafter due to the constant changes in foreign nationals on campus and the constant addition of new equipment. The related facilities and administrative (indirect) costs are likely to add substantially to this number.

7. The IG report appears to confuse access to equipment with the type of technical information the Export Administration Regulations were designed to control through the deemed export provisions.

When considering "use," we understand BIS' interpretation is that mere operation of equipment without any transfer of controlled use technology does not require a license. This view appears consistent with BIS' December 6, 2004 advisory opinion that when equipment is open to all members of the public for public sale within the U.S., any technology that might be transferred to a foreign national purchaser through access to the equipment is deemed to be publicly available under Part 734 of the EAR, and thus not subject to the regulations. BIS should consider clarifying in the regulations that this interpretation is correct. Of course, if BIS interprets visual observation and visual and other demonstration of how to operate equipment controlled for use technology as conveyance of controlled use technology, the December 6, 2004 interpretation does not address, even partly, our concerns.

Another possible approach would be for Commerce to create a limited technology exception similar to the "TSR" exception, but one that is available for all nationalities and is limited to technology for the "use" of items controlled on the CCL and limited to "basic operations, maintenance and training." This would have the effect of carving out a subset of "use" technology from deemed export licensing requirements. Commerce could further limit this exception to "use" in conducting fundamental research.

8. Controlled "use technology" within the context of university fundamental research should be defined to encompass only information that is not generally available to the public in the U.S. without significant restrictions. The focus should be on situations where proprietary information is transferred on an exclusive basis or under a non-disclosure agreement that significantly restricts access.

The APNR indicated that BIS is interested in receiving alternative suggestions regarding the IG concerns. BIS should take into account that the deemed export concept applies to the transfer of information. This is especially important in considering the application of deemed export rules in the U.S. university setting where information dissemination is a core goal. Controlled "use technology" within the context of university fundamental research should be defined to encompass only information that is not generally available to the public in the U.S. without significant restrictions.

We believe deemed export requirements should not apply to actually publicly available technology that anyone can obtain in the U.S. marketplace, regardless of whether the current

EAR definition of "publicly available" technology applies. There are insufficient security benefits to justify controlling access by foreign nationals to such information at universities in view of the onerous burdens that would result, especially when such information is readily available in the U.S. This interpretation also would be more consistent with the core EAR concept that publicly available technology is outside of the scope of the export regulations.

An alternative approach that we propose is to define controlled "use" technology to encompass only proprietary information that is not generally available for free or for acquisition on a non-exclusive basis by willing purchasers in the U.S. Unless we have misunderstood, BIS has stated this interpretation verbally on a number of occasions, but we urge BIS to make this clarification in writing. Otherwise, U.S. policy is inconsistent with the reality of the marketplace, because many types of equipment that are controlled for use technology under the EAR, along with their user manuals, can be acquired on a non-exclusive basis by anyone in the U.S. In some cases, a license agreement must be entered into in order to ensure that the users of the technology pay to use it, but anyone is free to pay, execute the license and obtain the technology. Such equipment's use technology may not satisfy existing definitions of "publicly available" information because license conditions apply or the means of acquiring the use technology are not those currently specified in the EAR. However, there is no intention to restrict acquisition of the technology and the use technology is, to any common understanding of the concept, publicly available. This should be contrasted with use technology that is licensed on an exclusive basis or under non-disclosure agreements that restrict access to specified persons.

It is very important that in redefining controlled "use" technology, BIS should also confirm that technology arising during or resulting from the research process itself is within the scope of the fundamental research exclusion. Thus if a foreign national in the course of research modifies an item of equipment that is controlled for use technology for his/her specific research purposes, or fabricates a new apparatus that otherwise would be subject to export controls, and, in the process creates use technology, no licensable event has occurred and the created use technology is not controlled, so long as the foreign national has no access beforehand to significantly restricted controlled technology (as defined above) and the research results are ordinarily published. While we believe this is consistent with both the EAR and BIS' current interpretation, it would be helpful to confirm this in writing, perhaps through adding a "Q & A" to this effect in the Supplement to EAR Part 734.

9. The Department of Commerce should weigh carefully the constitutionality and practical implications of creating new regulations that discriminate based on place of birth.

Whenever the government makes a distinction based on national origin, strict judicial scrutiny applies because "national origin [is] so seldom relevant to achievement of any legitimate state interest that laws grounded in such considerations are deemed to reflect prejudice and antipathy." Such laws must be narrowly tailored to achieve a compelling government interest (City of Cleburne v. Cleburne Living Center, 473 U.S. 432, 440 (1985)).

In particular, national origin is a suspect class, and laws relying on or using nationality or national origin are subject to strict scrutiny and will only survive constitutional scrutiny if they

are precisely tailored to further a compelling government interest. Doe v. Plyler, 458 F. Supp. 569, 580 (E. Dist. Tx. 1978). See Also Huynh v. Carlucci, 679 F.Supp. 61, 66 (D.C. Dist. 1988), citing Graham v. Richardson, 403 US 365, 372 (1971), Korematsu v. United States, 323 U.S. 214, 216 (1944). ("Government action that classifies citizens on the grounds of national origin is inherently suspect, subject to strict scrutiny and thus can be sustained only if necessary to achieve a compelling state interest").

While national security in a general sense may be considered a "compelling government interest," the nature of the national security interest to be protected needs to be identified with some specificity, not merely by generalized concerns. In particular, classified information is already subject to strict and separate controls. Military technology and technology being developed under government contracts are subject to separate or additional requirements. What is at issue here is unclassified "dual use" technology that is controlled for export purposes because of the possibility that it could be used for improper purposes.

In addition, there is no evidence that the IG's proposal is narrowly tailored to achieve a specific goal. The IG Report provides no evidence, empirical or otherwise, that a person's national origin, as opposed to citizenship, is a factor in whether that person poses a threat to national security generally, let alone for any specific threat, or furthers another compelling government interest. There is a real question as to whether a blanket rule is overbroad when it is premised on the assumption that all individuals who were born in a particular foreign country, but who are no longer citizens of that country, are particularly likely to export sensitive use technology to that country against the interests of the U.S. and must be subject to licensing requirements to which others are not subject, to protect the national security. Presumably, there is a reason why an individual chooses no longer to be a citizen of his or her country of birth; and such individuals may be as likely less inclined, than more inclined, to travel to his or her country of birth. In today's world of easy intercontinental travel and internet communications, it is not clear why a person who foregoes citizenship of a country would be more likely than anyone else to travel to that country or to communicate with current citizens of that country against the interests of the U.S. It is also unclear if it is constitutionally permissible to assume that all individuals who are born in a particular country and who have foregone their citizenship of that country pose the same security risk.

Further, in today's globalized world, it would appear that the same logic could apply to any individual with extensive foreign ties, regardless of citizenship status. The IG report specifically mentions the example of a Canadian citizen of Iranian origin. However, such an individual may have any number of circumstances, such as one or both parents working in a consulate or embassy at the time the person was born, or temporarily working for an organization that provides international services or whose family moved to the current country of citizenship when the individual was a small child. While we believe that it is valid to take citizenship and residency into account in any decision on whether or not to grant a license, it is not clear why the country of origin would pose a particular concern in these and other similar scenarios. The IG appears to make the erroneous assumption that individuals have a lifelong allegiance to their countries of birth that will always take precedence over any allegiance they may have to their adopted countries.

Whether or not a distinction based on national origin would pass constitutional muster in the deemed export context, such a distinction seems to us to be illogical and overbroad.

Miscellaneous Other Comments

1. Q/A A(4) Under Publication of Technology

We agree with BIS's proposed clarification of the answer, with the caveat that BIS needs to further clarify and to state that no deemed export license is required for disclosure of controlled technology to a foreign national if, in doing so, the awardee complies with all specific national security controls in the government contract. At that point the information is no longer subject to EAR licensing requirements. Also, our understanding is that when approval is received for a specific disclosure, at that point the information to be disclosed is considered publicly available and exempt from the requirements.

2. Q/A D(1)Under Research, Correspondence and Informal Scientific Exchanges

The answer should be clarified along the lines suggested above if the work requires access to significantly restricted use technology for controlled equipment, assuming BIS clarifies the definition as suggested. Otherwise the answer is correct as currently stated in the Supplement.

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June 24, 2005

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Re: Revision and Clarification of Deemed Export Related Regulatory Requirements Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 (RIN 0694-AD29)

The Massachusetts Institute of Technology, like other leading research universities, contributes greatly to our nation's science and technology leadership through education of future leaders and high level research. The fundamental mission of MIT, which demonstrates our dedication to this goal, rests upon four values: transmission of knowledge through educational activities, creation of new knowledge through research and other scholarly activities, service to the nation, and service to humanity. The Institute is committed to providing the highest quality education, to generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the great challenges facing our nation and the world.

In this letter we delineate our concerns and recommendations regarding **Revision and Clarification of Deemed Export Related Regulatory Requirements** Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 RIN 0694-AD29. MIT greatly appreciates the Department of Commerce's willingness to solicit public comment through this Notice of Proposed Rule Making. The context of these comments is the overriding concern that impeding the free flow and unfettered pursuit of the highest quality research and education on our nation's university campuses will have deleterious effects on our nation's infrastructure, security and prosperity.

Recommendations

Our overarching recommendation is that the Bureau of Industry and Security (BIS) safeguard our ability to pursue and disseminate the results of fundamental research to the maximum extent possible. We believe that requiring universities to obtain licenses for personnel to carry out fundamental research would hinder research and create an unreasonable burden while affording negligible improvements to national security. We specifically provide the following five recommendations:

1. We strongly urge the BIS to engage the academic community in a process to determine a clear definition of "use technology" and to narrow that definition to respond to the most serious national security concerns and to eliminate any technology that is already broadly available. The BIS needs the input from technical experts in universities to determine and avoid the negative unintended consequences of these decisions. One way to approach this is to create an academic, industry and government advisory group to institutionalize this role.

2. We believe that the fundamental research exclusion should apply broadly to all facets of research, including the deemed export of technology. Our visa process allows that international students and scholars are cleared and admitted to pursue fundamental research; they should be covered by the fundamental research exclusion in their pursuit of that research. The key distinction should remain whether or not "the university or its researchers accept…restrictions on publication of scientific and technical information resulting from the project or activity" [724.8(b)(5)], as embodied in the current EAR (see Appendix A). We *urge* the BIS to preserve the exclusion available to openly publishable and broadly shared university research.

3. Any actions to restrict the deemed export of technology in the conduct of fundamental research should be very narrow and clearly defined. The proposed changes would do the opposite. If the determination of "use" technology rests on access to "proprietary information," it should only be narrowly applied to equipment carrying a significant security concern. It should not be the sole criterion. Information that can be obtained through purchase or request on a nonexclusive basis should be considered publicly available.

4. We reject the use of country of birth in applying export control regulations. To require the determination of country of birth would mean that virtually every international student or collaborator must provide proof of their birthplace prior to engaging in research. If the government decides such information is required, it should be gathered as part of the visa application process.

5. BIS proposes to change the definition of "use technology" by replacing "and" with "or" in the list of equipment-related activities for which the technology may be controlled (operation, installation, maintenance, repair, overhaul *and* [emphasis added] refurbishing). We believe that reliance on the "and" in deciding not to apply for deemed export licenses is not the central issue. Rather, the core issue is exactly what constitutes the "use technology" that BIS seeks to control.

We present more detailed comments and recommendations in Appendix A.

Academic Research Environment

The free flow of ideas and exchange of information is central to the closely coupled missions of research and education that set our nation's institutions of higher education apart as world leaders. The primary products of universities are new knowledge and trained students. The fact that research and education are more closely integrated across the disciplines than ever before fosters the transforming discoveries and innovations that flow from open interactions among students,

staff and faculty. Our laboratories thrive on the rapid, interdisciplinary and high level interchange between and among research groups. A requirement to control access to technology on basic facilities and equipment would fundamentally alter this process.

The basic discoveries of fundamental research are being translated into innovative and useful technologies. This engine of innovation creates breakthrough technology that keeps our nation at the forefront. Polices that stifle the free interchange among researcher collaborators will harm this national treasure. America's national and economic security depend on our standing as the destination of choice for the best students, visitors, collaborators and colleagues from around the world to study and conduct research. As a nation we are deeply dependent upon our ability to continue to attract and welcome the world's best young minds and intellectual leaders to our universities.

The primary effect of the proposed revision and clarification of deemed export regulatory requirements will be to require universities to seek licenses for legally admitted foreign students, scholars, faculty and staff to receive controlled technology on how to "operate, install, maintain, repair, overhaul and refurbish" a piece of controlled equipment within the United States. These requirements would cause universities to engage in a difficult and laborious categorization of thousands of pieces of equipment, to segregate numerous pieces of equipment, to require badges or other verification of authority to use that equipment. In addition, research would be placed on hold while licenses are obtained. Together, these kinds of processes would undermine the free flow of research and education that takes place daily on our campuses. Even a limited number of deemed export licenses would create a campus where access and activities will need to be restricted and monitored. These requirements would alter the fundamental research and education environment in ways that are likely to disrupt the culture of discovery and innovation and the welcoming, open community of scholarship.

Contributions from International Students and Scholars

Our institution and our nation have greatly benefited from the contributions of international students, scholars and visitors. Our foreign-born colleagues are among our greatest contributors to our science and technology leadership. To restrict their full participation in our research and educational activities would damage our ability to attract students and colleagues for collaborations and study in the U.S. Many researchers will elect to carry out their work in countries that compete with the U.S., but that do not require licenses to access critical technology on laboratory equipment and that have not slowed the pace of research through regulatory impediments. Overall, these restrictions would have a detrimental effect on the success of our research enterprise.

Many of our international students, who have pursued cutting edge research in our laboratories, with full access to technology, have remained in the United States and contributed greatly to our economy. Here are a few examples:

> **Kenan Sahin, Turkey** (SB 1963, MIT PhD 1969); Dr. Sahin is founder of Kenan Systems, which developed one of the key productivity advances in computer software, and provides software products for business management and decision support to single- and multi-service communications and energy companies worldwide. Kenan Systems was merged into Lucent Technologies and Dr. Sahin served as Vice President for Software Technologies at Lucent. Dr. Sahin is now the founder and president of TIAX LLC.
>
> **Fariborz Maseeh, Iran** (BS Portland State University, MIT Ph.D. 1990).

Dr. Masheeh created a company, IntelliSense to develop MEMS devices. In the mid-'90s he developed technology with Corning which ultimately led to his company being acquired by Corning for approximately $750M. IntelliSense reacquired its assets from Corning in 2003 and is now the leading supplier of MEMS solutions worldwide with users in over 20 countries.

Two international students from **India, Ganesh Venkataraman**, (MIT Ph.D. 1993) of Momenta and **Ram Sasisekharan** (B.S. Bangalore, 1985, Harvard Ph.D. 1992) of MIT remained in the U.S., gained permanent residency and cofounded Momenta Pharmaceuticals in 2001 with Robert Langer of MIT. This company is pursuing research in therapies for cardiovascular/thrombosis, glycoproteins, oncology, and non-invasive delivery of drugs. The Company's most advanced product candidate is M-Enoxaparin, a technology-enabled generic version of the most widely prescribed low molecular weight heparin (LMWH), Lovenox®. Momenta Pharmaceuticals (NASDAQ: MNTA) completed its public offering in 2004, and currently has a patent estate of over 100 patents and applications. In the statement filed with the SEC, Momenta reported $1.45 million in revenues in 2003. In a recent news article[1] Venkataraman said "It was one of my dreams to do something entrepreneurial. Both Ram and I are interested in seeing things come to life. That had been one of the dreams that brought us from India to here. We really want to translate research into products used to cure diseases."

To have discouraged these students in the pursuit of their research would have not only denied us the fruits of that research but also the great contributions they have made to our society after graduation. Other nations are vigorously investing in research and striving to attract the very best students; if restrictions in their research in the U.S. become too limiting, they will naturally go elsewhere.

MIT has 2723 international students, nearly all of whom are pursuing studies in science and engineering. Of those students, 311 of them are from China and 225 from India. The proposed interpretation would require licenses to be sought for these students to have access to some of the equipment they use in the course of their fundamental research activities. We currently have 26 students from Iran, 2 from Iraq, 5 from Syria and 1 from the Sudan. These students from "AT" countries would need significant numbers of licenses to pursue their research. These statistics are based on country of citizenship; we do not know the country of birth of our 2723 international students. To be required to seek licenses for students based on their country of birth would require us to *a priori* treat each international student and scholar as though they needed a license until we could verify their country of birth. This information should be available to those making visa decisions and not be required at the university laboratory level.

Unintended Consequences of Deemed Export Regulations on Equipment

It is important to think about the impact of such licenses on the United States' leadership in science and technology that is critical to our national security and economic prosperity. Cutting-edge research at MIT sometimes includes working with fledgling companies on new equipment; our researchers often help "beta-test" the newest technology. Designating some pieces of equipment as requiring licenses for use would have the deleterious effect of driving researchers to:

[1] "Momenta rakes in a sweet $19m" India New England, June 1, 2005

- buy lower grade (but not controlled) equipment and be less willing to work with smaller businesses or "beta-test" newer technologies.
- shun foreign students and postdoctoral scholars because it becomes too difficult to work with them, thereby decreasing our attractiveness to the best students and scholars from abroad.
- retreat from forefront research in critical areas because the regulations are too onerous.

All of these inevitabilities point to a loss in the preeminent position the US has enjoyed in fundamental research, discovery, and technological innovation.

One recent example comes to mind:

> An MIT team has made significant advances in the detection of explosives. This fundamental work has led to a collaboration with industry, resulting in actual sensors being rapidly deployed in Iraq to locate improvised explosive devices. In a recent paper published in Nature, the MIT team from Chemistry and Electrical Engineering demonstrated a significant breakthrough in the sensitivity of these materials. Their openly published, fundamental research[2] combined the chemical materials expertise with high-level optics to provide the basic knowledge needed to make electronic detection of TNT and other explosives possible with unparalleled sensitivity (even exceeding dogs). One postdoctoral associate making seminal contributions is now a permanent resident of the United States. He carried out much of this work as a citizen of China; had he not had access to technology on the facilities and equipment needed for this work it is not clear where the work or he himself would have gone.

We must ensure that export control policies do not undermine the open environment critical to the strength of our universities and research institutions, while achieving our legitimate national security goals.

Estimated Number of Licenses

We have attempted to estimate the number of "users" of equipment who could potentially be subject to deemed export licensing. One estimate is based on a top-down analysis, and the other is a bottom-up analysis that focuses on just two research laboratories (see Appendix B). Both analyses indicate that on the order of one thousand license applications per year would be required for just one university. There are over 100 research universities (so-called Research I, PhD-granting universities), both public and private, suggesting that the total number of licenses BIS would have to process would easily exceed 100,000. Of course, beyond the burdens placed on both the universities and BIS, the processing of licenses could have the effect of bringing much of the current university research to a grinding halt.

As in all of our interactions with the government, regulations and policies work best and are implemented most effectively when they are clearly defined and understood, and are narrowly shaped and applied to address a mutually identified problem or set of concerns.

Deemed export control policies should maintain the open atmosphere vital to our successful academic research enterprise. Even a limited number of deemed export licenses would create a

[2] Nature, April 14, 2005 "*Sensitivity gains in chemosensing by lasing action in organic polymers*" by Aimee Rose, Zhengguo Zhu, Conor F. Madigan, Timothy M. Swager & Vladimir Bulović

campus where access and activities will need to be restricted and monitored. These requirements would alter the fundamental research and education environment in ways that are likely to disrupt the culture of discovery and innovation.

We thank the Department of Commerce Bureau of Industry and Security for the opportunity to provide these comments. We understand the importance of maintaining our national security, and we look forward to helping the BIS develop mechanisms to provide that security without undermining the science and technology infrastructure that make our nation safe and strong.

Sincerely,

Susan Hockfield

SH/lsp

MIT Response to DoC Advanced Notice of Proposed Rulemaking
Appendix A

Detailed Comments and Recommendations

MIT objects to BIS's proposed change to the Answer to Question D(1) on several grounds, as itemized below.

1.0 We find the proposed language to be confusing and seemingly contradictory: *whereas no license is required for the transfer of technology to conduct "fundamental research," a license may be required if, in conducting the fundamental research, the foreign graduate student needs access to technology to "use" equipment if the export of the equipment to the student would require a license under the EAR.* Because the only technology controlled by the EAR is that associated with controlled equipment, the second part of this answer would seem to exactly contradict the first part. The effect of this change would be to eviscerate that fundamental research exclusion.

2.0) Fundamental Research Exclusion (FRE): The proposed rule changes and "clarifications" are contrary to (i) the intent of the FRE, (ii) letter of the FRE, and (iii) to the application and practice of DoC regarding deemed exports over a decade.

2.1) Intent of FRE: NSDD189 and 2001 reaffirmation by then National Security Advisor Rice clearly state the intention of limiting restrictions on fundamental research to classification and similar strong national security controls. These documents also clearly recognize that overly restricting FR will diminish the nation's national security and economic competitiveness.

The OIG and BIS appear to draw a distinction between the products of research on the one hand, to which the FRE can be applied, and the conduct of that research on the other hand. We argue that the intent of NSDD189, and Dr. Rice's reaffirmation, were intended to encompass *both* the *conduct* and the *products* of research. These two aspects are explicitly linked in the closing sentence of NSDD 189:

> "No restriction may be placed upon the conduct or reporting of federally funded fundament research that has not received national security classification, except as provided in applicable U.S. Statutes." (NSDD 189)

2.2) Letter of FRE: Part 734.3 (b) lists items that "are *not* [emphasis in original] subject to the EAR" as including "(3) Publicly available technology and software…, that (ii) Arise during, or result from fundamental research, as described in 734.8 of this part;"

Therefore, 734.3 (b)(3) notes *two* kinds of technology not subject to EAR. The term "results from fundamental research' captures all technology that is a "consequence of,"

"issues from" is the "fruit of" or the "outcome of" fundamental research (Mirriam-Webster Online Dictionary). The phrase "publicly available technology and software that ... arise during...fundamental research" captures technology that "comes into being *or to attention*" (Mirriam Webster Online Dictionary [emphasis added]) in the course of conducting the fundamental research.

We argue that use technology of controlled equipment used in the conduct of fundamental research "arises" ("comes to attention of the researcher") as part of that research and, therefore, is not subject to the EAR as stated to Part 734.3 (b)(3).

Furthermore, we argue that both the Q&A clarifications of the EAR in Supplement No. 1 to Part 734 and BIS past practice for more than a decade are consistent with this interpretation. Question D(1) briefly and unequivocally states that no license is required for a foreign graduate student to work on FR in a laboratory, and is totally silent on any suggestion that deemed export of controlled technologies used in the conduct of research may require a license (the OIG and BIS now propose to alter the answer to this question, thereby adding a new restriction to the fundamental research exclusion). Question D(2) explicitly addresses the transfer of proprietary information from a company to a university as being covered by the FRE so long as no publication restrictions are placed; D(2) states:

> "The EAR do not cover the disclosure of information to any scientists, engineers, or students at a U.S. university in the course of industry-university research collaboration under specific arrangements between the firm and the university, provided these arrangements do not permit the sponsor to withhold from publication any of the information that he provides to the researchers." (Supp. 1 to Part 734; D(2))

Therefore, the standard has been whether or not the technology carries restrictions on publication, not whether or not it might be controlled for export.

2.3) Practice of BIS: As for the practice of BIS over the past decade, we understand that BIS receives approximately 1000 requests per annum for deemed export licenses but reports that no more than a few, if any, are received from U.S. universities. Because it is well known that many U.S. universities are engaged in advanced research using advanced equipment and materials, some of which are controlled by the EAR, we can only conclude that the practice of BIS effectively acknowledged that technology associated with fundamental university research was not subject to the EAR, consistent with our interpretation of 734.3 (b)(3)(ii).

We argue that strict interpretation of the deemed export control of technology in the case of fundamental research would also be incommensurate with the clear absence of control in the case of education instruction (Parts 734.3 (b)(3)(iii) and 734.9). The Q&A is again clear on this point (Supplement No. 1 to Part 734, Section C). For example:

> Question C(1): I teach a university graduate course on design and manufacture of very high-speed integrated circuitry. Many of the students are foreigners. Do I need a license to teach his course?
> Anwer: No. Release of information by instruction in catalog courses and associated teaching laboratories of academic institutions is not subject to the EAR (§734.9 of this part).

Questions C(2) through C(5) further reinforce this interpretation.

3.0) Definition of "use technology."

A broad interpretation of "use technology" would appear to include even the most basic information about how to turn on, adjust, and operate a piece of controlled equipment. The OIG report intimates that any information about a piece of controlled equipment constitutes "use technology" in it's comment that "when equipment is used by foreign nationals at a U.S. university or federal research facility it is most likely accompanied by some transmittal of use or other information or instruction constituting 'technology.'" On the other hand, much of this information is readily available within the U.S. to any purchaser (e.g. operations manuals routinely shipped with a product or available at a nominal price) or openly available (e.g. down-loadable from a manufacturers web site by anyone in the world – often in a wide variety of languages).

As noted in section 1.2 above, §734 and its supplemental Q&A make clear that technology in the context of fundamental research is *not* subject to the EAR unless restrictions are placed on publication of the research. We recommend that in revising the answer to question D(1), BIS make this distinction explicit.

Beyond the definition of "use technology," Part 734.2 (b)(3) defines the "release" of technology to include

> "(i) visual inspection by foreign nationals of U.S.-origin equipment and facilities;
> (ii) Oral exchanges of information in the United States or abroad; or
> (iii) The application to situations abroad of personal knowledge or technical experience acquired in the United States."

In the absence of the fundamental research exclusion item (i) would seem to require sequestration of all controlled U.S.-origin equipment from the sight of foreign nationals, a requirement that would significantly impede forefront university research as it is carried out today.

We recommend that BIS clarify this point with an appropriate Q&A reaffirming that simple visual access to controlled equipment in the conduct of fundamental research is not subject to the EAR, per. §734.3 (b).

MIT Response to DoC Advanced Notice of Proposed Rulemaking

Appendix B

A.1 Estimates of numbers of licenses required by proposed definitions of "use technology."

We have attempted to estimate the number of "users" of equipment who could potentially be subject to deemed export licensing. One estimate is based on a top-down analysis, and the other is a bottom-up analysis that focuses on just two research laboratories.

Top-Down:

MIT is home to approximately 2700 International Students (roughly 2350 graduate students and 350 undergraduates) and 1600 International Scholars (visiting faculty, post-doctoral scientists and researchers). This gives a total population of 4300 foreign persons, nearly all of whom are in fields of science and/or engineering. Over 40% of these come from Asia, and about 5% from the Middle East.

The MIT Property Office tracks approximately 95,000 pieces of equipment, including electronic, mechanical, chemical, and biological instruments of all kinds. On average, 5,000 items are added each year, and a comparable number retired. The nature of our research demands that at least some of this equipment have the kind of advanced capabilities that are likely to make many of them subject to EAR controls for the deemed export of associated "technology." Even if only 0.1% of the equipment is subject to controls, it represents ~100 items. If only 2% of the international students need to "use" the equipment, it would represent a potential for ~1000 license applications.

Students from countries listed on the AT (Anti-Terrorism) list are particularly problematic. For example, ECCN 3A992 controls "General purpose electronic equipment not controlled by 3A002" including "a. electronic test equipment n.e.s." [n.e.s. = not elsewhere specified]." This overly broad definition suggests that any student from a listed country (who, we note, will already have passed a Visa Mantis clearance process) will require licenses simply to "use" the many pieces of basic and readily available electronics found in nearly every laboratory. Similar controls apply in other categories as well. From MIT alone, this would be likely to require hundreds of license applications per year.

Bottom-up:

Laboratory #1:
One interdepartmental laboratory houses approximately three dozen pieces of equipment used to process microstructures, microelectronics, photonic elements, and to apply thin

coatings, or make precision measurements. A first pass through the extensive ECCN definitions of Category 2, suggest that as many as 6 to 12 of these tools might have parameters that would cause them to be controlled. Associated technologies for most of these are controlled for National Security (NS), which affects a large list of countries, as well as for Anti Terrorism (AT).

This laboratory is a user-facility, which services a large number of researchers in many departments across the campus. Approximately 350 students and post-doctoral researchers make use of equipment in this laboratory each year. Since roughly 40% of our student/scholar population is international, the number of foreign persons using equipment in this laboratory is approximately 140. Since most processes require multiple pieces of equipment, one could assume that, some 100 foreign persons would "use" roughly 3 to 6 pieces of controlled equipment. With the proposed BIS changes to the EAR and particularly the proposed *Answer to Question D(1),* and the definition of "use technology," the activities in this laboratory would result in an average of approximately 500 licenses. Aside from the logistical burden, this would impose a tremendous negative effect on the research in this laboratory due to delays and uncertainties associated with the licensing process.

Laboratory #2:
In contrast to laboratory #1, this example deals with the research groups of six individual faculty members working in the areas of advanced optics, electronics and communications. These labs contain at least 7 oscilloscopes with characteristics that place them under the controls of ECCCN 3A292, for which there are associated technologies controlled under 3E292 for NP and AT countries. At present, there are roughly 8 foreign students/scholars working in these laboratories, at least a few of whom would likely require licenses in order to "use" the oscilloscopes. So this one set of labs would likely require roughly six licenses per year.

A.2 Estimates of Costs of Categorizing and Licensing

Our experience in preparing these comments shows that the cost of categorizing the more than 100,000 pieces of equipment and kinds of materials used in the conduct of fundamental research at MIT would be very significant. An initial pass through the entire list, allowing only 10 min per item to assess whether or not it *might* be controlled, would require 8 py (person-years). If 10% require greater analysis to ascertain the level of control (say an average of 2 hr per item), and only 1% require deeper analysis (say an average of 4 hr per item), then a total of 20 py would be needed. The analysts would need considerable technical expertise. A conservative cost for the initial categorization would be between $2M and $3M for this university alone. To this would be added the cost of querying individual researchers about materials, establishing which graduate students are associated with which pieces of equipment, etc. Nation-wide, the cost would easily exceed $200 - $300M.

The ongoing costs are equally impressive. Taking an estimate of 1000 licenses/yr requiring, say 20 hours each for preparation, processing and tracking, and categorization of 5000 new pieces of equipment/yr, the steady state cost to this university would be in excess of 10 py or over $1M/yr. Nation-wide this would mean in excess of $100M/yr.

WAKE FOREST
UNIVERSITY
SCHOOL of MEDICINE
THE BOWMAN GRAY CAMPUS

William B. Applegate, M.D., M.P.H.
Dean and Senior Vice President
for Health Sciences

June 24, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

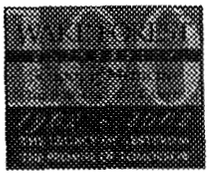
ATTN: RIN 0694-AD29

Dear Mr. Lopes:

This letter responds to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) asking for comments on the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

The Wake Forest University School of Medicine is a research intensive institution that offers research training and employment to foreign nationals and that heavily employs advanced equipment that would fall under the proposed rules. Wake Forest believes that the changes recommended by the Commerce Department Inspector General report (IPE-16176, March 2004) are based on misunderstandings of the nature of fundamental research carried out at universities, and if implemented, would create a great deal of harm without any guarantees of an increase in the security of the United States. Ultimately, these changes would not only adversely affect university research but could also adversely affect the nation's world leadership in innovation, higher education, and the global economy, and consequently, our national security. We therefore ask that BIS reconsider accepting the IG's interpretation of the scope of the fundamental research exclusion from export controls and to clarify the export regulations in a number of ways as discussed blow.

Wake Forest is committed to helping to protect the country against potential threats, and we agree that certain information and technology should be carefully controlled. At the same time, we believe it is prudent not to implement new requirements before having undertaken a careful cost-benefit analysis. This is particularly important with this case because the hopes for incremental gains in security from the changes proposed by the IG have not been identified or verified in any way, but the additional burdens can be clearly demonstrated.



Wake Forest University Health Sciences

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Our concerns about the IG recommendations are summarized below.

1. Implementation of the IG recommendations will adversely affect Wake Forest because we will have to become far less welcoming to foreign students and researchers. Even the perception that we are unwelcoming can discourage qualified and talented foreign researchers from coming to Wake Forest, thereby decreasing our competitiveness, along with the competitiveness of our country's entire basic research enterprise. It is clear to us that the contributions of foreign students and scholars are critically important to U.S. science and engineering and to our national innovation capability.

2. The existing visa process should continue to be the primary mechanism to exclude from the U.S. those foreign nationals who may actually threaten U.S. security. The classification process should continue to be restricted to the limited subset of university research that may pose real security threats. Importantly, the IG report provides no evidence that the existing visa and classification processes fail to prevent transfer of sensitive technologies. There is no mention of even a single example where an inappropriate transfer has occurred. Moreover, the visa screening process is under ongoing review and improvement to make it more effective and efficient and is capable of addressing any security issues posed by foreign national researchers.

3. Wake Forest believes that the IG may not fully appreciate and understand the nature of fundamental academic research and does not agree with the IG's premise that the products of fundamental academic research and the process for obtaining the research results are separable. Academic research could not take place without the use of equipment and the necessary conveyance of information on how to use that equipment. The only reasonable interpretation of the fundamental research provision in the Export Administration Regulations (EAR) is that it includes the right for foreign students and researchers to use, alter and create, and to receive *publicly available* information on how to use, alter and create controlled equipment while conducting fundamental research. The IG position vitiates the fundamental research exclusion and will create innumerable problems for Wake Forest with no apparent gain in national security. We therefore ask BIS to reconsider its interpretation with regard to the proper scope of fundamental research. Acceptance of the IG's position will substantially changes universities' understanding and Commerce's administration of the present rules. The costs of those changes have yet to be estimated.

4. Wake Forest has for many decades worked to create an open, collaborative campus research environment that is geared towards fostering both discovery and the wide dissemination of new knowledge. This environment is critically different from industry in a number of ways setting it apart from one that characterizes most corporate research environments. A variety of federal policies recognize this difference (e.g. Federal Acquisition Regulations, Office of Management and Budget cost principles as

well as the export regulations). Thus, security measures suitable for industry are not appropriate for the university environment. Acceptance of the IG recommendations would alter the whole context of university fundamental research in critical ways, delaying or precluding members of research teams from freely visiting each other's laboratories, participating in urgent work with equipment, and conveying ideas and information, without constraint. All these activities, which are core components of the university environment, have been demonstrated to be critical for innovation. Implementation of the IG recommendations would not only require costly security measures for which Wake Forest has no source of funding, but it would destroy the open, international and collaborative research environment we have worked so hard to create. It is this environment both on our campus and on the campus of other universities that has led to our country's preeminence in the development of new technology.

5. The requested projection of how much equipment with sensitive technologies would be subject to licensing at universities would not only require an expensive analysis of the thousands of pieces of equipment now used in our labs, but it would almost certainly be inaccurate because of the lack of clarity in the current regulations on "use technology." In addition, it's difficult to define in advance the specific roles individuals will eventually play in research or when or how they may receive controlled technology. Given the open spontaneous campus research environment, universities may need to assume that any foreign student or researcher may receive controlled technology at any time. This would appear to mean that we would have to obtain, and DoC would have to be in a position to grant, licenses for every foreign national at our institution.

6. The administrative burdens and costs for universities are based on both assembling the inventory of potentially sensitive equipment and on the determination of whether each item of equipment to be used in research would be controlled for use technology. We have thousands of pieces of research equipment in our inventory, and many hundreds of new pieces, most with cutting edge technology, are acquired each year. Each item of equipment would need to be evaluated for controls in relation to each foreign student and researcher on campus because any member of the campus community could encounter and receive use technology relating to any piece of equipment. The alternative is to destroy the open, collaborative environment that has already led to so much discovery.

7. The IG report appears to confuse "use" of equipment with access to technical information covered by the deemed export control regulations. It is not the nature of the use of the equipment but the transfer of certain use technology that is the focus of deemed export concerns. Mere operation of equipment without any transfer of controlled use technology should not require a license. We urge the BIS staff to clarify this distinction.

8. In considering an appropriate definition of "deemed exports through controlled use technology," BIS should focus on situations where proprietary information (e.g. source code, blueprints or engineering designs) is transferred on an exclusive basis or under a non-disclosure agreement that restricts access to a limited group of individuals. In such cases, a foreign national performing U.S. university fundamental research involving access to such information would have access to information that clearly is not publicly available, but would be controlled, i.e. pursuant to confidential non-disclosure

agreements. This is not the case for most normal "use" of equipment, which occurs without any of the kinds of transfers described above.

9. The IG's recommendation that deemed export license requirements be based on a foreign national's country of origin rather than on the individual's most recent country of citizenship or permanent residency should be reconsidered. It will raise questions with regard to constitutionally proscribed national origin discrimination and may not be legally defensible. In any event, it seems to lack strong logic because it is based on the erroneous assumption that individuals retain a lifelong allegiance to their countries of birth that will always take precedence over their adopted countries, and that a foreign-born person is more likely to export technology. Universities do not presently track this information, and would incur significant costs and burdens in doing so. We question both the legality and the logic of such a requirement.

We hope that BIS will consider our concerns, particularly with regard to assessing the burdens of implementing the IG recommendations versus the benefits achieved. Wake Forest holds the security of the nation among our highest priorities, and we wish to continue to do our part to support national security. However, we believe that the implications of acceptance of the IG's position coupled with the lack of clarity in the current regulations threaten this objective. We hope that BIS will carefully consider the options discussed above.

We appreciate the opportunity to comment.

Sincerely,

William B. Applegate, M.D., M.P.H.
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24 June 2005

Mr. Alex Lopes, Director
Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Attn: RIN 0694-AD29

Dear Mr. Lopes:

We appreciate the opportunity to provide comments in response to the referenced Advance Notice of Proposed Rulemaking (ANPR) relating to the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

As a member institution of the Council of Governmental Relations (COGR), we endorse the comments made in its response to the ANPR and, as a result, will limit our comments.

First, let me state that we recognize and support the government goal of ensuring homeland security and, to the extent that we can contribute to the well-being of the nation, we will. However, we do not agree that the objective of ensuring homeland security will be furthered by adoption of the IG's recommendations. What we do believe is that should the IG's recommendations be adopted, the fundamental nature of research activities at U.S. universities will be altered in a manner that will significantly negatively impact the overall advancement of fundamental research, the education of the next generation of scientists and scholars, and, ultimately, our national competitiveness.

No doubt, one of the most difficult tasks in evaluating the impact of the IG's recommendations is that of quantifying that impact. I present below some facts specific to The University of Texas Health Science Center at San Antonio that may provide you some insight into our institution and allow you a context in which to evaluate the consequences of the proposed changes.

1. The Health Science Center is a research-intensive institution; our sponsored research and research related expenditures totaled approximately $105 million in Fiscal Year 2004 and will be greater than that amount when our Fiscal Year 2005 is completed. We have in excess of 400 students, faculty, and visitors who are foreign nationals on our campus at any one time.

2. At present, we have over 5,000 pieces of capital equipment (capitalization value of $5,000). The majority of that equipment resides in our laboratories and is used in the conduct of fundamental research.

3. In reviewing our capital equipment acquisitions since January 1, 2005, we determined that we have purchased over one-hundred fifty pieces. A cursory review of that list indicated that fourteen of those items could be subject to control. Those fourteen pieces were acquired individually for at least ten different investigators, each of whom most likely has any number of foreign students in their various laboratories.

The above information should provide you an insight into the task that would face us should licensing requirements for use of controlled equipment by foreign students be promulgated—identification of equipment, identification of users, application for licenses, and physical security of controlled equipment are just a few examples of these tasks. Costing and time issues aside (both of which will be significant to ensure compliance), placing licensing restrictions on controlled equipment will inhibit our ability to freely exchange information among all our scientists and will produce an environment for our students that will impede their intellectual curiosity. As a result, we believe the conduct of research at the highest levels of excellence will be impeded as our scientists will necessarily spend more time determining who has access to what equipment and less time on the cutting edge of science.

Along with our sister institutions, we appeal to the Department of Commerce to consider the recommendations of COGR and reconsider adoption of requirements that would greatly increase the administrative burden of universities, serve to erode the very nature of research collaboration that we have tried to preserve for the betterment of science, and discourage the beneficial exchange that has taken place at our institution and all institutions around the country with foreign scientists.

Again, I thank you for the opportunity to comment.

Sincerely,

Brian Herman

Brian A. Herman, Ph.D.
Vice President for Research

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Jared L. Cohon
President

June 24, 2005

Secretary Carlos M. Gutierrez
Office of the Secretary
U.S. Department of Commerce
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Washington DC 20230

Re: **Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, Mar. 28, 2005)**

Dear Secretary Gutierrez:

Carnegie Mellon University ("CMU") appreciates the opportunity to comment on the above-captioned advance notice of proposed rulemaking ("Notice"). CMU is an internationally recognized institution with a distinctive mix of world-class educational and research programs in computer science, robotics, engineering, supercomputing, the sciences, business, public policy, fine arts, and the humanities. More than 8000 undergraduate and graduate students at CMU receive an education characterized by its focus on creating and implementing solutions to solve real problems, interdisciplinary collaboration, and innovation.

Although the Notice is relatively narrow in scope, it has broad—indeed, fundamental—implications for our nation and its educational institutions. This country's global leadership in technological advancement has been driven in significant part by the presence here of scientists and engineers who were born elsewhere, and by the relatively free flow of ideas into and out of our borders. Conversely, science in such closed societies as the former Soviet Union has suffered grievously because of those governments' unwillingness to allow scientists and their ideas to flow freely into and out of the country. In the words of Secretary of State Rice, "[f]oreign nationals play an essential role in fundamental research at universities in the United States, and such research promotes our national economic welfare as well as our national security."[1]

A report issued in May 2005 by The National Academies—"Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States" (2005) ("NA Report")—underscores these facts. In 2003, for example, foreign students earned thirty-eight percent of science and engineering ("S&E") doctorates and nearly sixty percent of the engineering doctorates awarded in the United States. NA Report, at 1. These kinds of individuals "are integral to the US S&E enterprise" and the global competition for them is growing sharply. NA Report at 2, 4. Yet our country is making it more difficult for foreign individuals to come here to study and work, and domestic students are showing decreasing

[1] Letter from Condoleezza Rice, Ass't to the President for Nat'l Security Affairs, to Dr. Charles M. Vest, Pres., Mass. Inst. of Technology (Oct. 13, 2004), at 1.

interest in S&E as a career path. NA Report at 2. Although the NA Report focuses principally on our visa and immigration policies, it also observes that deemed export restrictions are "causing immense frustration." NA Report at 77.

The good news is that "[m]any international students and scholars who come to the United States desire to and do stay after their studies and training are completed," and that "[t]hose who return home often maintain collaboration with scientists and engineers in the United States and take with them a better understanding of the US culture, research, and political system." NA Report at 5. C.D. Mote, Jr., President of the University of Maryland, pointed out at the May 6, 2005 National Academies forum on the Notice that more than half of his institution's engineering faculty were born outside the United States.

We have seen at CMU that the tightening of United States visa policies since September 11, 2001, together with the deemed export policy—whose further constriction is presaged by the Notice—already have had a significant negative effect on the ability and desire of talented foreign persons to come here to study. Presumably the same is true for foreigners who might wish to come to the United States (or remain here after graduation) to work. Foreigners also are afraid to come here for fear that if they leave for a conference or a visit to their families, they will not be permitted to return.

These policies also are leading companies whose research and development activity hitherto has been based in the United States to begin conducting that work offshore, where it is easier to make use of intelligent, capable individuals who do not happen to be "United States persons."[2] Indeed, CMU already has been told in one instance that because of United States export restrictions, we probably will not be permitted to collaborate with an *offshore* R&D facility that's doing the kind of work that normally would have been conducted domestically in the past. The people seeking changes like those proposed in the Notice hope thereby to ensure that "American" knowledge remains here. In fact, though, the changes will have the opposite effect because they will discourage smart people from coming here to *create* "American" knowledge and will encourage businesses to establish their R&D facilities *outside* the United States.

Doubtless some S&E students who come here do so wholly or partly to acquire technology that they intend to take back home. In our experience, however, and as detailed below, such individuals are far fewer in number than those who come because they want to live, work, and raise their children in the United States. By tightening our visa policies and considering export control policies such as those espoused in the Notice, we are discouraging *all* such individuals from coming here and thus are throwing the baby out with the bath water.

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[2] *See* "Sun Microsystems to Expand Overseas," N.Y. Times, May 7, 2005, at B4:1 (reporting Sun Microsystems' decision to expand its research and development facilities in Bangalore, Beijing, St. Petersburg, and Prague); D. Vise, "Gates Cites Hiring Woes, Criticizes Visa Restrictions," Wash. Post, Apr. 28, 2005, at E5 (noting "difficulty filling computer jobs in the United States," in part due to "tight visa restrictions on foreign workers"); Ofc. of Nat'l Counterintelligence Executive, Ann. Rep. to Congress on Foreign Economic Collection and Industrial Espionage—2004," at xi (noting U.S. firms' increasing conduct of R&D in offshore locations).

CMU offers as a case study our Electrical and Computer Engineering Department ("ECE"). ECE represents about ten percent of CMU's size and funding, and has about 300 foreign nationals as graduate students. About half these individuals have green cards and half are here on visas. ECE knows the whereabouts of approximately seventy percent of its alumni for the decade from 1995 through 2004. Taking China as an example, 116 alumni came from there but our records show only eighteen as being there now. Extrapolating from the latter figure to take into account that about thirty percent are unaccounted for, we reasonably can conclude that only twenty-six of the 116, or twenty-two percent, are in China. Overall foreign-student statistics yield similar results. Four hundred ninety-four of ECE's graduates during the ten-year period came from outside the United States. Applying the thirty percent "missing persons" discount factor, we would expect to know the whereabouts of 348 of these graduates. Our records place 211, or more than sixty percent of 348, in the United States.

That said, we turn to the specifics of the Notice. In essence it proposes three changes in the deemed export provisions of the Export Administration Regulations ("EAR").

Definition of "use" technology. More than three dozen Export Control Classification Numbers ("ECCNs") control "use" technology for equipment subject to Commerce Department controls.[3] These are *not* restrictions on access to equipment; rather, they control the transfer of the technology one needs to make use of the equipment. The existing definition of "use" is phrased conjunctively and means "[o]peration, installation (including on-site installation), maintenance (checking), repair, overhaul *and* refurbishing."[4]

The Notice, expressing concern that some have interpreted the existing definition as not being triggered unless the foreign person is receiving data about *all* the activities listed, would substitute "or" for "and" in the definition of "use" and would state that the definition covers technology for "all" aspects of use:

> "Use". * * * Means *all* aspects of "use," such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, *or* refurbishing.[5]

A related part of the Notice would revise a frequently asked question in the EAR (Question D(1)) to state that even if a student is conducting fundamental research, a deemed export license may be required if she is to receive "use" technology that would require a license to her home country.[6]

The "use" proposal raises at least one significant policy issue and one significant practical issue. The practical issue is that each university would be required to conduct a

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[3] These are ECCNs 1E002, 1E101, 1E201, 1E994, 2E101, 2E201, 2E290, 2E301, 2E983, 2E991, 2E994, 3E101, 3E102, 3E201, 3E292, 3E980, 3E991, 4E001, 4E980, 4E992, 5E001, 5E101, 5E991, 5E002, 5E992, 6E003, 6E101, 6E201, 6E991, 7E003, 7E101, 7E994, 8E002, 8E992, 9E990, 9E991, and 9E993.

[4] 15 C.F.R. § 772.1 (2005) (emphasis added).

[5] 70 Fed. Reg. 15607, 15608 (Mar. 28, 2005) (emphasis added).

[6] *Id.* at 15609.

complete inventory of all equipment in its open laboratories and to develop, for each item of equipment, a list of countries to which "use" technology relating to that equipment is controlled. In CMU's case we are speaking—conservatively—of perhaps 40,000 pieces of individual equipment, with new and different models and types of equipment being added daily. The university also would need to ascertain—again, for *each individual* piece of equipment—the countries to which the transfer of "use" technology is controlled but for which a "license exception" is available. These two exercises alone would consume more than twenty worker-years, not to mention the additional time and effort required to create a tracking database, contact persons, and departmental monitors. Perhaps most onerous and unworkable of all, the university then would need to figure out how to keep students from the "wrong" countries from using—or more precisely, *being taught how to use*—each individual piece of equipment whose "use" technology is controlled to *any* country from which students at the university come. The alternative to restricting access would be the burden of obtaining a license for each individual who required access to the "use" technology. Given that (1) at least some of our faculty and students come from embargoed countries, (2) one-quarter of our student body comprises foreign persons (i.e., non-green card holders), and (3) forty percent of our graduate students are foreign persons, these restrictions would cover a considerable proportion of the equipment that is housed in our open laboratories and would require an astounding amount of labor for compliance.

Moreover, a CMU student, even if she is working principally in one particular laboratory, has the right—a right that is essential to any research university—to use any equipment in any laboratory on our campus.[7] Moreover, it is a standard expectation that a researcher will learn how her equipment works, how to maintain and repair that equipment, and—in what often is the key to new discoveries—how to *modify* that equipment so she can make new kinds of measurements. That is how much scientific progress comes about.

The policy issue, of course, is the fact that the likely effect of enforcing the transfer of "use" technology in the fundamental research setting will be to force such research off the open campuses and out of the open labs. It would deprive many foreign students of the opportunity to be educated at American universities and would further exacerbate the post-9/11, post-visa-tightening diversion of research and foreign-born researchers from the United States. A June 2005 white paper issued by the Center for Strategic and International Studies points out that only a handful of countries have deemed export regimes;[8] thus foreign students who are discouraged from coming to the United States should have little difficulty in finding suitable educational opportunities elsewhere.[9]

Telling students that they don't need a license to conduct fundamental research at CMU but that they *do* need one to use CMU's equipment is like telling them that they are free to swim

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[7] CMU research whose output will be subject to export controls and will not constitute fundamental research [normally] is conducted off campus.

[8] Center for Strategic & Int'l Studies, Comm'n on Scientific Communication & Nat'l Security, "Security Controls on Scientific Information and the Conduct of Scientific Research," at 11 & n. 20 (2005) ("CSIS White Paper").

[9] Robert M. Gates, "_____," N.Y. Times, Mar. 31, 2004 (noting that universities in such countries as Australia, Britain, and France have been quick to take advantage of tighter U.S. restrictions on foreign students). Dr. Gates is President of Texas A&M University and a former Director of Central Intelligence.

in the Potomac River so long as they don't get wet. Notwithstanding niceties about the disjunctive versus the conjunctive, the proposal would undermine the principle that fundamental research is important to keeping our society and its institutions strong (and probably is protected by the First Amendment as well).

Aside from the substantive effect of the proposed regulatory revision, the requirement for the inventories and restrictions outlined above will have a profound and disruptive effect.

We accordingly recommend that the conduct of fundamental research carry with it the right to receive "use" technology for all equipment that is subject to the EAR and necessary or appropriate to such research.

Use of country of birth, rather than country of most recent citizenship or permanent residence, as criterion for deemed export licensing. The proposal set out in the Notice would measure the need for and propriety of a deemed export license against the individual foreign person's country of birth. Currently the criterion is the most recent country of citizenship or permanent residence.

The proposal would be all but impossible to enforce. It is fairly easy to tell from an individual's passport and other documents where he currently has residence or citizenship but quite a different matter to ascertain where he was born. Moreover, it is unclear what good it would do the United States government to know that a person was born in a "questionable" country.

Acting Under Secretary for Industry and Security Peter Lichtenbaum hinted at a recent industry meeting that the government may decide to look at the most restricted country of which an individual is a *citizen*. Although he stated at the May 6, 2005 discussion of the Notice held at the National Academies that neither the IG Report nor the Notice seeks to impose new restrictions on green card holders or naturalized United States citizens, it would be cause for great concern should it be decided to do so.

This proposal presents at least one notable problem. Whether the criterion were to be country of birth, as suggested in the Notice, or country/ies of citizenship, as suggested by Mr. Lichtenbaum, the basis for the proposed rule is the false premise that most, or even a substantial number, of those who come here to study or work in technical fields intend to return to their home countries bearing the knowledge they have acquired here. The truth, however, is far different. The NA Report includes statistics demonstrating that "[m]ost postdoctoral scholars, regardless of residence, would prefer to stay in the United States after their training." NA Report at 95. Approximately ninety percent of students who come to CMU from abroad to receive advanced degrees remain in the United States after graduation, at least for their first job. Moreover, many who return home do so because they've been unable to find employment here, not because they intended to leave all along. As noted above, our records indicate that even many years after graduation, the majority of our foreign-born alumni live and work in this country.

Prior to 1994, the applicable rule was that a license was required only when the purveyor of the controlled data had "the knowledge or intent that the data will be transmitted from the United States to a foreign country."[10] The government has yet to offer any evidence that the old rule was not working. Moreover, even when restrictions on speech seek legitimate objectives, the First Amendment requires that such restrictions be narrowly tailored to achieve those objectives.[11] The government's failure to make a case for the broader rule imposed in 1994, let alone the still broader rule proposed in the Notice, raises serious questions about whether the Notice or the 1994 rule can pass constitutional muster.

We recommend that the change proposed by the Notice not be adopted. Ideally, the rule should be restored to its pre-1994 state; at a minimum, it should be left as is.

* * *

A final, overarching issue from the standpoint of academia is whether there's any evidence for the proposition that deemed export controls protect our technology. Only one percent of last year's 995 deemed export applications were rejected. In all probability, most if not all of those rejections were due to lack of information rather than affirmative conclusions that the individuals were security risks.

Again, we appreciate the opportunity to comment on the Notice. Along with the presidents of numerous other research universities, I would be happy to meet with appropriate officials of the executive branch to discuss this matter further.

Sincerely,

Jared L. Cohon

cc: Mark S. Kamlet
Susan L. Burkett
Mary Jo Dively

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[10] 15 C.F.R. § 779.1(b)(1) (1993).

[11] *Reno v. Amer. Civil Liberties Union*, 521 U.S. 844, 874-75 (1997); *Shelton v. Tucker*, 364 U.S. 479, 488 (1960) (least restrictive means).

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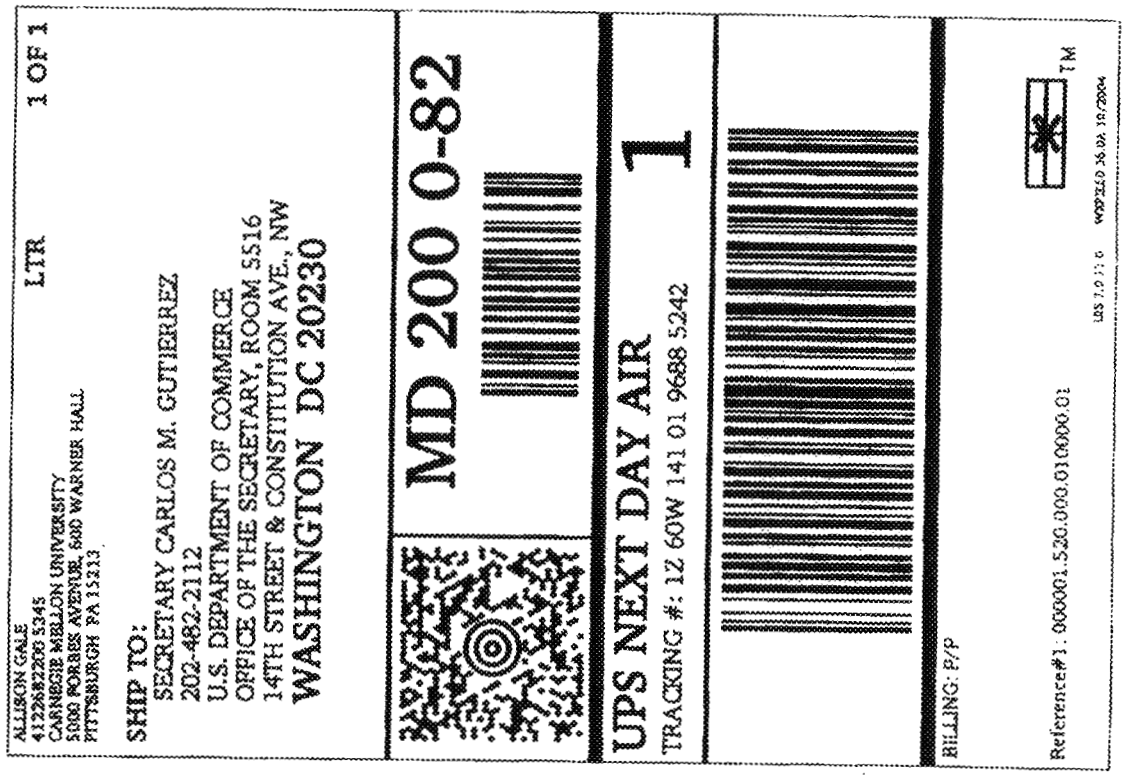

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June 24, 2005

Mr. Alex Lopes
Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security, Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Subject: Comments to Revision and Clarification of Deemed Export Regulatory Requirements

Dear Mr. Lopes:

Thank you for the advance notice of proposed rulemaking for "Revision and Clarification of Deemed Export Regulatory Requirements." We greatly appreciate the opportunity to comment on the recommendations of the Office of Inspector General's report on deemed exports (OIG report) as well as on any proposed regulations or amendments that emerge from this preliminary process.

Harvard University takes its responsibilities under the export control laws seriously. The University has a policy concerning compliance with these rules and has used written materials, general training sessions, and targeted training to remind faculty, researchers, and administrators of the legal requirements.

The release of the OIG report ignited great concern within the academic scientific community, in the National Academies of Science, and among policy leaders, who fear that the conduct of essential and fundamental research at academic institutions may be threatened. I would like to express appreciation for the extensive outreach process the Commerce Department has engaged in over the past many months in educating the community about the OIG report and in seeking information about the potential impact the report's recommendations and interpretations might have on the conduct of fundamental research. During these interactions, the Department has noted the importance of ensuring that any new rules, regulations, or interpretations of regulations both protect our national security and foster the collaborative nature of fundamental research that is a pillar of this country's security and economic strength. As Kenneth Juster, former under secretary for industry, wrote in a letter to me eight months ago, "The Administration appreciates the vital role that U.S. institutions of higher education have played and will continue to play in advancing science and technology for future generations. The fundamental research that is undertaken at such institutions promotes both our national economic welfare and our national security. Indeed, the Administration recognizes that U.S. leadership in science and technology is an essential element of our economic and physical security. Accordingly, we are strongly committed to working with the academic and research community to ensure that our export control policies do not undermine the openness and strength of our universities and research institutions, while still achieving our legitimate national security goals."

We believe that the OIG recommendations fail to recognize the real consequences the suggested changes will impose on the research activities at American universities. If adopted as proposed, the recommendations could cause significant damage to the scientific enterprise in the United States and, in so doing, undermine our national security. They would result in the reduction or preclusion of fundamental research in a broad range of areas as well as the erosion of our national research infrastructure and processes of innovation. And we fear they will breed a culture of resentment among those individuals who historically have come to this country to study and learn and have returned to their homelands as our greatest allies.

We support the broader comments submitted by the Association of American Universities, the Association of Academic Medical Centers, and Council on Governmental Relations. The comments here are more narrowly focused. On behalf of the University and its faculty, we review below the potential implications associated with the proposed changes for the essential research that is conducted on our campus. In particular, we take issue with the OIG's recommendation to make what purports to be a minor technical edit—"and" to "or" in the definition of "use"—as well as the suggestion to probe into an individual's national origin. In an effort to advance the discussions, we also recommend clarifications to the regulations that we hope the Department will consider in drafting new regulations for publication in the Federal Register and further comment.

U.S. Support for Fundamental Research

The provisions for promotion of fundamental research lie at the heart of the current Export Administration Regulations (EAR). Support for fundamental research is not an exemption from export controls. Rather, the EAR recognize that the free communication of research findings through publication, teaching, conferences, and other forms of exchange brings those findings into the public domain. The EAR do not control publicly available technology and software that are already published or will be published, including publicly available technology and software that "arise during, or result from, fundamental research." 15 C.F.R. § 734.3(b)(3).

The framers of the regulations executed the Congressional intent to "sustain vigorous scientific enterprise" by recognizing that fundamental research is in itself a form of publication: "It is the policy of the United States to sustain vigorous scientific enterprise. To do so involves sustaining the ability of scientists and other scholars freely to communicate research findings, in accordance with the applicable provisions of law, by means of publication, teaching, conferences, and other forms of scholarly exchange." Export Administration Act of 1979 as amended, PL 96-72, Section 3(12). The regulations recognize that the promotion of U.S. national security and economic security requires ensuring that fundamental research can proceed only with the strongest government support.

Historically, universities have understood that fundamental research within the meaning of the EAR also includes access to technology that is necessary to conduct that open research. Such an interpretation makes sense and is consistent with the way research is conducted throughout the world. Fundamental research and the use of equipment to conduct such research are inseparable. It would be difficult, if not impossible, to conduct research involving equipment without "operating" equipment. Nor would it be easy to conduct research without knowing at some level how the equipment necessary for the experiment works. And Harvard cannot responsibly allow its students and faculty to conduct research without training them in the safe use and operation of the equipment needed for their research.

The OIG's report ignores these realities and instead recommends that universities secure licenses for the use of equipment that is necessary to the conduct of the fundamental research, but is not in and of itself the subject of the research. This strikes us as potentially quite intrusive and cumbersome. Instead, the Commerce Department should consider clarifying the definition of "fundamental research" or "use" to allow our students, faculty, and other researchers access to technology necessary for the conduct of open research.

The Unique Qualities of a University Campus

The scope of the problem generated by the OIG's recommendations is enormous given the size, diversity, and complexity of the University community. There are more than 1,800 laboratories at Harvard, dispersed throughout several undergraduate and graduate programs in at least two cities. Equipment and technologies that appear on the controlled list would be found in a large percentage of these laboratories.

As of today, Harvard has more than 3,400 active students at its facilities who are neither U.S. citizens nor U.S. permanent residents. It has approximately 3,650 foreign scholars with Harvard appointments (at both the University and its affiliated hospitals). These numbers do not include the numerous employees from foreign countries. A large percentage of our population of international students and scholars changes each year. These international students and scholars study, teach, and participate in open research projects and, importantly in an academic setting, interact in a free environment across our campuses.

Unlike commercial proprietary research, research in a university setting has few boundaries. Once students and scholars are permitted by the government to come to this country on valid visas, Harvard does not and should not restrict their involvement. It is this diversity and fluidity of people and ideas that has resulted in our greatest scientific advancements.

Fundamental research on campus is demonstrably more fluid than commercial proprietary research. It frequently triggers new lines of inquiry and the need to use equipment across a wide spectrum of disciplines, sometimes with little advance notice. Unlike commercial proprietary research, university research extends into virtually every field of science and engineering.

Equipment Use on Campus

We have conducted a preliminary review of the equipment at Harvard that would be affected by the proposed changes to the regulations, and have identified some equipment that would be controlled for access for use by every international student and scholar on campus except those from Canada. We also have thousands of pieces of equipment subject to Anti-Terrorism (AT) controls as well as students and scholars who would need licenses for access to this equipment and technology if the OIG's recommendations were adopted.

While we have not been able to conduct an exhaustive search, we believe that our international scholars and students may currently have access to use technology for equipment in the following categories: 2D101, 2E101, 3E292, 3E991, 6E101, and 6E201, including chemical vapor deposition (CVD) furnaces, specialized cameras, oscilloscopes, sensors, monitoring systems, lasers, pumps, amplifiers, and spectrum analyzers. We encourage the Department to review these categories, in particular, to determine whether access to this technology in the context of fundamental research

genuinely poses a security threat to our country. Given the nature and broad availability of the equipment, we suspect that the restrictions could be lifted without risk to national security.

While the number of categories may seem small, requiring licenses for access to this subset is consequential. As an initial matter, the equipment is scattered in various laboratories across our Cambridge and Boston campuses. As with many large research institutions, we have a Faculty of Arts and Sciences, a Medical School, a School of Public Health, and other schools. In addition, a number of our faculty practice medicine at one or more of our affiliated research hospitals. There is no single lab where all our physics research is generated. There is no single building where our chemistry and biology experiments are conducted.

In addition, our international students and scholars are scattered throughout the laboratories on both campuses. It is fair to say that we have and, indeed, embrace participation by foreign nationals in all these labs. Tracking the movements of our large international community would, again, be no small task and would not be palatable to a university that adheres strongly to principles of openness and non-discrimination. Undergraduate students, in particular, are often involved in small, short-term research projects as part of their undergraduate training. The timetable for these projects—from identification and inception to completion—is only a few months, essentially incompatible with the schedule for obtaining licenses.

Further, licensing equipment in certain of these categories has the potential to impede or shut down whole segments of research. Innovations and discoveries in fundamental physics could be threatened if the use restrictions on laser systems were permitted to stand without refinement. Some of our physics faculty involved in research on inertial sensing and gravity detection have expressed genuine concern that their government-sponsored research would be substantially hindered if the use technology controls were applied to their projects. The same could be said of the work conducted by our engineering departments, which regularly rely on lasers, pumps, cameras, or vacuums, some of which may be controlled under the EAR. Our astrophysicists routinely use powerful cameras, sensors, lenses, and computer clusters for their discoveries. It is hard to see how our observatory could be equipped and utilized if the Department limited the involvement of our international researchers.

We are operating in a world where technology and information are easily and rapidly available from retail and wholesale establishments, through the Internet and easy avenues of exchange. Importantly, the vast majority of equipment that is controlled for use under the EAR and found on our campuses has been purchased from well-known, reputable commercial companies that sell such equipment on the open market. These off-the-shelf instruments are used to conduct open research that is reported in publicly available scientific journals. We encourage the Department to make clear in the regulations that it does not intend to restrict access to technology relating to items that are available on the open market.

Practical Effect of Restricting Equipment Use in Fundamental Research: Reversing the Administration's Policy

Restricting the use of equipment to pursue fundamental research would have the practical effect in many fields of restricting and limiting the research itself. We believe that neither the OIG nor the Administration intends this outcome.

While we have begun the preliminary work to try to give the Department a sense of the areas in which we are likely to find the greatest barriers to scientific research, we have not completed the work

necessary to identify the technologies that would require licenses under the OIG's recommendation. The administrative processes necessary to get to those determinations will have the practical effect of grinding research to a halt while administrators and faculty sift through the interactions of every foreign national and every piece of equipment to make a determination of when a license is necessary.

To follow the published guidance from the Commerce Department for classifying products and technologies, and applying for deemed export licenses, we would need to:

- review every technology, item, and software on campus to determine if it is subject to the technologies regulated for "use" controls;
- classify the goods, software, and technologies;
- identify the international students and scholars;
- track down and review their CVs, background, and country information (including obtaining the information from the individuals before they arrive on campus);
- apply for licenses, including the following:
  - describe all of the parties to the transaction;
  - describe the exact project location where the technology or software would be used;
  - describe the type of technology or software;
  - describe the form in which the data or software will be released;
  - describe the uses for which the data or software will be employed;
  - explain the process, product, size, and output capacity of all items to be produced with the technology or software or other description that delineates, defines, or limits the controlled technology or software;
  - describe the availability abroad of comparable foreign technology or software;
  - describe the technology control plan as tailored to that individual;
  - obtain and describe the individual's personal background information;
  - describe the educational and vocational background of the individual;
  - describe the individual's employment history;
  - catalog the individual's military service and describe it where applicable;
  - provide any special information about the applicant;
- track the license approvals and provisos;
- implement licenses, including putting individually tailored technology control plans in place;
- implement a set of physical security procedures to ensure that individuals do not have access to controlled technology while the license applications are pending; and
- set up an administrative body within the University to coordinate and follow up on all of these matters.

Based on our experience in reviewing technologies subject to control on our campus, and our understanding of the requirements for deemed export license applications, we estimate it would take 10

to 25 person hours per applicant counting the time of the applicant, administration, research professors, and outside advisors to identify and classify the relevant technology, complete and submit an application, and implement restrictions contained in a license.

We see it as no exaggeration that such a burden would trigger the need for an additional tens of thousands to perhaps hundreds of thousands of person hours to address the deemed export needs of our international students and scholars during their terms on campus, particularly since the technology, individuals, and controls change over time. It is difficult to come up with a credible forecast of the potential cost to the research community, but we estimate that compliance at Harvard could run into millions of dollars annually. The proposed ministerial change— "and" to "or" —would divert substantial resources from our core missions of education and research without any clear improvement in national security. It would represent one of the most significant single administrative requirements imposed on university research in recent years.

In considering the burdens to the University, it is important to recognize that fundamental research at academic institutions is often low budget and decentralized, particularly in comparison to corporate research. Many grants to Harvard students and scholars are small, and these grants lack the administrative budgets necessary to handle significant additional overhead. While corporate research may be able to spread the costs over a large production run, university research typically produces a single report, study, publication, or prototype that is often disseminated broadly without significant charge.

In view of the prohibitive costs of establishing unique technology control plans and monitoring such plans, the fluidity of our research and our population, and the substantial civil and criminal penalties imposed even on mistakes, Harvard could make the rational business judgment that it should apply for licenses for all of its international students and scholars. At the same time, we recognize that such an approach would leave the Department with little time to do anything but review license applications.

Use of Foreign Nationals' Country of Birth as Criterion for Deemed Export License Requirement

Current deemed export applications require individuals to disclose both citizenship and permanent residency. It is neither reasonable nor permissible for the government to compel universities to seek in addition an individual's country of birth, as the Inspector General suggests.

As an initial matter, it is difficult to see what probative information the government would gain by inquiring into national origin. It is unlikely there will be many individuals who are born in a country, become a citizen of another country, and then a permanent resident of another country. In our experience, it is far more common that individuals are born in a country, retain their citizenship in that country, and move to another country. Moreover, the Department's current policy reflects the traditional understanding that citizenship denotes substantial personal connections to that country. The fact that a person was born in a particular country does not denote any such connection. Thus, seeking citizenship and permanent residency—objective and easily verifiable data—picks up most of the relevant information for the vast majority of people affected by the proposed deemed export rules.

Finally, there are substantial legal issues that the Department would have to overcome before adopting the OIG's suggestion. Harvard does not collect information on national origin, so as to remain compliant with federal laws and regulations, which prohibit it from discriminating on the basis of national origin. Imposing a requirement to seek national origin as a criterion for a deemed export license

not only would force Harvard to adopt new policies to capture this information, but also would demand a change in long-standing Department policy and amendments to numerous laws.

Thus, we do not see any need for the Department to inquire beyond an individual's citizenship or permanent residency, as the deemed export applications already do.

Clarifications of Supplemental Questions and Answers on Government Sponsored Research and Fundamental Research

Answer to Question A(4)

The OIG identified a specific provision, section 734.11, which provides special guidance for government-sponsored research covered by contractor controls. For government-sponsored research where the government has imposed separate national security controls, those national security controls should determine whether technology may be disclosed to foreign nationals. The regulation permits the export or re-export of information that is consistent with these national security goals. Section 734.11 very specifically does not trigger the need for additional licensing provided that the researcher follows the specific national security controls imposed by the national security agencies.

Those conducting fundamental research have long relied on the consistent BIS position that national security controls, rather than licensing requirements, determine the restrictions on transfers to foreign persons under these government-supervised grants. We agree that the national security agency such as the Department of Defense or Department of Energy will be in the best position to determine if specific research presents risks to U.S. national security.

We have no objection to clarifying the language in this section so long as the clarification retains the current policy and does not attempt to impose separate restrictions that are broader than section 734.11. We thus recommend that the Q&A be revised as follows:

> Question A(4): The research on which I will be reporting in my paper is supported by a grant from the Department of Energy (DOE). The grant requires prepublication clearance by DOE. Does that make any difference under the Export Administration Regulations?
>
> Answer: The transaction is subject to the EAR. If you published in violation of any Department of Energy controls you have accepted in the grant, you may be subject to appropriate administrative, civil, or criminal sanctions under other laws. As provided for in 15 C.F.R. Part 734, if you follow the restrictions in the funding for the research, any export or re-export of information from the research consistent with the national security controls may nonetheless be made under this provision. This includes the ability to transfer or retransfer any information from the research to foreign nationals so long as such transfers are not prohibited by the specific national security controls required by the government sponsor.

Answer to Question D(1)

The OIG also identified question D(1) as one requiring clarification. The answer to this question has made clear the Department's consistent past position that the fundamental research provision is another form of publication, and research conducted under the fundamental research provisions would be treated as public domain research, including the techniques and equipment used for the research.

We agree it would be important to clarify this question to reduce confusion for researchers. If the Department agrees with us to amend the regulations to recognize explicitly that the conduct of fundamental research includes access to the equipment necessary to that research, the Q&A could read as follows:

> Question D(1): Do I need a license in order for a foreign graduate student to work in my laboratory?
>
> Answer: Not if the research on which the foreign student is working qualifies as "fundamental research" under §734.8 of this part. In that case, the research is not subject to the EAR, and no license is required for the transfer of technology to conduct fundamental research. This includes the transfer of technology relating to the "use" of equipment necessary for the conduct of fundamental research.

At a minimum, the Department should make clear that access to technology that is freely available for purchase by any person in the United States is not subject to the use restriction in any event. Those who conduct fundamental research recognize that any type of access and dissemination control or restriction on publication would remove the research from the public domain and would subject research to "deemed export" licensing requirements unless covered under § 734.11. The converse, however, should also be retained: that research that is not subject to restrictions on publication, especially including technology freely available, should not otherwise jeopardize the public domain aspects of research.

Generally, there are no export license requirements for transfer of goods within the U.S., and transfer of goods outside the U.S. carries with it the transfer of a great deal of technology that falls under "use" controls. It is reasonable for the Department to conclude that under its current regulatory authority, there is an implied ability, within the U.S., to have access to certain use technology associated with equipment obtained without restriction in the U.S., even by foreign persons. At a minimum, the Commerce Department should therefore clarify Q&A D(1) as follows:

> Question D(1): Do I need a license in order for a foreign graduate student to work in my laboratory?
>
> Answer: Not if the research on which the foreign student is working qualifies as "fundamental research" under §734.8 of this part. In that case, the research is not subject to the EAR, and no license is required for the transfer of technology to conduct fundamental research. This includes the transfer of technology necessary for the "use" of equipment that is not subject to a separate restriction on publication. Transfer of "use" technology in the United States necessary for operation, installation (including on-site installation), maintenance (checking), and repair normally accompanies the equipment. Given that the equipment may be provided to foreign nationals in the United States without a license, any "use" technology as noted above would not be restricted within the U.S., provided that the equipment and associated information are readily available in the U.S. commercial market and are not otherwise subject to separate proprietary restrictions.

Conclusion

In summary, Harvard recommends that the Commerce Department consider the following points before publishing proposed amendments for further comment:

- a reconsideration of the use technology controls applicable in the context of fundamental research and the elimination of those that do not pose a security threat;

- a rule that allows our international students and scholars access to technology that is necessary for the safe use and effective operation of equipment in the conduct of their fundamental research;

- explicit recognition that information that is available on the open market through, for example, the purchase of equipment is not subject to the use restriction; and

- the concerns associated with probing into individuals' national origin in making licensing determinations.

Harvard is committed to working with the Department to establish policies, rules, and regulations that both protect the nation's security and ensure scientific, technological, and economic advancements.

Sincerely,

Lawrence H. Summers

UNIVERSITY OF CALIFORNIA, SAN DIEGO UCSD

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June 24, 2005

Mr. Alex Lopes
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th and Pennsylvania Avenue, NW
Washington, D.C. 20230

Subject: Advance Notice of Proposed Rulemaking (RIN 0694-AD29)
Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Mr. Lopes:

On behalf of the University of California, San Diego, I offer the following comments on the Advance Notice of Proposed Rulemaking (ANPR) published on March 28, 2005.

In this ANPR, the U.S. Department of Commerce Office of Inspector General (OIG) recommends the following:

- revising the definition of "use" technology in the regulation of deemed exports;
- basing the requirement for a deemed export license on a foreign national's country of birth, rather than citizenship; and
- modifying certain regulatory guidance on the licensing of technology to foreign nationals working with government-sponsored research and fundamental research conducted in universities.

As Chancellor of UC San Diego, I hold the security of our nation in the highest regard. In my view, however, the costs associated with the OIG recommendations outweigh any evident risks to our national security. The recommendations not only overlook safeguards provided by current U.S. policy for government control of fundamental research information *(National Security Decision Directive 189),* they threaten the open, collaborative nature of university-based research that is critical to our country's scientific and economic progress. In the following sections, I discuss each of the proposed changes.

Definition of "Use" Technology

The OIG recommends that the U.S. Department of Commerce, Bureau of Industry and Security (BIS) revise the definition of "use" in Section 772.1 of the Export Administration Regulations (EAR) to replace the word "and" with the word "or", as follows:

> "Use means all aspects of use, such as operation, installation, maintenance, repair, overhaul, or refurbishing."

This change is overly broad and ignores the iterative relationship between science and technology in fundamental research. The inclusion of discrete activities within the definition of use would mean that transfer of information far short of that required to recreate and operate the equipment abroad would trigger a licensing requirement. Since the deemed export concept applies to the transfer of specific technical information (i.e., technology) rather than the physical export of technical equipment, the definition of "use" technology should focus on the control of proprietary information (i.e., technology that is not publicly available). That is, neither the mere operation of equipment nor access to unclassified, non-proprietary information about the equipment should be construed to constitute a deemed export and require an export license as would be implied by this proposed change.

If the EAR fundamental research exemption no longer sanctions the use of controlled technology, and access to information about it, the whole context of university fundamental research will inevitably be changed for the worse. Not only would such a change greatly inhibit universities' ability to maintain an open, collaborative, and creative environment. It would also impose on universities the costly burden of inventorying the thousands of pieces of research equipment in use on campus and requesting deemed export licenses for all use-controlled equipment for all foreign nationals on campus who may engage in any research. The recommended changes to the definition of "use" would also overwhelm the capabilities of the Department of Commerce to process many thousands of additional export licenses in a timely manner.

Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

The OIG recommends using a foreign national's country of birth as a criterion for deemed export license requirements as opposed to country of most recent citizenship. If implemented, this recommendation would generate additional administrative burdens for universities, raise legal issues with regard to constitutionally proscribed national origin discrimination, and undermine our efforts to recruit and retain the most capable faculty, students, and scholars from around the world.

Currently, UC San Diego does not collect information about a student/scholar's country of birth. It is the responsibility of the Departments of State and Homeland Security to perform background checks before providing a nonimmigrant visa to the student/scholar.

This OIG recommendation would require universities to perform second-level background checks to assess a foreign student/scholar's status (country of birth and country of citizenship) against the Commerce Control List and Country Chart.

It is impossible to precisely quantify the number of additional deemed export licenses or administrative costs that would be generated by the OIG's "country of birth" criterion. The University would have to verify the country of origin of the 3,700 faculty, staff and students who are foreign nationals, and determine which controlled technologies they are likely to encounter in performing their jobs and studies, and which restrictions under the Commerce Control List would apply to each affected individual.

Should this recommendation be implemented, I anticipate that UC San Diego would be required to file a substantially larger number of deemed export license applications based on the expanded range of equipment controlled for use technology; the number of entering foreign graduate students, visiting scholars and faculty who are native citizens of countries for which equipment is controlled for use technology; and the number of foreign graduate students, visiting scholars and faculty who are currently members of our community and would require licenses to preserve their access to university research facilities.

The June 2004, report of the President's Council of Advisors on Science and Technology (PCAST), Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities, cautions that the U.S. is falling behind other nations in developing its intellectual capital. The report notes that, as a result, "foreign students and scholars are critical to our national vitality," the "openness of our campuses to students, scholars, and faculty from all over the world is one of our greatest strengths and lies at the heart of the phenomenal success of the American research university." The OIG's "country of birth" criterion is likely to discourage foreign-born students and scholars from applying to U.S. universities and may damage immeasurably the vitality of our nation's research enterprise.

To achieve the security objectives of the OIG, the federal government should use the Visa Mantis process to clear foreign students, scholars, and faculty to engage in research. The Departments of State and Homeland Security, as well as other agencies, already conduct extensive background checks on foreign students and scholars entering the United States to study or do research. If implemented, the OIG recommendations would require that additional background checks be made and export licenses be acquired before certain foreign nationals could use specific pieces of equipment required for fundamental, unclassified research

Regulatory guidance on the licensing of technology to foreign nationals working with government-sponsored research and fundamental research conducted in universities

I urge the Department of Commerce BIS to encourage other agencies of the federal government to clear foreign students and scholars to conduct fundamental research at the

time of visa issuance. This should adequately address any national security concerns related to the use of the technology in question. Should additional certification be deemed necessary, the government could issue special licenses to foreign students, scholars, and faculty that would enable them to conduct research using specific export-controlled equipment required in their field of research.

With regard to the fundamental research exemption, it is important to note that "publicly available technology" is not subject to the EAR (15 CFR 734.3(b)(3)). Such technology includes information that is or will be published; that arises during or results from fundamental research; and that is used in the educational process. Thus, in considering proposed changes to the definition of deemed exports, the "controlled technology" at issue should not include information in any of the above-listed categories.

Moreover, it is important to understand that the fundamental research exemption includes the right of researchers to generate new information about how to use and modify technology they may be using in the conduct of fundamental research at U.S. universities. Fundamental research about a technology cannot be done without using equipment that embodies the technology and or without access to information about how to use such equipment. In fact, fundamental research about a technology and the exchange of knowledge about how to best use that technology are inseparable.

The advance of fundamental research requires an open, collaborative, and spontaneous research environment. For the fundamental research exclusion from export control requirements to be meaningful, it must allow researchers to freely use otherwise controlled equipment, alter existing equipment when a new idea or theory arises, and create new equipment. This means that if a foreign national, in the course of a fundamental research project, modifies an item of controlled equipment for specific research purposes, or fabricates a new apparatus that would be subject to export controls were it to be shipped abroad, no licensable event has occurred as long as those changes involve no prior access to proprietary or classified information, are directly relevant to advancing the specific research being conducted, and the research results are publicly available.

However the EAR may be modified, I recommend that the fundamental research exclusion be clarified and strengthened to protect university fundamental research as we now know it from new, large, and counterproductive constraints under the EAR.

Thank you for this opportunity to comment on the ANPR. I appreciate your attention to my concerns.

Sincerely,

Marye Anne Fox

Marye Anne Fox
Chancellor

Attachment:

Deemed Export Controls in the Context of Oceanographic Research Vessels

A particularly acute example of the deleterious impacts upon fundamental research that would ensue from the proposed changes to the EAR arises in the context of research aboard US oceanographic research vessels. This university's Scripps Institution of Oceanography operates the largest number of research vessels in the US academic fleet (UNOLS – University-National Oceanographic Laboratory System), so the issue is important, but not unique, to UC San Diego.

Typically, a ship will call at a distant, frequently foreign, port for a few days between scientific voyages, to exchange scientific party members and their instruments, and to re-fuel and re-supply. During those few days, several different research groups from several different universities will converge on the ship with their scientists, technicians, students and scientific equipment, set up their apparatus in the shipboard laboratory, and prepare to sail. More often than not, several different research groups will be working in the same physical laboratory space – the spaces tend to be few, large, and not subdivided – in order to accommodate different missions flexibly. The likely result is that a foreign national member of one group will be working alongside the people and apparatus of another group. What then would happen if some part of that apparatus is controlled with respect to the foreign national, a juxtaposition unforeseen by either group? The apparatus cannot be secured physically, and there is too little time in which to obtain a license for the foreign national, if indeed that would even be possible. The only recourse will be to bar the foreigner from sailing. This will present an irremediable blow to the planned research at sea of the foreigner's group. There will also arise the unplanned cost of returning the foreigner to the US from the distant port. The foreigner will justifiably feel ill-used by the bureaucratic process, adding to the growing catalog of disincentives for foreigners to work or study in the US rather than in other advanced nations. Japan, Germany, France, the UK, and Australia are among nations with advanced oceanographic programs and vessels. Because the entire purpose of the voyage is fundamental research by the several groups aboard, it is hard to see that any significant security advantage has been gained by this outcome.

Many universities, confronted with this insoluble complexity, will likely feel compelled to respond defensively by wholesale barring of foreign nationals from vessels in these situations, thereby greatly exacerbating the catalog of disincentives. Similar considerations apply in research field stations and observatories, where multiple research groups assemble for a limited period of time to make use of a common scientific facility.

YALE UNIVERSITY

NEW HAVEN, CONNECTICUT

Office of the President

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TO: Bureau of Industry and Security Fax#202-482-3355
ATTN : RIN 0694-AD29

FROM: Richard C. Levin

DATE: June 24, 2005

Please call (203) 432-2550 , (ask for Anita Macero) if you do not receive all of the pages following the transmittal form.

YALE UNIVERSITY

OFFICE OF THE PRESIDENT

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June 24, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Ave., NW Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Re: Revision and Clarification of Deemed Export Related Regulatory Requirements (RIN 0694-AD29)

Yale University writes to comment on the Advance Notice of Proposed Rulemaking for "Revision and Clarification of Deemed Export Related Regulatory Requirements" published in the Federal Registers on March 28, 2005. Like many other American research universities, Yale's community includes many foreign students and scholars, and the University welcomes the opportunity to describe how the proposed changes in the deemed export regulations could affect university research as well as the competitiveness of research-intensive industries.

We believe, in summary, that the changes recommended by the Office of the Inspector General would diminish the United States' leadership in those areas of science and engineering where controlled technologies are widely used. They would increase the burden and cost of conducting such research, thereby slowing the pace of the research, harming technology transfer, and encouraging faculty to shift their research interests into areas which do not use controlled technologies. Federal policies which discourage research are not conducive to national security.

International students and scholars are a significant part of the university-based research enterprise in the United States. They come to the United States because the opportunities for a first-rate graduate education are not matched in any other country. A central strength of the American system of graduate education is the fact that all students engage in research under the leadership of a faculty mentor. The IG's recommendations would raise the bar for whether some students may participate in the research that is central to their education. The recommendations would weaken a central feature of graduate education, resulting in graduates less prepared for careers in universities and industry. The United States would find it harder to recruit the best students from around the world.

The IG's recommended changes would introduce intractable challenges for the everyday management of faculty-led research groups. Some students would have access to all of the research equipment, and would be fully instructed in its use, while some international students would have only restricted access to equipment and the methods for using it.

Yale urges the Department to reconsider the recommendations from the IG, and request the Department to affirm that the fundamental research exemption extends to the use of controlled equipment. We recommend that the definition of "use technology" focus on higher-level knowledge, not simply the operation of the equipment. Furthermore, Yale opposes the proposal to determine the need for an export license on the basis of a foreign national's country of birth.

Science is conducted internationally and American universities must remain welcoming to the international community.

American graduate education has rightly been the envy of and benefactor to the world over the last half century. It is primarily responsible for educating the leaders of both this and many other countries, for world-changing discoveries and technologies as well as managerial and political methodologies that have improved the human condition throughout the globe. Further progress will depend on the continued preeminence of the American university research enterprise.

The success of that enterprise has always drawn upon and contributed to a significant compliment of foreign students, scholars and teachers. That success is now threatened by at least three factors: the continued under-representation of United States citizens (particularly women and minorities) in the science and engineering student populations, the growing perception internationally that foreign students and scholars are no longer welcome in this country, and the marked increases in opportunities for foreign students now educated in the United States to return to their home countries for the most productive phases of their careers. The proposed changes in export controls will make this situation rapidly and seriously worse.

United States universities and Yale in particular recognize that the foreign threats facing our country today are many and varied. Export controls have provided an important mechanism for controlling access to security-related technology and protecting the technological advances of the United States. These regulations have at the same time properly recognized that concern for national security must be balanced with the openness necessary for academic and scientific research and that the latter, in and of itself, is a national security interest.

Today, maintaining this balance is more important than ever. Science and engineering research has been for some time highly international. Research teams in many industrialized countries communicate frequently about their research methods and findings as they test hypotheses and advance the frontier of knowledge. Faculty and students at universities across the country must be able to work with colleagues from around the world.

The roster of students, scholars, and faculty is also highly international. At Yale, approximately one-third of our graduate student population is from overseas; in science and engineering, the percentage is even higher. For example, in engineering and applied science, about 60 percent of the graduate students are from overseas. In addition, approximately 40 percent of the engineering faculty is foreign-born. The quality of research and education at Yale benefits from our ability to recruit from a global talent pool.

The education of international students is also a potent tool of diplomacy. Many of the foreign nationals studying and conducting research on university campuses will be leaders in research, business, and society; some will stay in the United States and others will make their mark in their home countries. Allowing students from other cultures and political backgrounds to experience our culture of open inquiry, free expression, and democracy

creates advocates for those values. It also enriches the experience of American students to be exposed to other ways of thinking.

Research-intensive industries in the United States also gain from the presence of international students. In 2000, foreign-born scientists and engineers accounted for 22.7% of the United States science and engineering workforce, an increase from 12.7% in 1980.[1] These foreign-born workers are integral to the university-based research enterprise in the United States; in fact, the market demand for scientists and engineers cannot be met from our citizens alone.

It is fundamentally in our national interest to have our universities remain open to international students. If there were a decrease in international graduate students in science and engineering, and a subsequent decrease in foreign-born scientists and engineers working in the United States, our universities and research-intensive industries would cede global leadership in basic research and development of commercial products. That would have repercussions for national prestige, economic growth, and national security.

National security is best served by an open research environment.

The export control system is just one part of the strategy for promoting security. A healthy research enterprise – one in which the United States leads the world in commercially useful technologies such as semiconductors, materials science, and nanotechnology, as well as military technologies – is equally important for national security. The United States global position would be weakened if we were to cede the competitive edge in research-intensive industries and military technologies. Federal policies should encourage faculty to work in fields relevant to military applications or cutting-edge civilian technologies.

The proposed changes to the EAR would harm rather than encourage research. We believe that current regulations and systems strike an appropriate balance between national security and research; the proposed changes would lead to a hampered research environment at great cost but with little tangible increase in national security.

Current United States visa policy has in place controls aimed – properly – at preventing the entry of individuals who could harm United States' interests. In addition, NSDD-189 provides an appropriate limit on the dissemination of information that the government deems too sensitive to be shared. These controls operate in tandem – the first to limit the inflow of individuals, the other to limit the outflow of information, and between the two, strike a balance. Export control regulations operate in this context, and proposed changes should be evaluated in that light. Given the existence of these other policies, we believe that the proposed changes would add restrictions that could potentially chill research without assurance of any increase in our national security.

Below, we address the specific proposed changes in more detail and describe how the impact of the regulations would hinder research.

Even more important is the imperative that universities continue to be covered by the basic research exemption. Anything short of this will compromise, to a greater or lesser extent, the US technological preeminence – greater if the OIG recommendations are accepted, lesser if they are modified as described below.

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[1] COSEPUP, Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States 45 (2005) (available at http://www.nap.edu/0309096138/html/45.html)

Changes in definition of "use" and in application of deemed export rules to transfers of use technology.

The IG has suggested that BIS revise the definition of "use" in § 772.1 of the EAR to mean "all aspects of 'use,' such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, or refurbishing." This change would broaden the reach of the term "use," which was previously defined using an "and" instead of an "or" to describe the various activities constituting use.

The BIS should have reasonable definitions of "fundamental research" and "use technology" that would focus oversight on cases in which foreign nationals are acquiring knowledge that is not widely available and that would enable them to "replicate and use" technology on the CCL list. The proposed change in the definition from "and" to "or" would not focus scrutiny on cases in which foreign nationals are gaining comprehensive understanding that would truly allow them to "replicate and use" controlled technology. Rather, the proposed definition would divert attention and impose an unnecessary burden by requiring export licenses for a much broader range of cases.

The breadth of the changed definition of "use" would be compounded by the proposal to require licenses even if the transfer of controlled use technology takes place during the course of fundamental research otherwise exempt from the export control regulations.

We disagree that the use of equipment in fundamental research and the transfer of use technology associated with such use are separate activities. Indeed, understanding how to use a piece of equipment is commonly part and parcel of fundamental research. For example, in working with sputtering equipment, researchers may wish to adjust voltages, substrate temperatures, or atmosphere, each of which may require modifications to the equipment if the experiment would require conditions beyond those specified by the manufacturer. We strongly believe that such activities qualify as fundamental research and that the regulatory exemption applies to them. Research is a dynamic activity requiring active thought and creativity. This can manifest itself as adjusting, modifying, overhauling, as well as operating equipment. Requiring institutions to obtain licenses for foreign nationals engaged in fundamental research would hinder research.

Moreover, the dissemination of research findings – which is the foundation for the fundamental research exemption – entails transfers of use technology. Scientific publications do not merely report the findings from research projects, they also describe the research methods in enough detail to permit others to attempt to replicate (and thus verify) the reported findings. Hence formal scientific publications and especially informal scientific exchanges involve transfer of use technology. The transfer of use technology is interwoven with the fundamental research exemption and ought to be covered by the exemption.

Adding a licensing requirement to a part of this process would hinder research. In the absence of any evidence that the transfer of controlled use technology to foreign nationals during fundamental research poses an actual threat to national security, BIS should not alter the regulations.

1. Negative Impacts of proposal in terms of number of foreign nationals who will face licensing requirements if IG's recommendations are adopted.

BIS has requested that commenters provide specific data regarding the impact of the proposed changes in the event the IG's recommendations are adopted. This is a challenging

exercise. First, the current list of controlled use technology is difficult to navigate. Second, it is unclear whether BIS would alter the list upon adopting IG's recommendations. Third, as described below in the discussion regarding the regulatory guidance, it is not clear whether BIS will interpret use of technology as being covered by the deemed export regulations (an interpretation we believe to be erroneous) or whether it will look only to transfers of use technology.

Given these uncertainties, estimates of impact are difficult to quantify. Nonetheless, we anticipate a sharp increase in the number of deemed export license applications if the IG's recommendations are adopted. Yale has hundreds of foreign nationals on campus, both students and postdoctoral scholars. In engineering, there are approximately 115 foreign graduate students and postdoctoral scholars; in physics, about 70.

While not a majority, more of these students and scholars are from China than from any other country, with strong representation from other Asian countries as well, such as India, South Korea, and Taiwan. Although the burden to the university in processing the several dozen to several hundred applications that might result from the proposed changes is not the main reason to object to those changes, it is important to understand that this burden amount to an unfunded and unwarranted mandate imposed on both the university and the responsible government agencies. Considerable cost would be incurred for little or no benefit to national security, and indeed arguably considerable harm.

2. Impact of proposal in terms of costs of compliance – resources, procedures, research environment.

Yale is committed to compliance with export control regulations, and has taken steps in the past three years to educate faculty and administrative staff of federal requirements. For example, the University provides information about export controls on its web site, holds seminars with faculty, and staff have met one-on-one with faculty with particular concerns. Such efforts are worthwhile given the need to maintain security while conducting research.

Cost of Identifying Controlled Equipment. The proposed changes to the export regulations would entail substantial compliance costs for Yale.

The analysis of whether equipment falls under the CCL is time-consuming and costly and is aggravated by the awkward format of the CCL. A review of equipment would require the efforts of business administrators knowledgeable about equipment on campus, faculty knowledgeable about the specifications of the equipment, and counsel knowledgeable about the regulatory requirements and possibly other technical expertise. In addition, Yale would need to upgrade its current inventory practices which are designed for financial management purposes and do not track equipment at the level of specificity required by the CCL. Based on the initial efforts taken to date, we estimate that it would take as much as $200,000 in counsel fees and as much as $800,000 or more in personnel costs – whether performed by universities or outside vendors – to complete such an assessment.

The equipment review would not end the inquiry. Having reviewed equipment, the use of controlled equipment would have to be reviewed to determine whether any license applications were required, and, then, the application process would take place. The cost associated with this is unknown.

Ability of BIS to Process Applications. Moreover, BIS has not dealt with the volume of applications that would be implied by the changes recommended by the Commerce IG.

The agency may find itself overwhelmed with a large backlog of export license applications. In order to minimize the harm to the research enterprise, the process for seeking and obtaining licenses for deemed exports must be predictable, efficient, and timely.

Cost of Controlling Access to Controlled Equipment. Another potential impact of the regulations is in the area of access. The University would have to review whether access controls would be necessary for certain pieces of controlled equipment. Based on preliminary reviews of equipment on campus in the Engineering Department, we estimate that the physical cost of making labs in just that Department accessible only to authorized personnel would run somewhere between $30,000 and $50,000.

But of course, cost would not be the only – or even the main – issue. Access would be based on nationality – an untenable situation for a University committed to an open and nondiscriminatory environment. (The University has access controls in place for safety reasons in other areas, but such controls are based solely on the danger of the item, not on the danger posed by the potential user.) The IG's recommendations would create two classes of students, with one group – the students excluded from certain equipment – receiving an inferior education. Since American industry hires large numbers of international graduates of United States universities, industry has a stake in ensuring that all students have access to the best education universities can offer.

Thus, even if the University were to find only a few pieces of controlled equipment on campus, the research environment would be harmed by the change in regulation.

Cost Would Create Perverse Incentives. The cumulative burden of these procedures would result in perverse incentives for faculty. As we have seen in the area of research involving so-called select agents and toxins regulated by the Centers for Disease Control and Department of Agriculture, some faculty will change their research interests to avoid the cost, burden, and loss of privacy entailed by federal regulations.

The cost of using equipment governed by the CCL would also create a perverse incentive against having state-of-the-art resources. If the licensing process is as difficult as it appears to be, researchers may choose to use older equipment that is no longer controlled (e.g., older-generation microprocessor manufacturing processes), thereby slowing advancement of knowledge.

Neither outcome – faculty changing their research interests or making do with older equipment – would bode well for United States' leadership in research and research-intensive industries.

Impact on Recruitment. Furthermore, the proposed regulations may increase the already widespread perception that the United States does not welcome foreign students and scholars. First, the deemed export requirements are unique to the United States. Very few nations place any controls on transfer of use technology, and no country's scheme is as extensive as that in the United States. To the extent that technology controlled for export is available on the open market elsewhere in the world (e.g., Agilent oscilloscopes), the deemed export provisions do little to increase national security while simultaneously sending a message that foreigners are not to be trusted.

3. Alternative suggestions regarding concerns raised by the OIG.

Much of the equipment on the CCL is actually available for purchase on the open market elsewhere in the world. BIS should limit use technology controls to situations in

which the use technology is not publicly available, such as when conducted pursuant to a confidential disclosure agreement.

As If the list of controlled use technology is indeed small, BIS should publish a list that any layperson can understand in order to speed the process of coming into compliance.

Country of birth as part of licensing determination for a foreign national.

Current BIS deemed export license requirements are based on a foreign national's most recent citizenship or permanent residency. The IG recommended that BIS amend its policy to require foreign nationals who have access to controlled technology in the U.S. to apply for a license if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

This recommendation is both discriminatory and unworkable. Treating individuals differently because of their country of birth based solely on a vague and unsubstantiated suspicion that some foreigners may retain allegiances to the land where they were born goes against the very basic freedoms this country protects. We respectfully suggest that BIS not adopt this recommendation of the OIG.

Proposed modifications to regulatory guidance on licensing of technology.

The IG recommended that two questions and answers in Supplement No. 1 to part 734 of the EAR, which are provided to help license applicants understand how BIS applies the EAR to specific situation, be changed because they are either unclear or inaccurate. Yale wishes to comment on the proposed change in the answer to Question D(1).

The answer to Question D(1), which relates to whether a license would be required for a foreign graduate student to "work" in a laboratory, currently states that if the research in the laboratory qualifies as "fundamental research" and is therefore exempt from the EAR, then no license is required for the foreign graduate student. This should remain unchanged. BIS proposes to revise the answer for D(1) to state that "a license may be required if, in conducting fundamental research, the foreign graduate student needs access to technology to 'use' equipment if the export of the equipment to the student would require a license under the EAR."

We respectfully submit that the proposed clarification/change would be corrosive to the university research enterprise as well as confusing and potentially inaccurate. Even if BIS were to revise the definition of "use" and extend the application of the deemed export rules to transfers of use technology, the proposed answer to Question D(1) is overbroad. The answer appears to state that a foreign graduate student using any controlled piece of equipment would need to apply for a license if the equipment is controlled for export to the student's home country, even if that particular piece of equipment did not have any controlled use technology associated with it. This conflicts with previous comments of BIS officials who have indicated that the list of equipment with associated use technology is small.

Access to use technology during the course of fundamental research is absolutely essential to the fundamental research. If, however, BIS adopts the OIG recommendations and begins to require that foreign graduate students apply for export licenses if they do require access to controlled use technology during fundamental research, then we suggest that the proposed answer be modified to read as follows: "a license may be required if, in

conducting fundamental research, the foreign graduate student needs access to technology to 'use' equipment if the export to the student of the technology regarding "use" would require a license under the EAR."

Conclusion

Yale University appreciates the opportunity to comment on the proposed regulations. As described above, we believe that the United States must – and can – maintain its position as a world leader in research and discovery while still preserving national security. Over many decades, the fundamental research exemption has permitted United States institutions to continue to advance human knowledge and to invent new tools for the general welfare and the welfare of our nation. This exemption remains absolutely essential today, and it must not be undercut based on speculation and conjecture. The IG's proposals, while well-intentioned, are not based on evidence of any damage to our national security as a result of a foreign national obtaining use technology in the course of conducting research. Indeed, our evidence shows that the proposed changes, if implemented without change, would likely do little to increase our national security and could even weaken it, as they would impede research, dampen innovation, and decrease foreign participation in our colleges and universities. These negative effects on our country's research effort are too high a price to pay in return for a questionable increase in security. We respectfully urge BIS not to adopt the IG's recommendations.

With best regards,

Sincerely yours,

Richard C. Levin

Richard C. Levin

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June 24, 2005

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Washington D.C. 20230

Attention: RIN 0694-AD29

RE: March 28, 2005 Advance Notice of Proposed Rulemaking (RIN 0694-AD29)

Dear Ladies and Gentlemen:

We sincerely appreciate the opportunity to comment on the recently proposed changes to deemed export regulatory requirements.

As an institution, as a community, and as individuals within the institution and community, we are concerned about protecting our national strength and security. We are alarmed by these proposed changes because we believe they have the potential to swiftly and significantly undermine the national security and economic strength of the United States.

Our comments address the two major features in the proposed changes. The first is the interpretation applying "deemed export" licensing regulations to information required for operation, even in fundamental research, of equipment that may incorporate "use controlled" technologies. This would eliminate the fundamental research exclusion for all practical purposes. The second is the proposed revision to the definition of "controlled persons" to be based on their country of birth rather than their country of citizenship.

Our most serious concerns are these:

1. The proposed regulatory changes would not effectively reduce transfers of sensitive technology out of the United States.
2. The proposed regulatory changes would add substantial costs to the university research enterprise for which there is no funding source, resulting in diversion of funds from productive fundamental research and from community economic development to unproductive bureaucratic exercises.
3. **Most importantly, the proposed regulatory changes, if adopted, would substantially increase the risk to our national economy and to our national security by damaging both immediately and for the foreseeable future the fundamental research enterprise on which our country depends for its technological and economic advantages.**

ANALYSIS

1. The proposed regulatory changes would not effectively reduce transfers of sensitive technology out of the United States.

   * Understanding how to operate equipment in fundamental research is neither effective nor efficient as a tech transfer mode for those whose mission may be to export existing advanced technologies from the U.S. to foreign countries. Transfer of cutting edge technology generally requires acquisition of engineering specifications far beyond operating instructions. The technologies within equipment used in nonclassified fundamental research are not so rarified that the very knowledge of how to operate the equipment constitutes a valuable trade secret. None of this is classified research. In the unusual cases where the technology may require special protection, we have nondisclosure agreements with the owners of the proprietary technologies.

   * The existing Commerce Control List (CCL) that serves as the basis for deemed export control is not truly a list of cutting edge technologies. The CCL includes large numbers of old technologies that are commonly incorporated into the most mundane of equipment and in fact are often produced and sold in countries around the world.

   * Current statistics demonstrate the irrelevance of "deemed export" licensing to tech transfer concerns even in the commercial sector, much less the fundamental academic research arena. No statistics have been presented to support the concern that advanced technology is being inappropriately exported through fundamental research at universities. Furthermore, according to BIS, 85% of the deemed export license applications processed last year were approved and 14% were determined by BIS staff to be unnecessary after further evaluation. Only 1% were denied. This means that only 1% of the proposed "deemed export controlled" license transactions were identified as having even a potential for inappropriate technology transfer.

2. In addition to being unproductive as explained above, the proposed changes would add substantial costs to the university research enterprise for which there is no funding source. Significant resources would be diverted from productive fundamental research activity that contributes to our economic and technological strength to this unproductive bureaucratic exercise.

   * Fundamental research performance at universities is fundamentally different than commercial research and development, both in its fluid dynamic and in its serendipitous results that have caused the American research university to be one of the U.S. institutions most admired, respected and envied internationally. Fundamental research in a research university setting is not performed in small restricted labs with small stagnant pools of employees and equipment. It is dynamic, with constant evolution and reconfiguration of equipment, research team members, and ideas. Research and education at the university are inextricably intertwined. Our researchers are employees, visiting scholars and students actively involved in movement through many projects and labs. This creative, productive fluidity means that the proposed changes would require that we analyze every piece of equipment used in research on this campus for every possible nationality of user.

   * On our campus alone, each year we have approximately 2500 students, employees and visiting scholars of foreign citizenship from around the world, more than 500 of whom are from China, India and South Korea. We maintain approximately 12,000 pieces of research equipment at any one time, acquiring at least 800 new pieces of research equipment each year. This does not include research equipment that we create in the course of performing research. While we have been told that the only equipment we would need to be concerned about is equipment controlled with respect to "use

technology," identifying this subset of equipment would require that we evaluate every piece of equipment operated in our research. Not only would the prospectively required number of equipment analyses be huge, but each analysis would be lengthy and inefficient and would require expensive technological expertise. The clues that there may be a "use technology" control are buried in cryptic references within pages and pages listing specifications for technologies, many of which we may not even know are incorporated within equipment we have purchased. Researchers who have reviewed at our request segments of the CCL in their areas of expertise have expressed astonishment at how technologically outdated these CCL sections are and how undecipherable the descriptions within the CCL are for practical determinations by persons other than product manufacturers.

- After completing our analyses, BIS deemed export license applications statistics indicate that we can expect at least 14% our applications for licensure to require further BIS analysis. And at the end of all this, current BIS statistics suggest that at most perhaps 1% of the applications may yield a deemed export scenario that BIS would choose not to license.

- We are not a commercial entity and have no unit product price onto which we can tack the cost for this process. Existing F&A rates do not cover even existing overhead costs for federally sponsored research, much less the cost of the extensive campus bureaucratic process that would be required to comply with the proposed "deemed export" coverage of fundamental research. The effect will be to divert scarce campus resources from fundamental research to export control procedures.

- If the Department of Commerce staffing were not increased to handle the dramatically multiplied volume of license applications that would be submitted under the proposed changes, we anticipate the licensing process would virtually grind to a halt, as would many federally sponsored basic research projects that depend on the participation of foreign students and scholars.

3. **Most importantly we believe that the proposed regulatory changes, if adopted, would substantially increase the risk to our national economy and to our national security by damaging both immediately and for the foreseeable future the fundamental research enterprise on which our country depends for its technological and economic advantages. The destructive effects on U.S. university fundamental research could emerge rapidly and would continue to develop exponentially.**

   - Fundamental research in the United States is heavily dependent on foreign-born scholars. It has been documented extensively that our U.S. born population is not generating enough scientists and mathematicians for continued technological progress. As just one recent example, a report of the National Academies released May 10, 2005, states that 33% of the Ph.D.s in science and engineering in the United States went to international students in 2003. In computer science alone, the United States has been a net importer of foreign talent since World War II. A large proportion of these computer scientists have come from India and China and have stayed to form the backbone of our domestic computer science industry following their participation in university research. The economic and military strength of our country is dependent on our technological and scientific advancements. These technological and scientific advantages in turn depend heavily on scientists of foreign birth and citizenship.

   - To close our research to foreign scholars would impoverish our own technological progress while our competitors forge ahead. Foreign born scholars would be deterred from coming to our universities because of the delays and uncertainties generated by application of deemed export control regulations to mere operation of equipment in fundamental research activity and because of their unwillingness to be treated as

suspicious persons. Declining participation by foreign scholars and students would dramatically reduce the output of fundamental research in the U.S. within only a few years, putting our country at an absolute disadvantage in economic competitiveness and security that would be unlikely to be reversible in less than a decade, and only then with dramatic infusions of financial and political resources.

- **Our losses will be our international competitors' gains, and those gains will grow rapidly and exponentially.** Many of the technologies in the CCL are readily available and not controlled in other countries. The expertise of international scholars is appreciated and actively sought by the countries that are our economic and military competitors. The more difficult we make the entry and research participation of these scholars, and the more messages we send that they are disfavored on the basis of their birthplace, the more they will choose to study and conduct research in the countries that compete with us. In the intensely competitive realm of computer science we have already seen a reduction in the number of international applicants to U.S. computer science programs because of visa rule changes.

  Each time a foreign scholar chooses to establish his or her research career and research collaborations with another country rather than the U.S., we lose – and our competitors gain - not only that scholar's expertise but also the contributions of the stream of young scholars from his or her home university who will follow in future years. Promising young foreign scholars establish their research careers and collaborations abroad based on the positive experiences of other scientists from among fellow alumni or previous faculty of the universities at which they received their early training. Once a nexus of talented foreign scholars is established in a country, there is a strong momentum for continuing attraction of the best talent from among their fellow nationals. The United States has benefited enormously from this phenomenon in the past. The proposed regulations would generate this dynamic in nations who are our competitors, and our existing advantages in recruiting talent would quickly disappear, replaced by large disadvantages.

- As just a few examples of the kinds of losses that this rule change would likely generate, look at the following biographies of only four of the foreign born recent Nobel Prize winners who have chosen to make their research careers in the United States. In each of these stories, had the proposed restrictions on operation of CCL-listed equipment in fundamental research by foreign students, scholars and employees been in effect, it is hard to imagine that these men or hundreds of other foreign born researchers like them, would have been able or willing to become engaged in the U.S. research that has contributed so significantly to American science and technology.
  Ahmed Zewail - http://nobelprize.org/chemistry/laureates/1999/zewail-autobio.html (born in Egypt)
  Daniel C. Tsui - http://nobelprize.org/physics/laureates/1998/tsui-autobio.html (born in China)
  Gunter Blobel - http://nobelprize.org/medicine/laureates/1999/blobel-autobio.html (born in Silesia)
  Daniel Kahneman - http://nobelprize.org/economics/laureates/2002/kahneman-autobio.html (born in Israel)

- Furthermore, transformative scientific research frequently is the product of international collaborations. A requirement that educational institutions obtain licenses merely to permit foreign born scholars to operate scientific equipment in fundamental research on U.S. soil would lead more international collaborations to be based in other countries. Increasingly, American scientists would be working on research based and controlled outside the U.S. Should those countries choose to follow our lead in restricting access, we could very quickly find that our U.S. scholars are the excluded research participants.

- This alarm is not the result of abstract theorizing. The dynamic has already begun as U.S. companies have moved their manufacturing operations abroad. Microsoft has been granted authority to offer PhDs in China. We have heard of other entities' plans for off shore transfer of entire research programs to avoid the increasing pattern of delays and uncertainties created by U.S. regulatory activities. The trend is also very clear in clinical research as pharmaceutical companies are performing increasing percentages of their clinical trials overseas to reduce overhead. In every way our competitors are capitalizing on the expanding difficulties of conducting research in the U.S. We cannot afford to accelerate this process through the proposed EAR changes.

- The serious destructive effects would not be limited to our scientific and technological development. Many of our research projects and programs include international training and development components in service of goals set by the federal government. These projects create technological and procedural expertise that is sorely needed in the third world to which the foreign scholars will return, but does not include a transfer of technologies that are either proprietary or classified. However, the blanket campus procedures that the new EAR deemed export approach would require would have a pronounced chilling effect on these projects as well as on all of our international outreach and education projects that provide the international expertise that U.S. enterprises require for global competitiveness in every dimension.

The proposal to categorize foreign nationals by their country of birth rather than by their current country of citizenship raises potential issues of national origin discrimination as well as other serious concerns.

- While preventing the export of vital proprietary and secret technology is a substantial governmental interest, to withstand a strict scrutiny, any classification based on national origin must be narrowly drawn to accomplish the purpose. It seems unlikely that the courts will view blanket classifications of all individuals born in a given country as narrowly drawn.

- If the regulations were amended to require classification by country of birth, it would be difficult or impossible for the university to obtain reliable information on the country of birth for every foreign student or scholar. A U.S. visa shows only the individual's nationality, not country of birth, and we have no way to verify the country of birth independently. Not all passports contain this information.

RECOMMENDATIONS

Maintain the fundamental research exclusion. Do not destroy its practical value by extending "deemed export" coverage to information required for the mere operation of equipment in fundamental research. Fundamental research is the engine of our economic and military strength as clearly stated in NSDD 189 in September 1985 and reaffirmed by Dr. Condoleeza Rice in November 2001, when she wrote: "The key to maintaining U.S. technological preeminence is to encourage open and collaborative basic research. The linkage between the free exchange of ideas and scientific innovation, prosperity, and U.S. security is undeniable." The extension of deemed export controls to operation of equipment in fundamental research would gut the essence of the fundamental research exclusion, with profound negative consequences for our national strength and security.

Identify and control through the immigration process the very limited subset of persons who may truly be of concern. As we have explained above, the dynamic nature of fundamental research means that there are constantly changing interactions of personnel, equipment and ideas on our campus. A process to identify, analyze and apply for an export license for every possible equipment "use technology" in fundamental research on campus by a person of foreign citizenship and birth is extremely expensive and inefficient. And if the current data are any

indication, the end result is likely to be less than a 1% identification rate of scenarios with potential for concern, none of it involving classified or proprietary research. The most efficient and effective point of deemed export control is at entry into the United States through the checking and vetting of individuals in the visa process. The issuance of a visa to an individual for study or employment at a U.S. university should constitute permission for the individual to participate in all nonclassified university activities, including operating equipment in the performance of fundamental research at the university.

Thank you very much for this opportunity to comment. We all share a love of this country and deep concern for its strength and security.

Sincerely,

Robert N. Shelton
Executive Vice Chancellor
and Provost

RNS:lan

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

College of Engineering

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June 24, 2005

Matthew S. Borman
Deputy Assistant Secretary for Export Administration
U.S. Department of Commerce, Bureau of Industry and Security,
Regulatory Policy Division, 14th and Pennsylvania Avenue, NW, Room 275,
Washington DC 20230; Attn. RIN 0694-AD29

Dear Mr. Borman:

On behalf of the College of Engineering at the University of Illinois at Urbana-Champaign, I wish to comment on the "Revision and Clarification of Deemed Export Related Regulatory Requirements RIN 0694-AD29," proposed revisions to15 CFR parts 734 and 772, published March 28, 2005.

One of the greatest testaments to this country's leadership in the world, and a key benefit of a freely democratic society, is our system of higher education. It draws the brightest minds from around the globe to the United States, and provides unique opportunities to demonstrate the values of our society on a one-to-one basis.

I offer this comment not only as a college administrator, but as someone who has personally benefited from these opportunities. In 1971, I came to the United States as a college student, earning both my undergraduate and graduate degrees at the University of California, Berkeley. Following an IBM postdoctoral fellowship and a teaching position at Cornell University, I returned to the country of my birth to head a department of electrical engineering at a technological university.

It was not long until I realized that the United States offered significant opportunities that were not available in the country of my birth. Here, I could certainly make the most of my education, to build a good life for myself and my family. But more importantly, here was the opportunity to pay back what I had received—to fully manifest my own contributions as a researcher, professor, center director, and most recently, as interim dean of the College of Engineering.

At last count, our college included 5,681 undergraduates and 2,679 graduate students. Of these, more than 1,800 are international students. After graduation, some of our international students will return to their native countries, using what they have learned to build and to lead. Others will stay here, contributing their considerable gifts to this country's economy.

The proposals for obtaining export licenses for certain international faculty, staff, and students or visitors from countries of concern will create a hostile and intimidating environment, not only for those international visitors at whom it is targeted, but for all of our foreign scholars, many who will go elsewhere. We will not only lose their gifts and diversity of views, but also the opportunity to inculcate this society's values, which will be exchanged for others.

As we endeavor to secure our freedoms from all threats, let us not forget our place in the global economy. Let us not close the door to global leadership and the long-term economic stability of this nation by sapping our ability to attract and keep the very best minds.

Sincerely yours,

Hesanmi Adesida
Interim Dean

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June 24, 2005

VIA OVERNIGHT DELIVERY

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Dear Mr. Lopes:

This letter is The Ohio State University's response to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) asking for comments on the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of fundamental academic research.

The University welcomes and appreciates this opportunity to provide our views and to inform the Bureau of Industry and Security (BIS) of the impact that implementation of the IG recommendations would have on our teaching, service and research missions, as well as on the University's 4,300 international students, 1,500 international scholars, and our international faculty. Specifically, BIS's implementation of the IG's recent recommendations would, at best, result in a significant additional compliance and cost burden on the University, as a result of the hundreds of new export licenses that the institution would be required to apply for each year, as well as new processes required to restrict access by international students and scholars to equipment used in the classroom and in fundamental research.

At worst, implementation would restrict the comprehensive educational experience that the University currently offers to international students, as well as limit collaborative research conducted with our international fellows and scholars. Both activities enrich our entire University community and are vital to maintaining our ability to create innovations in medicine, science and engineering.

Of the recommendations, the University is most concerned with the definition of "use" proposed by the IG and, specifically, the lack of clarity of what, precisely, constitutes "use technology" for the purposes of the deemed export licensing requirements. The vast majority of equipment used by international students and scholars at the institution is generally available for purchase by the public and does not include proprietary information, such as the manufacturer's software designs or source code. As such, for the purpose of the deemed export licensing requirements, the University asks that BIS clearly define "use technology" as being limited to information that is received by academic institutions on an exclusive basis or under a non-disclosure agreement, which formally restricts access to such equipment to specific researchers.

The University is also concerned with the IG's recommendation that deemed export license requirements be based on a foreign national's country of origin, rather than on the individual's country of citizenship or permanent residency. Like most universities, we do not presently track this information, and would incur a significant burden and costs in doing so for our foreign students, visiting scholars and our international faculty.

The University remains fully committed to protecting the country against potential threats. In response to the concerns raised in the IG' report, we are reviewing and improving our export control processes and providing additional training to our faculty and professional staff in research administration, sponsored programs, and technology licensing.

Thank you again for the opportunity to provide our views and suggestions.

Sincerely yours,

Robert T. McGrath
Senior Vice President

cc: Karen A. Holbrook, President

From: "Beth H. Israel" <bhi1@columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Fri, Jun 24, 2005 4:04 PM
Subject: RIN 0694-AD29

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June 24, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230
ATTN: RIN 0694-AD29

Dear Sirs/Mesdames:

On behalf of Columbia University, I am responding to the request of the Bureau of Industry and Security ("BIS") of the Department of Commerce to provide comments on the proposed Revision and Clarification of Deemed Export Related Regulatory Requirements published in the Federal Register on March 28, 2005 (the "Proposed Revision"). The Proposed Revision would adopt the recommendations of the Office of Inspector General ("OIG") with respect to (a) broadening the conditions under which the use of controlled technology by foreign nationals would require an export license, including in connection with fundamental research and (b) basing the requirement for a deemed export license on a foreign national's country of birth.

Columbia University considers itself a truly international university. We currently have more than 1,600 research scholars and 6,100 students from non-U.S. countries, who participate in University classes, laboratories and research centers. These scholars and students add immeasurably to the intellectual life of Columbia and are important partners with our faculty in the great scientific and technological research for which Columbia is so well known.

We are deeply concerned about the impact that the Proposed Revision would have on our own community specifically and on U.S. academic institutions generally. We concur in the comments made in the June 2005 letter from Kate Phillips, the President of the Council on Governmental Relations ("COGR"), to Mr. Alexander Lopes, the Director of the Deemed Exports and Electronics Division of BIS (the "COGR Letter") and in the June 2005 White Paper of the Commission on Scientific Communication and National Security entitled "Security Controls on Scientific Information and the Conduct of Scientific Research" (the "White Paper") and we urge BIS to follow the recommendations set forth in the White Paper.

In particular, we concur with the following positions that are articulated in the COGR Letter and the White Paper:

1. Scientific and technological accomplishments are vital to the strength of the U.S. economy and the defense of this nation.

2. The contribution of foreign students and scholars is increasingly important to our academic and scientific research enterprise and it is in our interest to attract the best and the brightest to this country.

3. The current U.S. policy on fundamental research, as set forth in National Security Decision Directive 189, represents a careful balance between the needs of research institutions and the requirements of national security, and classification should remain the mechanism by which research results are controlled.

4. The Proposed Revision would severely restrict or even eliminate a university's ability to maintain an open, spontaneous and collaborative research environment.

5. Because of the wide access to technology that is available from uncontrolled sources outside the United States, the Proposed Revision provides little or no security benefit to this country.

6. The Proposed Revision, including its recommendation that licensing requirements be based on a foreign national's country of origin, will force Columbia to discriminate against certain foreign nationals, which runs counter to University policy and may be unconstitutional.

7. The administrative burdens on a university imposed by the Proposed Revision will be great – in establishing which of our current 78,000 pieces of equipment would be subject to the regulations, in screening foreign national students, in controlling access to certain equipment and in the delays related to the processing of many additional export licenses.

In sum, we believe that implementation of the OIG's recommendations will have a direct and adverse impact on the United States' leadership position in science and technology and, as a result, is not in the best interests of this country. If enacted, the OIG's recommendations will violate the basic tenet of universities such as Columbia – that the academic community should be open intellectual environment – and will impede the flow to this country of talented scholars who contribute significantly to our research enterprise. We believe that the contribution of these regulatory changes to our national security will be negligible and will be greatly outweighed by the need to keep the United States at the forefront of scientific and technological discovery.

Very truly yours,

David Hirsh

Executive Vice President for Research

CC: <bhi1@columbia.edu>

From: <ghabicht@notes.cc.sunysb.edu>
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Date: Fri, Jun 24, 2005 4:36 PM
Subject: RIN 0694-AD29

24 June 2005

Alexander Lopes, Director
Deemed Exports and Electronics Division
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Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230 Attn: RIN 0694-AD29

Subject: Revision and Clarification of Deemed Export Related Regulatory Requirements: Advance notice of proposed rulemaking (70 FR 15607, March 28, 2005).

Dear Mr. Lopes:

The State University of New York (SUNY) at Stony Brook (Stony Brook University: SBU) welcomes the opportunity to comment on the Department of Commerce Inspector General Report that addresses deemed exports. Implementation of the report as written will impose a heavy burden on university-based fundamental research. The university missions of education and creation of new knowledge are carried out by both faculty and graduate students, many of whom are foreign born. Free and open access to laboratories and their equipment for all researchers is essential for maintaining U.S. dominance in high technology fields.

SBU is the research university flagship of the SUNY system with more than $160 million in sponsored program expenditures last year. It makes significant contributions in the fields of biomedical science, engineering and the physical sciences many of which have applications in biodefense and national security. Our students and faculty come from more than 100 nations around the world. The application of deemed export requirements to fundamental research at universities would hamper our ability to the U.S. position of world leadership in innovation, higher education and the global economy.

Specific areas of concern include the IG Report recommendation to revise the definition of use technology, failure to use the visa process to screen out individuals of concern, use of the foreign national's country of birth as a criterion for determining need for a deemed export license, and failure to maintain the fundamental research exemption for university research.

SBU recognizes the need for securing our technological and intellectual

superiority but does not believe that this will be achieved by imposition of "deemed export" regulations on university fundamental research.

Sincerely yours,

Gail S. Habicht, Ph.D.
Vice President for Research

GSH

From: Joan Braddock <ffjfb@uaf.edu>
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Date: Fri, Jun 24, 2005 2:26 PM
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June 24, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks' research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
- students opportunities for "real world" experience;
- financial burden of making export determinations for all existing university research equipment;
- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog

courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,
Joan Braddock, Dean

U N I V E R S I T Y O F A L A S K A
F A I R B A N K S

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From: Nicholas Christie-Blick <ncb@ldeo.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Fri, Jun 24, 2005 6:00 PM
Subject: No on New Export Control Requirements

U.S Department of Commerce
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Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a persons country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nations greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of our colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment - would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely, but it would be non-trivial. I have been engaged in international research for more than 20 years. Current US policy in Iraq has already had a chilling effect on co-operative research in the Red Sea and Gulf of Suez through the National Science Foundation Margins Program, essentially freezing research that was many years in the making through consensus building and planning in the US Earth science community. Further restrictions would be completely counterproductive to US interests because they would serve only to alienate further the countries with which we need to be engaged.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge

research can flourish only in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

Nicholas Christie-Blick
Professor and Chair, Department of Earth and Environmental Sciences, and
Deputy Director for Education,
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
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Date: Fri, Jun 24, 2005 12:14 PM
Subject: RIN 0694-AD29

Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security

The proposed rules published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" are unreasonably broad and will harm the security of this nation. The scientific community depends critically on foreign graduate students, and they need to participate freely in basic research endeavors or they will not come here for their education. In my experience, the vast majority of foreign students in the sciences stay in the United States and become productive citizens. Without this influx of talent, our nation will lose its economic and military edge, and the proposed rules will certainly limit our ability to attract the best students and thus limit this flow of talent.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Sincerely,

Peter Schiffer

****

Peter Schiffer

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From: "Brodsky, Stanley J." <sjbth@slac.stanford.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/24/05 12:53AM
Subject: RIN 0694-AD29

Comments on Commerce Department proposed rules: RIN 0694-AD29

I am extremely concerned about the negative impact that the proposed rules on export controls would have on the advancement of scientific research in the U.S.

The United States has greatly benefited from the talented foreign scientists and students who have often provided our country essential leadership and critical advances. These same scientists have often chosen to stay in the U.S. and have become the leaders and directors of the American scientific enterprise. It would have a negative impact on our national security to lose these scholars and leaders.

In my field of high energy physics, progress depends critically on international collaboration. The proposed rules would severely restrict U.S. scientists from such cooperation.

The implementation of the proposed rules would be incredibly burdensome and unwieldy, again harming the advancement of science and technology.

I am very concerned about national security and the promulgation of dangerous technologies to hostile countries and individuals. However, I believe the proposed rules will do more harm than good in protecting U.S. vital interests.

Stanley J. Brodsky
Professor
SLAC, Stanford University

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From: "John Gilligan" <gilligan@gw.fis.ncsu.edu>
To: <publiccomments@bis.doc.gov>
Date: Fri, Jun 24, 2005 5:12 PM
Subject: RIN 0694-AD29 (Resend)

Comments being submitted relative to RIN 0694-AD29. Thanks.

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North Carolina State University is a land-grant university and a constituent institution of The University of North Carolina

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June 23, 2005

Acting Under Secretary Peter Lichtenbaum
Bureau of Industry and Security
United States Department of Commerce
14th & Constitution Ave. NW
Washington, DC 20230

Dear Under Secretary Lichtenbaum:

I am writing on behalf of NC State University to make formal comments in response to the Department of Commerce Advance Notice of Proposed Rulemaking (ANPR) that was published in the Federal Register on March 28, 2005 (RIN 0694-AD29). The ANPR asks for comments on the recent recommendations of the Commerce Inspector General (IG) in Report No. IPE-16176 (March 2004) with regard to "deemed exports" at U.S. universities. We believe the Inspector General's report made a number of errors regarding the security concerns surrounding the conduct of fundamental research at the nation's universities including discounting the use of the visa screening process to minimize national security concerns, the relative risk and rewards to the United States that come from the inclusion of foreign nationals in the university-based research enterprise, the internationally competitive nature of today's research climate and the suggestion that a foreign national's country of birth should form the basis for needing a deemed export control license. Many of our comments are in agreement with the Council on Government Relations (COGR) and other university associations.

NC State considers the security of the United States of paramount importance and we want to continue to do our part to support national security. Current U.S. government policy as expressed in National Security Decision Directive (NSDD) 189 provides that classification is the only appropriate mechanism for government control of fundamental research information. This policy has for many years protected concerns about the small portion of U.S. academic research that is likely to pose a real security risk for the nation. We have seen no evidence that this approach is not effective.

We are in agreement with the Council on Government Relations (COGR), The National Association of State Universities and Land Grant Colleges, American Association of Universities and others in expressing strong opposition to many of the recommendations of the Commerce Department's Inspector General's report. Below are a number of concerns NC State University has with the proposed rules.

Visa Screening Process

With regard to the access of foreign nationals to U.S. university research and education, the visa process is intended to screen foreign nationals and to assess their threat to national security before approving their entry into the country for purposes of pursuing a particular course of study. Visa applications are reviewed by federal agencies, including the Departments of State, Homeland Security, and other concerned agencies. As part of this process, typically extensive background checks are conducted on foreign nationals coming to U.S. universities to study or do research in fields that may give rise to concerns about access to technology ("visa mantis"). If, after screening a foreign student or researcher, our government approves the individual's entry into our country under a visa that permits study and research at a U.S. university, that individual should be permitted to join the academic research community of the university and fully participate without additional barriers. If there are issues in the visa security assessment process, they should be addressed in a manner that also achieves efficiency in processing visas. We believe that the United States should not use the deemed export licensing regime to attempt to solve the problem; doing so, as discussed below, will change in fundamentally destructive ways the open, international, collaborative and spontaneous academic research environment that is the foundation of its success.

The IG report provides no evidence that the existing control regime is not effective, nor as to why a separate burdensome control regime is necessary. A number of recent reports have documented the increasing international competition for scientists and engineers, and the importance of science, technology, engineering and mathematics ("STEM") as drivers of the national and global economies. The June 2004 report of the President's Council of Advisors on Science and Technology (PCAST) on *Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities* (available on the web at:http://www.ostp.gov/pcast/FINALPCASTSECAPABILITIESPACK-AGE.pdf) cautions that the U.S. is falling behind other nations in STEM fields. This report and others (e.g. National Science Board Science and Engineering Indicators 2002, available at http://www.nsf.gov/sbe/srs/seind02/start.htm) find that the nation's prosperity depends on the strength of STEM education, commerce and industry. Yet, the PCAST report cites two worrisome trends: U.S. students pursue STEM careers at significantly lower rates than their international counterparts, and "clear signs that security concerns may lead to unworkable and counterproductive policies and controls…" that will lead foreign students to pursue their education at non-U.S. universities.

The PCAST report notes that "Clearly stated, foreign students and scholars are critical to our national vitality," and that "The openness of our campuses to students, scholars, and faculty from all over the world is one of our greatest strengths, and is at the heart of the phenomenal success of the American research university..." PCAST also notes that "[w]hile U.S. students' interest in STEM careers is declining, foreign countries are significantly increasing the number of STEM graduates…of their universities, enabling

them for the first time to attract technology-based jobs in very large numbers" and putting the U.S. at serious risk of falling behind other nations in these fields, and ultimately of losing its leadership in innovation and the global economy. The PCAST report concludes that due to the trends discussed above, "our entire national innovation ecosystem is at risk. It would be difficult to overstate the importance of this issue." When our economic ecosystem is at risk so is our national security.

Recent data from the Council of Graduate Schools (CGS) International Graduate Admissions Survey reinforce the concerns expressed by PCAST. The data show that U.S. international graduate applications for fall 2005 are down by 5% as compared to applications for fall 2004, which in turn declined 28% from the previous year. With regard to field of study, declines are shown in all fields of science and engineering. Engineering applications declined 36% from 2003 to 2004 and another 7% from 2004 to 2005. For physical sciences the declines were 22% and 3% respectively; for life sciences 24% and 1%; and for social sciences 20% and 4%.

The participation of foreign nationals is essential to the university research enterprise, as documented in the PCAST report. At NC State, 1,581 international students were enrolled in 2004, including 1,322 graduate students. Total fall 2004 graduate student enrollment (on-campus and off-campus) was 5,971. International students (1,322) comprised 22.1% of the total graduate school enrollment – an increase from 1235 students and 21.8% of total enrollment from the previous fall. In addition, at NC State, over 300 faculty members (21%) are foreign born faculty. These international members of NC State's faculty are vital contributors to the research, teaching and outreach enterprise at NC State.

NC State believes the IG recommendations should be seen in the context of their potential for further chilling university research, for enhancing the perception that U.S. universities are less welcoming and less desirable for foreign students and researchers, and for furthering these adverse trends in our nation's leadership role in the world and in our national security. It is critically important to balance the relative benefits and burdens when measures, such as deemed export controls, that are aimed at one type of security, potentially may undermine other important national interests, such as the innovation, education, economic and national security interests that derive from the U.S. academic research endeavor. The IG report fails to identify with specificity the security risk that the current university interpretation of deemed exports in the fundamental research context allegedly poses, and fails to demonstrate any understanding of either the essential attributes of the successful U.S. university research environment or the strategic importance to the nation of the international dimension of U.S. academic research and higher education.

The IG Report Misconstrues the Scope of the Fundamental Research Exclusion and Does Not Consider the Need for An International, Open, Collaborative, Spontaneous Research Environment for U.S. Universities

The ANPR discusses the allegation in the IG report that confusion exists on the part of universities over the definition and implementation of controls associated with the use of equipment controlled for use technology under the Export Administration Regulations (EAR) by foreign nationals conducting fundamental research on U.S. campuses. The IG believes that technology relating to the use of controlled equipment—regardless of how use is defined—is subject to the deemed export provisions of the regulations (EAR 734.2(b)), even if the research being conducted with that equipment is fundamental. While BIS indicated its agreement with that interpretation in its response to the IG's report, BIS had not previously stated this interpretation. The IG report itself notes that in BIS' interpretation, "the same definition of use does not seem to apply to 'deemed exports.'" We believe that the IG position is debatable and that BIS should reconsider its inclination to concur with the IG, if the essential nature of university research is to be preserved.

Fundamental research relies for its success on an open, international, collaborative and spontaneous research environment where members of research teams and their colleagues from the university community freely visit each other's laboratories, participate at the spur of the moment in work with equipment, and convey ideas and information, without constraint. Research is conducted at all hours of the day and night. Fundamental research cannot be done without using equipment and conveying information on how to use equipment. In fact, fundamental research and the use of, and the conveyance of information on how to use, equipment are inseparable. In the spontaneous, collaborative and open academic research process, the path to discovery and new knowledge cannot be predicted in advance. For the fundamental research exclusion (FRE) from export control requirements to be meaningful, it must include the ability of researchers to freely use otherwise controlled equipment, to alter existing equipment when a new idea or theory arises and to create new equipment. This environment is at the foundation of the success of the U.S. academic research endeavor. Implementation of the IG recommendations potentially could stall or suspend the research process because of the need to err in favor of seeking licenses for the foreign national members of university research teams.

Universities have assumed that the only reasonable interpretation of the FRE is that the exclusion must include the right for foreign students and researchers to use, alter and create, and to receive information on how to use, alter and create controlled equipment while conducting fundamental research on U.S. university campuses. If the exclusion does not include this ability, and conveyance of use technology is to be licensed and access to it controlled, it will be necessary to change the whole context of university fundamental research and to limit a university's ability to maintain an open, international and collaborative research environment on campus. Acceptance of the IG position would mean that many, if not all, foreign nationals may need to be licensed by the government,

as a practical matter, before participating in university research because the possibility of encountering use technology-controlled equipment and of conveying information on how to use such equipment cannot be predicted, controlled, or separated from the use itself in this highly spontaneous and collaborative environment.

The IG report does not demonstrate an understanding of these essential attributes of the U.S. university research environment which has been critical for innovation. It fails to substantiate the alleged risk from transmittal of technologies in university research, especially given that most items of controlled equipment at universities are actually readily available without restrictions in the U.S. and abroad. If implemented, the IG recommendations could have a highly disruptive effect on the successful and productive U.S. academic research enterprise.

Not all equipment is controlled for use technology. However, U.S. universities have—and must have--open and free-flowing research environments on campus. Regardless of the number of deemed export licenses ultimately required, universities would have to track the nationality of the members of their campus communities, isolate foreign nationals from other members of the campus community, and either license most foreign nationals on their campuses to ensure that they may go anywhere and participate in any way that U.S. citizens may on campus—or restrict foreign nationals' activities generally until determinations of what is and is not controlled can be made to avoid running afoul of potential deemed export requirements.

Neither option is attractive. NC State would have to condition and limit at worst, and significantly delay at best, participation of foreigners in research, and visitation of research laboratories, where equipment controlled for use technology may be encountered. NC State will have to err on the side of applying for licenses whenever equipment that is controlled for use technology may be used or altered in the research. will have to exclude foreigners from our campus, or will have to change the openness of our research environment, undermining one of its biggest strengths. Also, it is important to appreciate that use of equipment and conveyance of use technology are, in practice at universities, indistinguishable. Even if this means "only" a delay in a foreign researcher's or student's participation and visitation rights, and not a complete bar, the effect may be the same. Because research will proceed on schedule while a foreigner is unable to participate or visit, the foreigner may lose the opportunity to participate and visit. The best international talent will likely seek to study and conduct research in other countries where they will not be similarly isolated and constrained.

NC State will be constrained in our basic mission to expand and disseminate knowledge broadly over the long term. This will ultimately undermine this nation's innovation and education leadership, economy, and security. The only practical option available to a university if the IG recommendations are implemented may be to provide Commerce with a list of the thousands of pieces of research equipment in use on campus and to request a deemed export license for all use controlled equipment for all foreign nationals

on campus who may engage in any research. This may be the only way to maintain the open and international research environment while assuring deemed export licensing requirements are met.

Implementation of the IG Proposals Can Be Expected to Result in Increased Deemed Export Licensing

The ANPR asks for specific information regarding the impact of the IG recommendations, particularly data on the number of foreign nationals in the U.S. who will face licensing requirements if the IG's recommendations are adopted. It is impossible to precisely quantify the number of deemed export licenses that would be required under the IG's interpretation without undertaking the, we believe, excessive steps to determine how many controlled items are in use at NC State and the number of foreign nationals that have access or could have access to the items. We anticipate that a significant number of deemed export licenses would actually be required based on the types of equipment that are controlled for use technology, the numbers of graduate students studying at NC State and faculty members who are citizens of countries for which equipment is controlled for use technology, and the open, collaborative and spontaneous research environment that will counsel in favor of licensing many foreign graduate students to preserve their ability to fully participate.

At NC State, we keep inventory on the total number of items of research equipment listed in our inventory systems for equipment whose costs exceed the federal capitalization threshold ($5,000). However, it is unclear how many pieces of this equipment currently are controlled for use technology. All of this equipment would need to be assessed to determine whether deemed export controls might apply. In addition, NC State University has many items of equipment with a cost below $5,000. These items also would need to be assessed. It is conceivable that at NC State, the number of such items may exceed by a considerable extent the number of items included in the capitalized inventory.

Any equipment data needs to be considered in the context of the number of foreign students and researchers at our universities, including NC State, who potentially might be subject to deemed export licensing requirements. With regard to the potential licensing implications, data from the Institute of International Education indicates that for the last academic year (2003/04), the total number of foreign students in STEM fields at U.S. institutions of higher education was over 260,000. Many types of equipment that are controlled for use technology require licenses for deemed exports to these countries.

This kind of data, and the data from NC State, does not provide specific information on the number of foreign nationals at U.S. universities who would face licensing requirements if the IG recommendations were adopted, as requested in the ANPR. However, many foreign graduate students at NC State are in fields where they will need to use equipment controlled for use technology and may need to be licensed if the proposed rules are adopted. The same would apply to foreign postdoctoral and other

researchers at U .S. universities, including NC State. The data above suggests the order of magnitude of the potential impact of the IG recommendations.

Implementation of the IG Proposals Will Result in Significant Increased Administrative Burdens for Universities

The ANPR also asks for the impact of compliance if new licensing requirements were adopted in terms of costs, resources and procedures. Clearly the impact of any order of magnitude increase in deemed license applications from universities will fall both on BIS and universities. As with the data above, precise estimates are impossible without a large investment of time and resources to determine the scope of the new requirements. To complete an application, one must have a good understanding of the technology, the application of the technology by the specific individual, and a complete understanding of the person's background. We have been advised that license applications for industry take 10 or more person hours to produce by the time one gathers the information (which usually requires multiple requests), drafts it, verifies it and then writes it up. There would of course be economies of scale in completing multiple applications but the time involved for university personnel at NC State and other institutions would be extraordinary in any event.

In addition to the burdens associated with completing and submitting actual license applications, the administrative burdens and costs for universities of making the determination of whether a piece of equipment that will be used in research is controlled for use technology are substantial and in our view excessive. The burden of assessing the need for deemed export licenses for foreign nationals working on our campus would be high, and would involve consultations with expert outside counsel, principal investigators, and the manufacturers of the equipment.

To consider undertaking this analysis for all laboratories and pieces of equipment in use in research universities across the nation would, in and of itself, be an enormous and very costly undertaking in light of the numbers of pieces of equipment and the numbers of laboratories at research universities. The types and models of equipment in use in research are ever changing, making this effort an ongoing and not one-time requirement if the IG's interpretation is implemented.

The federal government must determine whether taking this action is so important to national security that it is worth an investment of major proportions to fund this undertaking. NC State and other research universities could not afford the cost without federal support or a significant reallocation of existing scarce research dollars from the actual research to this administrative undertaking. Federal spending for basic and applied research at universities already will be reduced under the Administration's budget plan for FY2006. It would be devastating for university research at NC State to endure further effective cuts from a reallocation of existing research dollars. We believe the nation's leadership must consider the relative value or detriment of compelling so many

resources to be devoted to this undertaking when there has been no evidence presented of any inadequacy in the current approach of relying on the visa process combined with classification when warranted. And as stated above, if universities take the approach described above and ask Commerce to broadly license foreigners involved in research, the burden will also fall on the Department of Commerce.

The IG Report Fails to Articulate What Risk Is Not Being Properly Managed

In view of the potential chilling effect on university research and the national interests served by such research, and the substantially increased administrative burdens and costs associated with making a determination of what is controlled, we believe the IG should have articulated to a much greater extent the precise nature and degree of risk associated with conveyance of technology on the use of controlled equipment in fundamental research as the basis for any policy recommendations. We also think the IG should provide specific evidence of how and why the classification process has failed to effectively protect the nation from any security risk posed by university research.

In fact, in reviewing the list of equipment controlled for use technology that was provided by Commerce over the past year, it appears that much of such equipment and the use technology accompanying it are freely available around the world through various outlets. Clearly, foreign individuals need not come to U.S. university campuses to obtain much of the controlled use technology to which deemed export controls may apply.

Given the failure of the IG to articulate the risk, we believe Commerce needs to carefully assess the unclear benefits of adopting the IG recommendations and weigh them against the many demonstrable burdens associated with greatly increased licensing analyses and requirements and the potential negative impact on the open dynamic U.S. university research environment.

Definition of "Use" Technology

We have discussed above our disagreement with the IG's interpretation that technology relating to the use of controlled equipment—regardless of how use is defined—is subject to the deemed export requirements even if the research being conducted with that equipment is fundamental, and suggested that Commerce should reconsider its stated agreement with that recommendation. The IG suggested that BIS revise the definition of "use" in Sec. 772.1 of the EAR to replace the word "and" with the word "or." We believe such a change would have ill-advised and unintended results. If "or" were substituted for "and", merely conveying information, even visually, on how to flip a switch to turn on a piece of equipment that is controlled for use technology, could require a deemed export license. Information far short of that required to recreate and install, operate, and maintain the equipment abroad would trigger a licensing requirement. When much controlled equipment and its use technology are readily available around the world

as discussed above, it is unclear to us that the national security would benefit very much from this change in the regulation.

The APNR indicated that BIS also is interested in receiving alternative suggestions regarding the IG concerns. We believe that deemed exports conceptually are quite different from physical exports, in that they apply to disclosures that transfer scientific and technical information in the U.S. The IG report notes that the current regulations focus on exports of physical items, and implicitly acknowledges the distinction. Since the deemed export concept applies to information, and transfer of S&T information is a core mission of universities, we believe that BIS should consider a different approach to defining deemed exports as applied to transfer of technology used in university fundamental research.

One approach that we encourage BIS representatives to consider is to redefine controlled "use" technology to encompass only proprietary technology that is not generally available for free or for acquisition on a non-exclusive basis by willing purchasers in the U.S. Many types of equipment that are controlled for use technology under the EAR, along with their use manuals, can be acquired on a non-exclusive basis by anyone who is willing to pay. In some cases, a license agreement must be entered into in order to ensure that the users of the technology pay to use it. Such equipment's use technology may not satisfy existing definitions of "publicly available" information because license conditions apply or the means of acquiring the use technology are not those currently specified in the EAR. However, there is no intention to restrict acquisition of the technology and the use technology is, to any common understanding of the concept, publicly available.

In contrast, some use technology is only available on an exclusive basis or to limited persons who are selected by the owner and who sign non-disclosure agreements that are intended not only to ensure that those who acquire the technology pay for it, but also are intended to limit who acquires the technology. If a foreign national requires access to this truly non-public, restricted use technology in order to perform his/her research, then a determination could be made as to whether deemed export licensing requirements may apply.

If, however, the controlled use technology is generally available on a non-exclusive basis for free to anyone in the U.S. or, even with a license requirement, to anyone who in the U.S. who is willing to pay, then this use technology should be considered publicly available, and no deemed export requirements should apply. In such cases, we believe that there are insufficient security benefits to justify controlling access by foreign nationals to such information at universities in view of the onerous burdens that would result, especially when such information is readily available in the U.S.

This interpretation would be more consistent with the core EAR concept that publicly available technology is outside of the scope of the export regulations. It also is consistent with BIS' December 6, 2004 advisory opinion that when equipment is open to all

members of the public for public sale within the U.S., any technology that might be transferred is deemed to be publicly available under Part 734 of the EAR, and thus not subject to the regulations. However, COGR and other associations are still carefully assessing whether this interpretation is helpful.

NC State has established procedures for control of proprietary information received from industry sponsors. Typically information transferred in such cases is managed by confidential non-disclosure agreements. We believe that in considering an appropriate definition BIS should focus on situations where proprietary information e.g. source code or schematics is transferred on an exclusive basis or under a non-disclosure agreement that restricts to limited persons those who may have access. In such cases, a foreign national performing research involving access to such information would have access to information that clearly is not publicly available. Requiring such situations to be assessed for potential export licensing requirements would be consistent with their present management outside of the normal open campus research environment.

We also believe that in redefining controlled "use" technology, BIS should also confirm that technology arising during or resulting from the research process itself is within the scope of the fundamental research exclusion so long as the results are ordinarily published and are not restricted for dissemination. Thus if a foreign national in the course of research modifies an item of controlled equipment for his/her specific research purposes, or fabricates a new apparatus that otherwise would be subject to export controls, no licensable event has occurred so long as the foreign national has no access beforehand to controlled proprietary technology and the research results are ordinarily published. While we believe this is consistent with both the EAR and BIS' current interpretation, it would be helpful to clarify this in writing, perhaps through adding a "Q & A" to this effect in the Supplement to EAR Part 734.

Use of Foreign National's Country of Birth as Criterion for Deemed Export Licensing Requirement

We believe that the IG's recommendation that deemed export license requirements be based on a foreign national's country of origin rather than on the individual's most recent country citizenship or permanent residency is not based on sound logic, would generate additional burdens for universities since they do not presently track this information, and may raise legal issues with regard to constitutionally proscribed national origin discrimination. As with the IG's recommendation on "use" technology, this recommendation is overbroad and presumes risk without clearly demonstrating it.

Whenever the federal government makes a distinction based on national origin, strict judicial scrutiny applies because "national origin [is] so seldom relevant to achievement of any legitimate state interest that laws grounded in such considerations are deemed to reflect prejudice and antipathy." Such laws must be aimed at achieving a compelling government interest and must be narrowly tailored, not overbroad, to achieve that interest

(*City of Cleburne v. Cleburne Living Center*, 473 U.S. 432, 440 (1985)). National security is a compelling government interest. However, there is a real question as to whether a blanket rule is overbroad when it is premised on the assumption that all individuals who were born in a particular foreign country but who are no longer citizens of that country are particularly likely to export sensitive use technology to that country against the interests of the U.S. and must be subject to licensing requirements to which others are not subject, to protect the national security. Presumably, there is a reason why an individual chooses no longer to be a citizen of his or her country of birth; and such individuals may be as likely less inclined, than more inclined, to travel to his or her country of birth. In today's world of easy intercontinental travel and internet communications, is a person who foregoes citizenship of a country more likely than anyone else to travel to that country or to communicate with current citizens of that country against the interests of the U.S.? Is it constitutionally permissible to assume that all individuals who are born in a particular country and who have foregone their citizenship of that country pose the same security risk, or any particular security risk?

The IG recommendation apparently is based on an assumption that a foreign national may retain ties to the country of origin such as to give rise to security concerns. This assumption ignores the visa process which presumably screens foreign nationals for such concerns before a decision is made to admit them to the U.S. for a program of study or research at a university. It is not clear why a separate burdensome control regime is necessary to address these concerns.

Further, in today's globalized world, it would appear that the same logic could apply to any individual with extensive foreign ties, regardless of citizenship status. The IG report specifically mentions the example of a Canadian citizen of Iranian origin. However, such an individual may have any number of circumstances, such as one or both parents working in a consul or embassy at the time the person was born, or temporarily working for an organization that provides international services or whose family moved to the current country of citizenship when the individual was a small child. It is not clear why the country of origin would pose a particular concern in these and other similar scenarios. The IG appears to make the erroneous assumption that individuals have a lifelong allegiance to their countries of birth that will always take precedence over any allegiance they may have to their adopted countries.

Whether or not a distinction based on national origin would pass constitutional muster in the deemed export context, such a distinction seems to us to be illogical and overbroad.

Sincerely,

John G. Gilligan
Vice Chancellor for Research and Graduate Studies

JGG/mh

From: Ken Kurokawa <kkurokawa@ccianet.org>
To: <publiccomments@bis.doc.gov>
Date: Fri, Jun 24, 2005 11:54 AM
Subject: CCIA Comments on Proposed Deemed Export Rules (RIN 0694-AD29)

Please find attached CCIA's comments on Revision and Clarification of Deemed Export Related Regulatory Requirements (RIN 0694-AD29). I had tried submitting through the eRulemaking portal, but I kept getting an error message.
Thank you.

Sincerely,

Ken Kurokawa
Director, Government Affairs
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June 24, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Street & Pennsylvania Avenue, NW, Room 2705
ATTN: RIN 0694-AD29

Re: **Comments on Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, March 28, 2005)**

The Computer & Communications Industry Association (CCIA) is submitting the following comments to the Bureau of Industry and Security ("BIS") in response to BIS's request for comments published recently in the Federal Register, 70 Fed. Reg. 15607 (March 28, 2005), entitled "Revision and Clarification of Deemed Export Related Regulatory Requirements."

CCIA represents large, medium and small companies in the high technology products and services sector, including computer hardware and software, electronic commerce, telecommunications and Internet products and services – companies with more than $250 billion in annual revenues.

I. Introduction

In its request for comments, BIS identified three recommendations made recently by the Office of Inspector General ("OIG") concerning BIS's implementation and enforcement of the Export Administration Regulations ("EAR"). This letter addresses one of those three OIG recommendations, as follows: "that BIS amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign nationals and have access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency." 70 Fed. Reg. 15608.

As explained by BIS, this recommendation responds to the following OIG concern: "The OIG expressed concern that this policy allows foreign nationals originally from countries of concern to obtain access to controlled dual-use technology without scrutiny if they maintain current citizenship or permanent resident status in a country to which the export of the technology would not require a license." 70 Fed. Reg. 15608.

For the reasons explained in this letter, the proposed change to current BIS policy is unnecessary and, in addition, would result in significant disruption to U.S. companies and their foreign customers, business partners and subsidiaries located in allied countries.

II. The Current BIS Policy Works Well to Protect U.S. National Security and Foreign Policy Interests, and Does Not Require Change

The proposed change is unnecessary because the current BIS policy under the EAR works well to control commercial technology while permitting legitimate business activities to proceed properly between U.S. companies and their employees, as well as their foreign customers, business partners, and subsidiaries. These global, commercial business activities take place correctly under existing laws and regulations: in the case of U.S. employees, under the EAR; in the case of employees of businesses located in an allied country, under the export laws of that country as well as under the EAR.

The OIG's stated concern appears to be based on the assumption that a citizen's or permanent resident's country of birth determines whether or not that person is more likely to obey U.S. or foreign export laws. There is no reported basis for that assumption. There have been no reported compromises of either U.S. national security or U.S. foreign policy interests simply because of a citizen's or permanent resident's country of birth. To the contrary, the country of birth of citizens and permanent residents of our allies, like the country of birth of U.S. citizens and U.S. permanent residents, does not determine whether or not they will comply with U.S. or foreign export laws. The determining factors continue to be company policies and procedures to train employees and ensure export compliance, coupled with governmental enforcement in any case of non-compliance.

Current regulations and related sanctions - under the export laws and regulations of both the United States and our allies - adequately control the possibility that a foreign person might improperly transfer technology to that person's country of birth. This is true for the employees of U.S. companies as well as the employees of foreign customers, business partners, and subsidiaries. Under the export laws and regulations of both the United States and our allies, in the event a U.S. company - or its foreign customer, business partner, or subsidiary - knows or has reason to know that the release of technology to a person will result in an unauthorized transfer of that technology to a third country, the U.S. or foreign entity must halt all access to the controlled technology by the individual. Failure to comply with that requirement results in civil and criminal sanctions – including fines and a denial of the ability to participate in export activity – for a U.S. company and its employees, as well as for a U.S. company's foreign customers, business partners, and subsidiaries. Further, any non-complying employee faces significant individual sanctions under the export laws of the United States and the allied country involved.

Given this adequate compliance and enforcement system, any effort to discriminate solely on the basis of country of birth is misplaced. The United States is a country of immigrants, and its strength resides in its talented and diversified workforce, including the millions of individuals who simply have come here to build a better life for themselves and their families. This proposed rule is entirely arbitrary, and would extend to many who have fled the conditions of their country of birth, including repressive regimes. An engineer, for example, who fled Iran in

1979 and found refuge in Canada, with decades of Canadian citizenship or permanent residency, would become an immediate suspect under the proposed policy change. He would be unable to find work in his field in this country unless he was somehow able to convince a potential employer, and a licensing officer, that his place of birth should not deny him the job. If an employee were to face such discrimination based on country of birth, it would prove to be a huge disincentive for skilled foreign nationals to work for U.S. companies, undermining our ability to attract and keep the top talent we need to maintain our industry's technological edge.

It is important to recognize also that such normal, commercial business activity does not involve defense articles, technical data, or services on the U.S. Munitions List, and it does not involve classified information, each of which is controlled under a separate export control regime appropriate for the sensitive nature of the technology subject to those regimes. Instead, the current BIS policy is limited to civil, EAR-controlled technology exchanged in normal commercial business activities between a U.S. company and its employees, as well as between a U.S. company and its foreign customers, business partners, and subsidiaries located in allied countries.

As explained in the BIS notice, the current BIS deemed export license requirements are based on a foreign national's most recent country of citizenship or permanent residency, rather than country of birth. The current BIS policy recognizes the validity of our allies' citizenship and permanent residency laws, and is consistent with the EAR definition of "U.S. person," which likewise is based on the current citizenship or permanent residency of a person, in this case of the United States, regardless of country of birth. This recognition of the citizenship and permanent residency laws of the United States and its allies has been successful. BIS and U.S. industry have followed the current policy for years without any problem. The current system works well to protect U.S. national security and foreign policy interests, and does not require change.

Finally, in recognizing the success of the current policy regarding "foreign persons" as defined in the EAR, we note that the BIS request for comments should have stated explicitly that the proposed change would have no effect on "U.S. persons" who were born in a foreign country and who have become U.S. citizens or U.S. permanent residents. Any attempted extension of the proposed policy change to individuals who are foreign born but have become "U.S. persons" as defined under the EAR would, of course, run counter to U.S. immigration, employment and discrimination laws, as well as signifying a remarkable lack of confidence in the official process through which they attained citizenship or permanent residency. Further BIS notices regarding the proposed change should make it clear that all U.S. citizens and all U.S. permanent residents, regardless of their place of birth, remain "U.S. persons" under the EAR.

III. The Proposed Change to Current BIS Policy Would Cause Significant Disruption to U.S. Companies and Their Foreign Customers, Business Partners, and Subsidiaries Located in Allied Countries, and Likely Would Be Rejected by Our Allies

The proposed change would cause significant disruption to U.S. companies' employment practices in the United States, and to the employment practices of U.S. companies' foreign customers, business partners, and subsidiaries located in allied countries.

It will impose on U.S. companies the significant task of requiring every foreign national employee to provide additional nationality documentation and proof regarding place of birth, regardless of the current – and previously reported – citizenship or permanent residency of the employee. As you know, U.S. companies employ many foreign nationals, and to date the current export compliance procedures in hiring and supervising those employees have worked well to ensure full EAR compliance. The imposition of this new requirement for additional review of both current employees and prospective employees will result in enormous disruption. Since "country of birth" information serves absolutely no purpose beyond the requirement added by this proposed change, a vast majority of companies will not have it on file and will be forced to collect such information from every single foreign-born employee: a huge administrative burden. Current employees, who have performed their work in full compliance for years, will have to be removed unless and until their citizenship is reconfirmed under this new, proposed standard. Projects will be halted and employees will sit idle. New employees, who are talented and are drawn to the legitimate opportunities provided by technical needs of U.S. companies, will be discouraged from seeking those positions, ultimately resulting in a weakened U.S. industrial base and stronger foreign competition.

Discrimination cases also will multiply, particularly given that foreign-born employees with U.S. citizenship or permanent resident status will be exempt, but foreign-born employees with citizenship or permanent resident status of an allied country will be forced to respond and obtain and submit additional documentation. In addition, in cases in which no license currently is required, or when a license exception is available - License Exception TSR, 15 C.F.R. § 740.6, for example - based on the employee's current citizenship or permanent residency, the employee may be pulled from the work unless and until an export license is approved. As noted above, these cases inevitably will involve individuals who simply have come to the United States to live, work, and raise their families.

The disruption caused by such a new policy will extend not only to all U.S. companies, but also to their foreign customers, business partners and subsidiaries located in allied countries. The reason is that the proposed change must apply not only to "deemed exports" but also to "deemed reexports," see 15 C.F.R. § 734.2(b)(5), and will require all foreign customers, business partners and subsidiaries to conduct the same review and impose the same additional documentation requirements on their employees. For example, every License Exception TSR written assurance provided by a U.S. company's foreign customers, business partners and subsidiaries located in an allied country will have to be re-evaluated in light of 15 C.F.R. § 740.6(a)(1) and (2). In many cases U.S. export licenses would be required, and foreign employees of companies in allied countries would be pulled from their work unless and until such a U.S. export license is obtained.

Such a disruption of foreign customers, business partners, and subsidiaries would occur, however, only if permitted by our allies. The imposition of the new deemed reexport burden likely would require foreign customers, business partners, and subsidiaries located in our allied countries to violate our allies' own immigration, employment and anti-discrimination laws. Just as U.S. export, employment, immigration, and related anti-discrimination laws recognize that a "U.S. person" includes U.S. citizens and U.S. permanent residents, allied countries have similar laws to protect their own citizens and permanent residents. As noted above, the assumption on which the OIG concern appears to be based is that a person's country of birth determines

whether or not that person is more likely to obey U.S. and foreign export laws. There is no basis for that assumption with regard to U.S. citizenship or U.S. permanent residency status, and there is no basis for that assumption with regard to the citizenship and permanent residency laws of our allies. It is counter to U.S. laws against discrimination, and it is counter to the anti-discrimination laws of our allies. The message will be clear: "our" citizens and permanent residents are more trustworthy than "your" citizens and permanent residents.

An attempt to impose on our allies this unsubstantiated concern, regardless of the citizenship and permanent residency laws of the allied country, almost certainly will be considered an unacceptable extraterritorial intrusion into the immigration, employment, and anti-discrimination laws of our allies, and it likely will be refused, particularly when the same restriction is not imposed on U.S. citizens or U.S. permanent residents born in foreign countries.

As a result, U.S. companies' foreign customers, business partners, and subsidiaries located in allied countries likely would be told by the employment, immigration, and related anti-discrimination agencies of our allies that they cannot discriminate against citizens or permanent residents of the allied country.

Further, our allies in general do not share the U.S. concern over deemed exports or reexports, even under the current policy. Recognizing the strength and validity of their existing export compliance laws and related enforcement mechanisms, they do not impose such restrictions on their own companies and individuals. Any attempt to expand this uniquely U.S. concept beyond its current scope will only invite some form of unnecessary, reciprocal restriction on the many U.S. citizens working in those countries.

In sum, such a proposed change to the current, working BIS policy would require dramatic changes in the employment practices and human resource procedures for companies throughout the United States, and equally dramatic changes in the employment practices and human resource procedures of their customers, business partners, and subsidiaries located in allied countries, in ways that likely would require violation of their own employment and anti-discrimination laws. It would require foreign companies to go back to employees of many years, and request information regarding country of birth, a practice that would be at odds with their own employment, immigration, and related anti-discrimination laws, just as a similar inquiry would violate U.S. employment, immigration, and anti-discrimination laws.

IV. Conclusion

The proposed policy change is unnecessary and unworkable. It would take a system that currently operates well, and would cause tremendous disruption and damage to U.S. industry. The proposal reflects an equally unnecessary and unacceptable discriminatory approach to "solve" a problem that has not even been demonstrated.

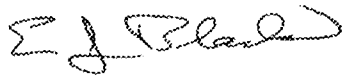
As noted above, commercial business activity involving technology controlled by BIS does not involve defense articles, technical data, or services on the U.S. Munitions List, and it does not involve classified information, each of which is controlled under a separate export control regime appropriate for the sensitive nature of the technology subject to those regimes. Instead, the

current BIS policy regarding deemed exports and deemed reexports is limited to normal commercial business activity - involving civil, EAR-controlled technology - between a U.S. company and its employees, as well as between a U.S. company and its foreign customers, business partners, and subsidiaries located in allied countries.

In regulating those activities, the current BIS system has worked properly and successfully for years to protect U.S. national foreign policy and national security interests, and does not require the proposed change.

CCIA and its members appreciate the opportunity to comment on these proposed revisions.

Sincerely,



Ed Black
President & CEO
CCIA

From: "Sedwick, Susan W." <sedwick@ou.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/24/05 07:18PM
Subject: RIN 0694-AD29

The attached response is respectfully submitted on behalf of the University of Oklahoma in response to RIN 0694-AD29. Please acknowledge receipt.

Susan Wyatt Sedwick, Ph.D., CRA

Associate Vice President for Research and

Executive Director of the Office of Research Services

University of Oklahoma

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Phone: 405/325-4757

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The University of Oklahoma

GRADUATE COLLEGE
VICE PRESIDENT FOR RESEARCH

June 24, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Dear Mr. Lopes:

This letter responds to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) seeking comments on the recent recommendations of the U.S. Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

Created by the Oklahoma Territorial Legislature in 1890, the University of Oklahoma is a doctoral degree-granting research university serving the educational, cultural, economic and health care needs of the state, region and nation. The Norman campus serves as home to all of the university's academic programs except health-related fields and also offers programs at the Schusterman Center, the site of OU-Tulsa. The university's annual operating budget is more than $1 billion. The University of Oklahoma is an equal opportunity institution.

Significant resources have been invested in export controls compliance. We estimate the annual costs associated with export controls compliance at the University has exceeded $150K this fiscal year for activities associated with oversight on the Norman campus. Because the administrative component of Facilities and Administrative (F&A) rates are capped at 26 percent and the University's calculated administrative rate exceeds the cap, those costs cannot be recouped by the University as indirect costs. The University has aggressively sought to raise awareness of the regulations on the Norman campus, having briefed not only research faculty, staff and students, but administrative officers and deans. We will remain dedicated to ensuring compliance.

The University is an active member institution of the Council on Governmental Relations (COGR) and a representative of the University has participated in the development of the COGR response. The University supports the COGR position and urges BIS to carefully consider the message that will be sent to other nations if the criterion for deemed exports licensing is expanded from most recent citizenship to country of origin. This change raises additional concerns. In making licensing determinations will both country of origin and current citizenship need to be considered or just country of origin? Or, as an example, will foreign nationals who were born in the United States but who are now naturalized citizens in a country of concern be categorized as U.S. citizens?

731 Elm Avenue, Room 100, Norman, Oklahoma 73019-2115
PHONE: Graduate College (405) 325-3811; Vice President for Research (405) 325-3806
FAX: (405) 325-5346
EMAIL: gradinfo@ou.edu

Implementation of the IG recommendations will create a two-tiered system on university campuses that will most certainly short change our foreign student population. The Visa procedures have been tightened significantly over the past few years as evidenced by the decline in the number of foreign nationals enrolled in U.S. institutions of higher education. Foreign nationals who have been admitted to the U.S. to study or work should have the same access to educational activities and facilities and their involvement in unclassified research should remain unfettered.

In addition, the University urges BIS to consider the efficacy of changing "and" to "or" in the definition of "use". BIS has offered as justification for this change the need for clarification to ensure consistent interpretation. However, merely changing "and" to "or" will do nothing to articulate the intent without clarification of the definition of "required" and, will, in at least the short term, create greater confusion and exponentially increase the administrative burden on universities and BIS. While the University has actively engaged in correspondence and dialogue with BIS, heretofore we have only submitted one commodity classification request that was returned with a determination that no license was required. Without clearly articulated definitions, universities will err on the side of caution and submit commodity classifications and licensing applications that may be unnecessary. The University of Oklahoma-Norman campus alone estimates our volume of commodity classifications and license applications will be in excess of 150 formal actions per year.

The University of Oklahoma-Norman Campus appreciates the opportunity to offer comments and will continue to do our part to ensure the national security of our nation. We commend BIS for seeking public comments in advance of any proposed rulemaking and trust our concerns and those expressed by COGR will receive full consideration in any changes to the regulations.

Sincerely,

T.H. Lee Williams
Vice President for Research
and Dean, Graduate College
University of Oklahoma-Norman

VANDERBILT UNIVERSITY

Office of Federal Relations

FAX Transmission Cover Sheet

To: Marcus Cohen Fax: 202-482-3355

From: Sarah Walking Date: 8-23-05

Re: RIN 0694-AD29 Pages (including cover sheet): 6

CC:

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Note: If there are problems with this transmission, please call (202) 216-4361. Thank you.

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VANDERBILT UNIVERSITY

Associate Provost for Research and Graduate Education

June 24, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

RE: Comments on RIN 0694-AD29 - "Revision and Clarification of Deemed Export Related Regulatory Requirements"

Dear Mr. Lopes:

Vanderbilt University recommends that no changes be made to current policy.

America has always exported the intellectual products of its unique 'experiment' in democracy to a world anxious to sample successful innovations forged in a free-society. The reputation of our society and our universities for supporting open inquiry has spread throughout the world. That reputation has made those universities ***the*** destinations for those seeking knowledge and understanding in a venue in which to make their contributions in the best interests of the world at large. It could be argued that the world's scientists and engineers who matriculated in American universities are our greatest 'exports' – not only did they receive the very best training available, but also they were imbued with the indelible understanding that science on an American scale can be conducted only in a free and unfettered environment. Challenges to that open environment threaten our intellectual 'exports' and our domestic capacity to advance the scientific enterprise and to reap the benefits of new technologies.

The two significant changes posed in RIN 0694-AD29 – the "and" to "or" shift in the "use" definition and certification of country of birth for foreign nationals entering college campuses – are aimed at eliminating so-called 'loop-holes' in current 'deemed' export control polices. Because openness and the free exchange of ideas are so essential to the type of basic research carried out in universities, the 'fundamental research exclusion' (FRE) embraced by current public law is intended to shield such activities at universities from those restrictions of the Export Administration Regulations (EAR) more appropriately applied in settings outside higher-education. Corporate research, with its vertical structure and proprietary emphasis, can better accommodate the proposed changes to the 'deemed export' rule within the confines of its more strictly controlled operating environment. University research, geared toward the openness and collaboration inherent in an educational setting, could advance only ploddingly if the throng of ideas found on university campuses were prevented from intermingling freely. The cultures, missions, and 'products' of universities and industry are different, and they owe their quality, successes and distinctiveness to those differences.

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Nashville, Tennessee 37240 www.vanderbilt.edu

Proposed changes to the 'deemed export' provisions of the Export Administration Regulations concern us greatly. It is ironic that, at a time when the country must marshal all of its resources to confront global challenges to our economic prosperity and physical security, the Department of Commerce would suggest imposing rule changes that would cripple the nation's most effective resource to address such challenges – namely, its unrivaled university-based scientific and engineering research enterprise. American university-based science-and-engineering research cannot continue to provide its unequaled successes if it must adopt new rules destined to slow dramatically the progress of research and scholarship, to severely reduce the size and quality of the talent pool available to conduct research, and to further burden scarce university resources to cover the administrative costs of new unfunded mandates.

The progress of research.

Scientific research relies for its success on a delicate blending of talent, resources, and collaboration. The proposed changes will have the following impacts at Vanderbilt University:

- Several hundred of our faculty, staff, and students would have to stop work on research projects. The University would have to take this step until such time as direct access by foreign nationals to export controlled equipment, software, and technology could be evaluated; the University could not avoid the legal risks to which it would be exposed, otherwise.

- Where license applications are considered necessary, the documents required for the license must be gathered and the applications developed – the current estimate of the time required for this process is 10 hours per application. If Vanderbilt were to file 600 applications as a result of the proposed 'use' definition change – not an unrealistic estimate given the distribution of our foreign-national graduate students among the science and engineering disciplines – this would require 2.8 person years to complete.

- The free flow of information – the most essential element to continuous scientific advancement and discovery – would not be possible in an environment where some researchers must be excluded from spontaneous discussions as the discussion moves from one piece of equipment to another.

- Vanderbilt University currently has over 14,500 pieces of scientific equipment listed in its growing inventory. Before current research projects could continue, an assessment would need to be made to determine which items are on the Commerce Control List. This kind of list correlation would be an expensive and time-consuming task. A similar and, perhaps, more tedious assessment of software would need to be conducted, also.

Country of birth.

Confirmation of the country of birth for those affiliated with our University would be a difficult undertaking, requiring indeterminate and continuing financial resources drawn from as-yet-unidentified sources. Presently, universities rely on information, assurances and approvals documented as conditions of entry into the United States to register and report on 'country of origin' or citizenship. The proposed new requirement to certify 'country of birth' represents a significant departure from these well-coordinated university/government foreign-national entry procedures in that universities would be made responsible for a separate certification regimen. Foreign-national self-reporting of 'country of origin' would be unsupportable without independent corroboration, and that looms as an expensive undertaking when such 'country of birth' certification must be documented prior to the arrival on campus of over 10% of our student body, foreign-national faculty, and myriad visiting international scholars. Vanderbilt University does not have the staff required to manage a verification apparatus.

- Involvement by foreign nationals in research projects would need to be suspended until such time as their country of birth could be confirmed. This would include faculty, students, and staff working on projects. In most instances, time-sensitive scientific work would be brought to a standstill.

- Foreign visitors would have to delay their collaborative visits, or, perhaps, miss unique windows of opportunity to conduct research with their Vanderbilt colleagues.

- As a top 20 national university, Vanderbilt attracts students and scholars from around the world. The students come to learn in the open environment we provide for them. The scholars come to confer and exchange ideas with their colleagues. [It should be noted that U.S. scholars receive a good deal of value from these exchanges.] The best international students and world-class scholars will pass us by if their presence on our campus will be governed by suspicion and restriction. They have a growing number of opportunities outside the U.S. for the type of open interaction they seek. With the decline in U.S. student enrollment in graduate science and engineering programs, U.S. research programs must rely on foreign graduate students for their success. Foreign governments recognize that their investment in domestic research will attract high-quality students to their research programs, both foreign and domestic, and they understand that the payoff for such investment can be huge. The U.S. has set the standard for science and engineering quality and productivity for 60 years; it is a standard predicated on investment and openness. Foreign nations are following closely the U.S. lead; they see restrictive policies and declining U.S. investment in fundamental research as weaknesses to be exploited for competitive advantage.

Administrative burden.
There is no university in the country adequately staffed or structured to meet all of the demands that would fall to them if the proposed changes become policy. The changes annul the fundamental research exclusion by redirecting the focus of university compliance from the

activity itself – fundamental research – to the equipment, software, and technology used to carry out that fundamental research. Changing "and" to "or" makes "operate" a "use" that would require an export license for foreign nationals from restricted countries. Under current policy, potential EAR management issues are limited to specific activities removed from coverage by the fundamental research exclusion – principally, a small subset of government contracts and subcontracts. Contract research represents a significantly smaller component of university fundamental research activity than does grant supported research. The proposed change would expand EAR coverage to include *all* sponsored activity – *all* grants and contracts supporting fundamental research – because the same CCL-restricted equipment, software, and technology, most of it commercially available, are used to conduct all fundamental research.

- For the non-medical units of Vanderbilt University, the proposed change would require active monitoring of many hundreds of research awards for export control issues. Under the current rule, because of the FRE, monitoring is required for only a handful of contracts.

- The Commerce OIG report contains an ominous statement regarding standards for determining whether a technology has been released for export – "visual inspection of U.S. origin equipment and facilities by foreign nationals" constitutes a release for export. It would be impossible to maintain controls based on this standard within the educational setting of a university. The financial outlay would be significant to secure ubiquitous, *commercially available* research equipment from 'visual inspection' in an environment where labs, classrooms, faculty and technical-staff offices, and administrative space are interspersed by design to facilitate the achievement of the university's many missions.

- New employees would need to be hired to:
  - determine access eligibility for foreign nationals in their roles as faculty, staff, and students;
  - audit for compliance with a revised EAR; and
  - prepare and file export control licenses.
- The talent-pool from which to select staff to carry-out these functions is not ready made and certainly not widely available in our metropolitan area.

How is the University to pay for these new costs? Facilities and Administrative costs associated with federal grants are capped. Undergraduate tuition does not appear to be an option, given the rising costs of higher education. Graduate students in the fields of concern to the EAR typically pay little or no tuition.

Some concern for fundamental research must have been raised when the Export Administration Act was passed in 1979. Congress expressed clear concern for the health of the 'scientific enterprise' in the Declaration of Policy section of the Act,

> "It is the policy of the United States to sustain vigorous scientific enterprise. To do so involves sustaining the ability of scientists and other scholars freely to communicate research findings, in accordance with the applicable provisions of law, by means of publication, teaching, conferences, and other forms of scholarly exchange." *[Section 3, Declaration of Policy, Article 12, Export Administration Act]*

This is a compelling policy statement in an Act whose primary purpose is the regulation of foreign *commerce*. Apparently, it stems from a concern that EAR restrictions applied to university-based, fundamental research would be detrimental to the scientific enterprise. The EAR's fundamental research exclusion flows from Congress' policy declaration as the *solution* to a dilemma. Subverting that solution by miscasting it as an unintended 'loop-hole' in order to eliminate it is very dangerous. It is dangerous, particularly, when no evidence has been raised to show that a tangible and widespread problem exists warranting such changes. The danger is to the scientific enterprise itself, and it lies not only in the tangible loss of foreign-scholar involvement in U.S. research, but, also, in the intangible loss of discoveries that will never happen in the absence of a synergistic scientific interplay of the very best international scholars. The fundamental research exclusion was intended to exclude research conducted on U.S. campuses utilizing CCL equipment/software/technologies. It is not a 'loop-hole'; it is sound science policy. To contend that access to CCL equipment/software/technologies could be a consideration separate from the conduct of fundamental research is to draw an artificial distinction. Access to and use of the equipment *is* the conduct of research.

Vanderbilt University recommends that no changes be made to current policy.

Sincerely,

Dennis G. Hall, Ph.D.
Associate Provost for Research
and Graduate Education
Professor of Physics and of Electrical Engineering

cc. Senator Lamar Alexander

From: David Keyes <kd2112@columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Sat, Jun 25, 2005 2:56 PM
Subject: Impact of new export control requirements at universities

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
scook@bis.doc.gov

Attn: RIN 0694-AD29

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. Though I do not expect my research to be directly affected, I am concerned that new limitations on access to equipment and knowledge based on a person's country of origin would have a harmful effect on a science and engineering enterprise that has been reliant on the infusion of foreign talent for as long as any currently working U.S. researcher can remember.

Furthermore, such limitations would be burdensome to enforce and would create an atmosphere of constant reminders that foreign scientists and engineers do not fully belong. If discouraged from being able to fully develop their research careers in the United States, the very best students would pursue their degrees in the handful of other countries that can match the opportunities and facilities that we currently provide. They would still be trained and equipped but the chance that they would live out their scientific lives productively building our knowledge-based economy would be greatly reduced. It is increasingly challenging to convince the elite young scientists of the world to remain here, with opportunities in their own countries catching up to those we offer.

My own research program employs large-scale parallel computing. While this has become a commodity, the largest computer systems in the U.S. at our national laboratories are off-limits to foreign nationals from certain sensitive countries (because of the data potentially accessible on them), though available, with proper scientific purpose, to U.S. citizens. This situation is not particularly burdensome, however, since sufficient resources without the data sensitivity are generally available to scientifically qualified foreign students. Nevertheless, if all computing instruments of a performance class were categorically unavailable to foreign students, I could not in good conscience persuade them to study with me -- hence, my concern for my colleagues whose research depends upon other instruments that could be categorically affected by the proposed limitations.

Our national pre-eminence in science and engineering depends significantly

upon the energies and ambitions of those who came here originally as students in our great research universities and were able to maximize their potential here as nowhere else. Retaining these researchers enhances our security and enriches our economy. I urge you not to risk spoiling a system that is working well by adopting these revisions.

Sincerely,

David E. Keyes
Fu Foundation Professor of Applied Mathematics
Columbia University, MC 4701
New York, NY 10027

CC: <bhi1@columbia.edu>, David Keyes <kd2112@columbia.edu>

From: Bob Anderson <boba@ldeo.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Sat, Jun 25, 2005 4:28 PM
Subject: Letter of concern about RIN 0694-AD29

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
scook@bis.doc.gov

Attn: RIN 0694-AD29

Greetings:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. My University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would require discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment - would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it.

The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work. I currently serve as co-chair of the planning committee for a major international ocean research program known as GEOTRACES. As part of this program I anticipate working with foreign nationals from many countries, including students and post docs who will likely work in my lab. The need to apply for an export license for foreign nationals who would have access to certain equipment and especially to restrict access to unauthorized individuals would constitute a

significant burden and would force me to restrict some of my fundamental research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

Robert F. Anderson
Doherty Senior Scholar and Associate Director for Geochemistry
Lamont-Doherty Earth Observatory
Columbia University
Palisades, New York 10964 USA

--
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CC: <boba@ldeo.columbia.edu>

From: Beth Israel <bhi1@columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Sat, Jun 25, 2005 3:21 PM
Subject: [Fwd: RIN 0694-AD29]

-------- Original Message --------
Subject: RIN 0694-AD29
Date: Sat, 25 Jun 2005 12:06:02 -0400
From: Steven L. Goldstein <steveg@ldeo.columbia.edu>
To: scook@bis.doc.gov
CC: Beth H. Israel <bhi1@columbia.edu>

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
scook@bis.doc.gov

Attn: RIN 0694-AD29

Dear Sir or Madam:
Although the letter below is based on a template, I agree with the template and have made a few modifications.

I am writing to express my concern about the proposed rule making for Revision and Clarification of Deemed Export Related Regulatory Requirements. I understand that the intended outcome of these new rules include limitations on access to equipment and knowledge based on a person's country of origin. I am gravely concerned about both the possibility of such tracking and the effect that will have on research in science and technology in this country.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here, and from that point on, they are treated as any other member of the University community. In fact, University policy, which prohibits discrimination of any kind, and mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment - would be costly and time-consuming, both for the

individual investigator and the University to prepare the paperwork, and for the government to process it.

The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work.

I use state of the art analytical equipment, including mass spectrometers, for analyses of rock and water samples in my studies of the Earth. These are the types of equipment that are often on export control lists. Until now I have never had any problem with individuals from foreign countries using this equipment. The people who intend to misuse such equipment will be able to find the knowledge to do so in any case. These rules will affect innocent people and result in significant loss in terms of science training and the goodwill of people who happen to be foreigners that want to pursue scientific research.

The need to apply for an export license for foreign nationals who would have access to certain equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to restrict some of my fundamental research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

Professor Steven L Goldstein
Department of Earth and Environmental Sciences
Columbia University

--

Prof. Steven L Goldstein
Lamont-Doherty Earth Observatory of Columbia University
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Palisades, NY 10964, USA

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Beth H. Israel, Executive Director
Office of Projects and Grants
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1210 Amsterdam Avenue; MC 2205
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(f) 212/854 2738

From: Gary Messing <messing@ems.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/25/05 06:37AM
Subject: RIN 0694-AD29

Dear Dr. Lopez,

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes, as currently worded, are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research is conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security. I have been to Europe three times this year already and the word amongst the international graduate students is to look elsewhere because the US is no longer welcoming. Consequently my colleagues in Europe and Japan successfully recruiting outstanding students who would have normally come to the US.

The Department of Materials Science and Engineering has had many outstanding PhD graduates who have gone on to be leaders in US industry. This is partly because we have been able to recruit the best graduate students in the world. Our research environment is extremely international and is enriched by the participation of our students from South Korea, India, China, Taiwan, Europe etc. The implementation of the above guidelines will have an extremely adverse on our ability to freely participate in he global scientific community and thus also have extremely negative impact on our students helping the US to be a part of that global community.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Thank you
Gary L. Messng

Head, Department of Materials Science and Engineering,
Distinguished Professor of Ceramic Science and Engineering
121 Steidle Bldg.
Pennsylvania State University
University Park, PA 16802
Tel: 814-865-2262
Fax: 814-865-2917

From: "George A. Lesieutre" <g-lesieutre@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/25/05 02:15PM
Subject: Fwd: RIN 0694-AD29

Dear Mr. Lopes --

I am writing in response to the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security. While I share every American's concern for security following the attacks of 9/11, I believe the proposed changes are too broad. With the proposed wording, universities will be forced to interpret the regulations conservatively, perhaps impacting our national R&D activity in a way that, over the long run, will harm our national security more than it will help.

University basic research, conducted in an open environment, strengthens our economy through the creation of new technology. This research engine is fueled to a significant extent by international graduate students, often the top scholars of their nations. These students often stay in the U.S. and continue to contribute to economic growth and national security. Foreign applications for graduate study in my department at Penn State (Aerospace Engineering) are already down by about half from pre-9/11, and are not bouncing back. The proposed changes to EAR will result in even fewer international scholars being able to pursue their studies in the U.S. Other nations such as Australia, and those in the E.U. are happy to welcome these talented students and will reap the long-term benefit in the future.

I recommend that the Department of Commerce engage the OSTP and the academic research community in more dialogue, and develop a revised approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Thank you for your consideration.

-George Lesieutre

****
George A. Lesieutre
Professor and Head, Aerospace Engineering
Penn State University
****

From: Arthur Bienenstock <arthurb@stanford.edu>
To: <publiccomments@bis.doc.gov>
Date: Sun, Jun 26, 2005 6:13 AM
Subject: RIN 0694–AD29

June 26, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Dear Mr. Lopes:

I write as Stanford University's Vice Provost and Dean of Research, as a participant in the AAU/COGR export control task force, and as the former Associate Director for Science of the White House Office of Science and Technology Policy and, in particular, the chair of the Interagency Working Group that produced the report, "Ensuring a Strong U.S. Scientific, Technical and Engineering Workforce in the 21st Century".

Let me begin by stating that it is imperative that this nation maintain its leadership in science and technology over the coming decades for a number of reasons. First of all, we must increase the productivity per worker if we are to maintain and improve our standard of living as the nation ages and the ratio of workers to retirees declines. It is well known that research and development have led to over one-half of the productivity increase of U.S. workers over the past half century. We must maintain those increases in the coming decades.

Equally important, our national security depends strongly on scientific and technological leadership. Given our relatively small national population, we must have superior technology to ensure victory in a major confrontation. Indeed, that has been the basis of our national security planning for half a century.

We can expect our S&T leadership to be challenged by other nations, and particularly China, in during the coming decades. These countries have repeatedly demonstrated their ability to reproduce, with some significant lag time, any U.S. technological advance if they choose to employ the necessary resources. Consequently, the only viable national strategy is to take advantage of that lag time and constantly move ahead scientifically and technologically to ensure our economic health and national security leadership. Thus, all new policy initiatives should have, as a major consideration, the dynamic maintenance of that lead and, necessarily, the maintenance of a strong science and technology workforce.

The policy changes proposed by the Inspector General -- making mere use of an export controlled instrument a "deemed export" - would significantly weaken the nation's economic development and national security by inhibiting

scientific and technological discourse and by discouraging foreign nationals from becoming part of the nation's science and technology workforce. The reasons for this have been laid out thoughtfully in the letter from the Association of American Universities and in the white paper of the Commission on Scientific Communication and National Security entitled, "Security Controls on Scientific Information and the Conduct of Scientific Research". I will not repeat them here.

In your introductory statement during the visit of BIS staff to Stanford University on May 3-4, 2005 to study the impact of the proposed changes, you stated that controlled use technology would be limited to proprietary information and technical manuals that are not publicly available. That is, the mere use of export controlled instruments by a relevant foreign national would not generally require a license. If BIS is to change its presently-stated interpretation of the export control regulations (see, e.g. the BIS web-site Qs and As) to that presented during the visit to Stanford, it is vital that this limitation be stated explicitly in the revised policy. Otherwise, American research supervisors would be placed in considerable jeopardy if inspectors and auditors interpreted the regulations in a different manner.

If BIS believes that the nation's security will be endangered by foreign national students, post-doctoral fellows and scientists/engineers having access to either technical manuals or the instruments themselves, then BIS must ensure that faculty and other S&T supervisors have ready access to the information they need to prevent the restricted access or use. BIS should establish a website that provides deemed export control information for each and every export controlled instrument. That information should be sufficiently explicit so that every research supervisor can determine readily what restrictions should be applied to foreign nationals under his or her supervision. The supervisors should, as well, be able to participate in a BIS e-mail mailing list to receive news of any up-dates to the web site automatically. All of this is readily achievable with modern information technology. Only BIS, however, has the authoritative knowledge to establish such a web-based system. It should not be left to others.

Given the thousands of supervisors and hundreds of thousands of foreign nationals engaged in fundamental research who would become subject to the changes being considered by BIS, one can readily anticipate the consequences of BIS' failure to establish such a system. BIS would be flooded with deemed export control license applications that need not have been submitted AND some foreign nationals would likely have access to manuals and instruments that the government is seeking to prevent. If the government believes that preventing such access is sufficiently important so that it is prepared to adversely impact the nation's fundamental research endeavors, then the government should take pains to ensure that those who will be responsible for preventing that access have ready access to the information they will need to meet that responsibility. The present Export Administration Regulations are sufficiently ambiguous and difficult to interpret so that numerous mistakes will be made. In this regard, let me remind you that your team visiting Stanford differed internally on the interpretation of the regulations with respect to one specific instrument. If such well-informed experts can differ in that manner, we can expect large numbers of mistakes if interpretation of the EARs is left to the fundamental

research supervisors or other staff at the universities and the national laboratories.

Failure to implement such a system would also add enormously to the cost of research. Stanford University has well over 34,000 inventoried instruments (not counting computers) on its campus. Based on the time taken to survey instruments at the Stanford Nanofabrication Laboratory in advance of the Department of Commerce May 2-3 visit, I estimate that it would take approximately 10,000 person hours to determine the status of the instruments on the campus. The cost would be proportionately larger, of course, for the larger state universities. The work would probably be performed by scientific supervisors working, for the most part, on federally-funded grants and contracts. The cumulative cost to the U.S. research enterprise would be extremely large if Commerce failed to implement the system proposed above.

Further, before any revised interpretations are introduced generally, there should be an extensive trial of the website, the e-mail system for notification of website changes and the revised interpretations themselves. The proper group to perform such a trial is the Federal Demonstration Partnership (FDP) , which operates under the aegis of the National Academy of Science. The FDP is a cooperative venture of government and academic administrators that has the testing of proposed changes in federal policies and practices among its responsibilities. Such a testing would allow BIS to improve procedures and ensure the effectiveness of its systems with minimal disruption of its own and the researchers functioning.

I cannot close without commenting on the paucity of information justifying the IG's proposals. The IG report provides no evidence that there have been transfers of controlled information from the universities. Believing that the information might be classified, the AAU Task Force requested that a group of university presidents with high level clearance have access to it. Yet, the access has not been forthcoming. As a consequence, we in the academic community do not have a clear picture of the threats that motivate the proposed export control changes. With a better understanding of them, we could provide considerably more informed input to Commerce and respond intelligently on our own campuses to provide greater protection against those threats.

I look forward to working cooperatively with the Department as it considers these matters further.

Yours sincerely,

Arthur Bienenstock
Vice Provost and Dean of Research and Graduate Policy
Building 10, Main Quad
Stanford University
Stanford, CA 94305
Phone: 650-723-0977
Fax: 650-725-1653

CC: Arthur Bienenstock <artieb@slac.stanford.edu>

From: "JIAN XU" <jianxu@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/26/05 11:43AM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security
FROM: Jian Xu, Assistant Professor, Dept. of Engineering Science and Mechanics, Penn State University, State College, PA 16802

Dear Mr. Alex Lopes,

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

Thank you, Jian

From: Daniel M Rothschild <rothschild@cra.org>
To: <publiccomments@bis.doc.gov>
Date: Thu, Aug 25, 2005 9:22 AM
Subject: Deemed export comments -- RIN 0694-AD29

Dear Mr. Cohen,

Attached is a copy of the comments that the Computing Research Association (CRA) filed in regards to the "Revision and Clarification of Deemed Export Related Regulatory Requirements" as affecting 15 CFR 734, 772. We filed these comments at approximately 11:26 PM on Sunday, June 26, 2005 using the www.regulations.gov portal and were issued a confirmation number of EREG-18.

For whatever reason, our comments were not included in the collected comments issued by the BIS earlier this month. We hope that our comments will be publicly released and considered by the BIS in the rulemaking process.

Thank you very much for your time and for assisting with this. If you have any questions, please feel free to call me at 202-558-0248.

Sincerely,
Daniel Rothschild

CC: <publiccomments@bis.doc.gov>

Comments on the Proposed Revision and Clarification of Deemed Export Related Regulatory Requirements
RIN 0694-AD29

Computing Research Association
1100 Seventeenth St NW, Suite 507
Washington, DC 20036-4632
202-234-2111

The Computing Research Association (CRA) is an association of more than 200 North American academic departments of computer science, computer engineering, and related fields; laboratories and centers in industry, government, and academia engaging in basic computing research; and affiliated professional societies. CRA's mission is to strengthen research and advanced education in the computing fields, expand opportunities for women and minorities, and improve public and policymaker understanding of the importance of computing and computing research in our society.

We write out of concern regarding the proposed rule changes to the deemed export regulations affecting the Bureau of Industry and Security at the Department of Commerce. The members of the scientific and technical communities stand as partners with the federal government in increasing homeland security and ensuring America's continued economic strength. Unfortunately, the proposed rule changes would have real and lasting impacts on America's ability to continue to be a world leader in computer science and engineering and would have significant negative consequences for national security.

Economists, business leaders, policymakers, and scientists all agree that there is an inexorable connection between America's ability to innovate and our continued economic and security strength. As then-National Security Advisor Condoleezza Rice wrote in November 2001:

> The key to maintaining US technological preeminence is to encourage open and collaborative basic research. The linkage between the free exchange of ideas and scientific innovation, prosperity, and national security is undeniable.

In order to protect America's economic might and homeland security, then, it is vital that we maintain a research environment that is welcoming to the world's best and brightest scientists and engineers while, so far as is reasonably possible, eschewing the shackles of unnecessary and costly regulation. The US benefits when we maintain a research environment that welcomes members of the world scientific community to conduct their basic and applied research in our labs and universities. However, this research environment is not a given and must be encouraged by sound public policy. CRA

believes that the regulatory changes proposed by the BIS will have significant negative net impacts on America's ability to lead the world in technological innovation and that we will suffer negative effects – both economic and security-wise – as a result.

Since the attacks of September 11, 2001, the United States has erected a number of barriers to foreign nationals who desire to come to the US for study, to teach, or to conduct research. Certainly, many of these regulatory changes were important to securing the homeland against terrorism and to ensuring that individuals on academic visas were indeed pursuing academic studies, teaching, or research, as the Student and Exchange Visitor Information System (SEVIS) program has been designed to monitor. However, we run the risk of going too far in pursuit of border security that we permanently hobble America's competitiveness and ability to innovate.

In December 2002, the presidents of the three National Academies released a joint statement arguing, "[R]ecent efforts by our government to constrain the flow of international visitors in the name of national security are having serious unintended consequences for American science, engineering, and medicine."[1] CRA believes that the proposed regulatory changes regarding deemed exports will have similar deleterious effects to the changes in visa policy, but without any substantial benefits.

The scientific research community is increasingly globalized, and the countries that will benefit the most from innovation in the coming years will be the countries that recognize this and regulate accordingly; they must make their resources – human and physical – available to researchers worldwide, encourage scientific publications and conferences, and cultivate successive generations of highly-skilled scientists and engineers. The proposed regulatory changes will make America less competitive in the globalized scientific environment while providing no additional protection against improper transfer of sensitive information.

In particular, CRA wishes to offer five critiques of the proposed rule changes and to explain how these will do serious harm to the ability of our members to continue producing cutting-edge fundamental research and producing tomorrow's leaders in scientific innovation.

1) The proposed rule changes will contribute to a perceived atmosphere of hostility towards foreign researchers and students.

- **Country of birth is not a just criterion for evaluating individuals.** It has long been a point of pride in America that accident of birth is not a criterion for judging the fitness of an individual for any position or post, with few exceptions, most notably the Presidency of the United States. Race, gender, and country of origin are immutable characteristics over which an individual has no control; as a

[1] Bruce Alberts, Wm. A. Wulf, and Harvey Feinberg, "Current Visa Restrictions Interfere with the US Science and Engineering Contributions to Important National Needs," 13 December 2002, revised 13 June 2003.

result, it is widely presumed in democratic societies that these are not valid means of assessing the character of the individual. It has long been held that individuals hold allegiance to their country of citizenship, not birth. As a result, country of birth is widely viewed as an unjust criterion for judging an individual's fitness for any privilege. Personal behavior and chosen associations should count for much more than aspects of biography over which an individual has no control whatsoever.

Significantly, the burden of enforcement of the proposed rules will fall upon research labs and institutions, which will be required to create castes within citizenships. For instance, two German citizens working in the same lab might be subject to different regulations simply because one was born in Albania while the other was born in France. A fundamental premise of democracy is that all citizens are afforded the same rights and responsibilities as their fellow citizens both at home and abroad, but the proposed regulations would disregard this principle, and scientists and their institutions would be responsible for enforcement. This would have lasting deleterious impacts on American scientific prestige abroad and would significantly injure America's leadership in the scientific research community.

- **As a result, this will hurt American competitiveness and American security.** A significant part of America's computing research base and many thousands of graduate students in computer science would be affected by these rule changes and could choose, as a result, to return to their home countries or third countries for their graduate education and research. It has already been widely recognized that changes to visa policies since September 11, 2001 have caused a significant decline in the number of foreign scientists, engineers, and graduate students working in the United States.[2] The OIG proposals would send a clear message to foreign scientists and students: you may not use state-of-the-art technologies if you come to the United States, and if you come you will be relegated to second-class status. Regardless of the intent of the proposal, this is the way that it will inevitably be viewed by many of the people to whom America must be seen as an attractive place to study, research, teach, invest, and do business.

  When we turn away the best and the brightest from our shores, we not only damage our industrial competitiveness, but forego the many security benefits of having highly educated foreigners study and work in America. When scientists work across national boundaries, they forge human capital links that build ties that are vital to America's national security. Foreigners who have worked in America and had positive experiences will export pro-American sentiments and serve as ambassadors of American goodwill in their home countries. Treating every foreign scientist or student with suspicion based on place of birth will only serve to damage the reputation of America abroad and will hinder the

[2] The American Immigration Law Forum found that "F-1 visas for students fell by 26.5 percent and B-1Bs for highly skilled professionals by 33.7 percent from FY2000 to FY2003." ("Maintaining a Competitive Edge: The Role of the Foreign-Born and US Immigration Policies in Science and Engineering," *Immigration Policy In Focus* 3(3), August 2004, pg. 15.)

understanding between educated classes that is vital to America's long term economic and security interests.

Because of the decline in graduate students in computer science and other technical fields, the United States is economically dependent upon foreign graduate students to provide the research muscle that is behind the technical innovations that lead to economic growth and provide the backbone of our high-tech homeland security initiatives. Without these foreign graduate students, the American well of knowledge will be significantly depleted. As then-NASA administrator Daniel Golden quipped in 2001, "We're fishing the pond. We're not restocking it."[3]

2) The proposed rule changes will only serve to increase confusion.

The OIG report made clear that even visual access to technologies subject to EAR restrictions is considered "use" by arguing, "a foreign guest researcher does not technically have to 'use' the machine for a transfer of the controlled technology to take place."[4] Under this definition, students and visiting scholars from (or born in) countries in Groups D and E must be prohibited from even viewing any technologies that require a license for export because a mere visual inspection may allow a technology transfer to take place. We are concerned, in light of the critiques of the NIST and NOAA labs in the OIG report, that the proposed definitional change contextually interprets the word "use" so broadly that it loses any real meaning.

Additionally, the words explicating the definition of "use" remain ambiguous in their meanings. Maintenance, for instance, could mean nothing more than a visual inspection of a machine from a distance in order to assess if it was currently powered up or down. Even this simple chore could be forbidden to an undergraduate research assistant under regulations that, despite the proposed changes, will continue to be vague. Moreover, many colleges and universities depend upon student employees to fulfill important helpdesk and lab maintenance functions, many of which are relatively uninvolved. This regulation could have the effect of banning students born in Group D or E countries from working in the technical support environment.

Because of the prosaic nature of many of these technologies at many research universities, the logical endpoint of the OIG's definitions would require a license for every instance of restricted technology for every relevant individual. For a campus with 200 technologies subject to EAR and 5,000 students or scholars born

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[3] "Professor Romer Goes to Washington," *Wall Street Journal*, 25 January 2001.

[4] US Department of Commerce Office of Inspector General, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nations in the US," Final Inspection Report IPE-16176, March 2004, pg. 31.

in or residents of relevant countries, a strict interpretation of this policy could require the university to file a million EAR applications.

3) **The proposed rule changes are an unfunded mandate with unstudied costs.**

- **This creates significant costs for both the BIS and research institutions.** According to the OIG, in FY 2003 only 846 applications were filed for deemed exports.[5] The expanded definition of "use" suggested by the OIG, combined with the elimination of two key fundamental research exemptions, would require a massive increase in the number of applications filed, potentially by orders of magnitude. A strict interpretation of the new policy, combined with the elimination of the fundamental research exemption for research subject to institutional review before dissemination and publication, will impose massive compliance costs on all organizations pursuing basic research as well as the Department of Commerce.

  The Student and Exchange Visitor Information System (SEVIS), which was mandated by Congress in 2002 to monitor the visa status of foreign nationals studying, researching, or teaching in American colleges and universities, has already shifted a large financial burden from the Department of Homeland Security to educational institutions. The proposed rule change, which would require tracking country of birth as well as nationality, would impose additional burdens on research institutions and our member departments.

- **The effects of the proposed rule change would be wide-ranging and affect untold numbers of institutions and individuals.** In 2001, fully 23 percent of doctorate-level scientists working in computer and information sciences in the United States were non-US citizens, of whom 26 percent enjoy only temporary resident status.[6] Additionally, in 2001, 32 percent of graduate students in science and engineering in the US, including 52,196 computer science graduate students, were not US citizens.[7] Many of these scientists and students hail from Group D countries, particularly India and China. American industry and the government are highly dependent upon the work performed by these students and scholars in fundamental research that leads to development in fields as varied as information security, weapons systems, and manufacturing technologies.

  The revised regulations would not just affect a few isolated individuals, but would have inestimable effects on the ability of industry, government, and academe to attract the best and the brightest to do their research in the United States. The costs that will accrue to the private and public sectors have not been properly

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[5] Department of Commerce (2004), pg. i.
[6] National Science Foundation, Division of Science Resources Statistics, *Doctoral Scientists and Engineers: 2001 Profile Tables*, NSF 04-312, Project Officer, Kelly H. Kang, 2004.
[7] National Science Foundation, InfoBrief 03-315, April 2003, online at <http://www.nsf.gov/sbe/srs/infbrief/nsf03315/start.htm>.

analyzed, but the harms both in terms of bureaucratic waste and opportunity cost are likely to be tremendous.

- **This does not pass a benefit-cost analysis.** The OIG's report fails to demonstrate any real protections that these recommendations would create, but the costs are many, varied, and potentially substantial. Indeed, accepting the OIG recommendations may make America less safe, as they would lead us to believe we have improved our security when in fact we have not made any real enhancements. Moreover, they would reduce America's ability to harness cutting-edge technologies to make real improvements to homeland security. The resources that these changes would require to actualize might be better spent on programs that the OIG agrees have a proven track record of increasing security, such as compliance monitoring and training programs for administrators in government labs, universities, and industry. Administrative time devoted to making these changes would be better spent clarifying and enforcing existing regulations rather than creating new regulations with enormous bureaucratic and opportunity costs and no real benefits.

4) The recommendations reflect significant misunderstandings of editorial review.

The editorial review board process does not negate the fundamental nature of research. Many government laboratories use ERBs to ensure that all fundamental research leaving the lab for publication is free of any sensitive materials. If the ERB process is deemed to negate the fundamental research provisions, many agencies that voluntarily instituted ERBs or similar processes will eliminate them in order to retain the right to call their work fundamental research. This will serve only to increase the risk that sensitive information might be released in journals or conference proceedings with worldwide dissemination, making the United States less safe as a result.

In the case of other bodies that instituted ERBs as a result of legislative or executive directive, the requirement that ERBs review potential publications does not mean that the bulk of research conducted by these bodies is not fundamental. Rather, ERBs exist to ensure that what is published is not sensitive; ERBs are simply a safeguard and do not create the presumption of research being non-fundamental or secretive. Indeed, if ERBs only reviewed non-fundamental research, then they would act as a wall rather than a filter, because non-fundamental research is typically classified and banned from consideration for publication. The existence of an ERB, then, is a prima facie case for the research before it being fundamental; as a NIST representative argues, "If NIST did not intend to publish, we would not send [a] document for review."[8] Finally, it should be noted that since the establishment of NIST's ERB, "not one publication has

[8] Department of Commerce (2004), Appendix D, pg. 48.

been withheld because of concerns about releasing sensitive information."[9] Analysis by the OIG, then, perverts the purpose of ERBs.

Significantly, 15 CFR §734.8(b)(2) explicitly states that prepublication review in the university setting does not negate the status of reviewed research as fundamental in nature. If this logical protection exists in the university setting, by what rationale should it be denied government labs and industrial entities pursuing fundamental research?

5) This is a solution to a problem that may not exist.

The OIG's report does not outline one instance in which the current rules have allowed even a minor breach of security or permitted any sensitive information to pass into the hands of an unfriendly state. Many of the concerns raised by the OIG's report, such as the operation manual for a five-axis machine tool being left on a work table at NIST, are in fact straw men: similar instruction manuals can be purchased from German or Canadian sources or, more simply, can be found on the internet. Similarly, the process and code to assemble processors in parallel to exceed speeds of 190,000 MTOPS – one of the technologies subject to EAR – can be found on the internet or in the knowledge bases of computer engineering professors and professionals worldwide. We are unaware of any evidence that the current regulations create any serious threats to America's ability to control the flow of sensitive information that would be remedied by the new provisions.

While CRA understands the need and supports efforts to ensure that sensitive technologies are not revealed to unfriendly states, the proposed rule changes do little to significantly improve American security, while creating significant new burdens on the bureaucracy and researchers. The best way to ensure America's homeland security and future economic growth is to ensure that we remain a beacon for the best and the brightest from the world's technical and scientific communities. The proposed rule changes will only serve to hinder this goal.

[9] Ibid.

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June 27, 2005

Office of the President
Robert M. Gates

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

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Re: Revision and Clarification of Deemed Export Related Regulatory Requirements
Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772
(RIN 0694-AD29)

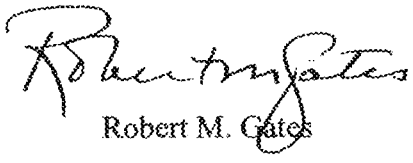
Texas A&M University has interacted closely with the Association of American Universities (AAU) regarding opportunities to comment on the Advance Notice of Proposed Rulemaking for "Revision and Clarification of Deemed Export Control Regulatory Requirements" and, specifically, the recommendations made by the Commerce Department's Office of the Inspector General (OIG) in its report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technologies to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004).

The proposed rule, albeit well-intentioned, places unworkable restrictions on university fundamental research and education that may damage our national security and economy far more than the risks they seek to mitigate. Adoption and implementation of OIG's overly restrictive recommendations will undermine the vitality of American research, adversely affect our culture of openness and competitiveness, and impede the intensity and pace of university research and education programs. These programs are the cornerstones of Texas A&M University's research efforts in science and engineering—discoveries that contribute to global leadership and technological superiority.

I have publicly written and spoken that as deputy director and director of central intelligence respectively under Presidents Ronald Reagan and George H.W. Bush, I am quite aware of the very real and ongoing security risks posed by terrorism, including the danger that terrorists will gain access to advanced technologies. And I support many measures that have been taken to contain these risks. But the implementation of this measure will overly restrict basic research and the principals of NSDD 189 that have allowed the United States a competitive technological edge and in-kind contribute to national security.

As President of Texas A&M University, I am dedicated to working with the AAU's Export Control Task Force and with the Bureau of Industry and Security to protect legitimate national security interests associated with university research. Therefore, I join with my colleagues in the AAU, as communicated to you on June 27, 2005, and raise concern to the adoption and implementation of the OIGs recommendations.

Sincerely,



Robert M. Gates

AAAS
ADVANCING SCIENCE, SERVING SOCIETY

Fax

Date June 27, 2005

To BIS, RIN 0694-AD29

Affiliation Dept. of Commerce

Fax Number 202.482.3355

Phone Number

From: Mark S. Frankel, Ph.D.
Director, Scientific Freedom, Responsibility and Law Program
AAAS
Fax: 202.289.4950
Ph.: 202.326.6793

Number of Pages (including cover sheet) 4

Message

Science and Policy Programs

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AAAS
ADVANCING SCIENCE, SERVING SOCIETY

June 27, 2005

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To Whom It May Concern:

The American Association for the Advancement of Science (AAAS) appreciates the opportunity to comment on the Advance Notice of Proposed Rulemaking (ANPR) published in the *Federal Register* on March 28, 2005, (RIN 0694-AD29) on the "Revision and Clarification of Deemed Export Control Regulatory Requirements." Founded in 1848, AAAS is the world's largest general science society with some 262 affiliated societies and academies of science, serving 10 million individuals. Since the Cold War, AAAS has upheld the standard that "freedom and national security are best preserved by adherence to the principles of openness that are a fundamental tenet of both American society and of the scientific process."[1]

The Department of Commerce Office of the Inspector General (OIG) report, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technologies to Foreign Nationals in the U.S.," to which this ANPR is a response, concludes that existing Bureau of Industry and Security (BIS) policies could enable foreign nationals access to controlled technology and recommends revising the definition of "use" technology under the Export Administration Regulations (EAR) and applying deemed export licenses to individuals based on country of birth rather than current citizenship. While AAAS understands Commerce's interest in protecting the commercial transfer of technologies to certain nations, the Association believes that the OIG recommendations will further restrict the conduct of fundamental research and diminish our national security rather than increase it.

[1] "National Security and Secrecy," AAAS Council Resolution, adopted January 7, 1982 (http://archives.aaas.org/docs/resolutions.php?doc_id=357).

Directorate for Science and Policy Programs

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Neither the ANPR nor the OIG report provide evidence that current policies and practices that allow for the classification of research; screen foreign nationals entering our country (e.g., Visas Mantis); and control access to certain technologies (e.g., select agent rules) are insufficient to protect against the transfer of dual-use technologies. At the same time, the proposal lacks a fundamental vision of the national security gains that BIS hopes to achieve by making these changes and a cost/benefit analysis to determine the impact on our national interest. AAAS urges BIS to weigh carefully any proposed changes against the additional burdens placed upon research institutions created by the proposals.

In the absence of clear evidence that current laws and policies are creating an unacceptable national security threat, we question the need for the proposed revisions, especially given the problems discussed below. Before proceeding further with the proposed changes the Department of Commerce should sponsor a study that clearly identifies the nature and extent of the problem that such revisions are intended to solve.

Control of "use" technology. In 1985, President Ronald Reagan issued National Security Decision Directive 189 (NSDD-189) that called for "no restrictions... upon the conduct or reporting of federally-funded fundamental research that has not received national security classification."[2] This principle has been upheld for decades by the Departments of State and Commerce, thereby exempting fundamental research from classification as long as the research findings are made publicly available. At the same time, the Departments' munitions and control lists provide an additional layer of scrutiny that is applied both to foreign nationals entering our country and to the conduct of federally-funded research through individual grants and contracts.

AAAS is concerned that the proposed changes to the definition of "use" technology will drastically change the character of basic research due to the ambiguity of the language and the inevitable confusion within the research community that will result from variations in the way that institutions interpret the language. The OIG report fails to take account of the fact that the conduct of fundamental research requires many forms of operating, utilizing, adapting, and modifying tools and equipment as part of the serendipitous nature of scientific inquiry and the relationship between basic and applied research. We risk creating an environment where institutions broadly apply the interpretation of "use" technology in ways that lead to delays in research or unduly restrict the free flow of scientific exchange vital to advancing research and innovation.

National origin as a criterion for license. AAAS questions whether institutions should be made responsible for determining the country of birth of foreign nationals in addition to citizenship when considering whether to apply for a deemed export license.

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[2] National Security Decision Directive 189, "National Policy on the Transfer of Scientific, Technical, and Engineering Information," September 21, 1985

Aside from whether such a distinction based on national origin would pass judicial scrutiny, BIS fails to articulate the justification for focusing on the country of birth as a risk factor as compared to citizenship. Foreign nationals who apply for student visas already must submit to an extensive examination by State Department consular offices and to Visas Mantis screening. Requiring an additional layer of scrutiny by institutions is overly burdensome and unnecessary.

Since September 11, 2001, AAAS and other scientific and higher educations associations have worked diligently with the Departments of Homeland Security and State in revising and refining visa processing procedures that maintain an appropriate balance between national security and academic interests. Both the proposed revisions to "use" technology and the application of national origin for a deemed export license would place added administrative burdens on research institutions already weighted down by other post-911 policies and procedures. Furthermore, these proposed changes will inevitably lead to more licensure applications and a greater workload for BIS staff. We know from the visa processing experience that the State Department has had to greatly augment its staffing and training capabilities in order to minimize delays. What assurance is there that BIS will have the required personnel, funding, and training to make licensure decisions in a timely and effective manner?

In conclusion, the impact of the proposed revisions on scientific research and our nation's economic competitiveness would be substantial, while expected improvements to national security have not been persuasively presented by the Department of Commerce. To the extent that the proposed changes lead to delays or unnecessary denials of licenses for foreign nationals seeking to work on fundamental research in the U.S., the have the potential to set back research, alienate foreign scholars and students, and exacerbate the declining enrollment of foreign nationals in U.S. science and engineering graduate school. In addition, the proposed rules threaten the important public policy objective of preserving the accepted understanding of fundamental research as defined by NSDD-189.

Should you have any questions or wish additional comments, please contact Mark S. Frankel, director of the AAAS Scientific Freedom, Responsibility and Law Program, at 202.326.6793, or email mfrankel@aaas.org.

Sincerely,

Albert H. Teich
Director

c: Peter Lichtenbaum, Assistant Secretary of Commerce for Export Administration, Department of Commerce

June 27, 2005

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Re: Revision and Clarification of Deemed Export Related Regulatory Requirements Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 (RIN 0694-AD29)

We, the Provosts of nine of the nations' leading research universities, appreciate the opportunity to provide our recommendations regarding **Revision and Clarification of Deemed Export Related Regulatory Requirements** Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 RIN 0694-AD29. As the chief academic officers of our institutions, we are expressly concerned about the impact that requiring licenses for access to technology on the use of equipment in fundamental research would have on our research and education missions. In this brief letter we respectfully submit our most serious concerns regarding this proposed revision and clarification.

Deemed Export Requirements for Equipment – General Impacts

The proposed revision and clarification of deemed export regulatory requirements will require our universities to seek licenses for legally admitted foreign students, scholars, faculty and staff to have access to technology on how to operate, install, maintain, repair overhaul and refurbish controlled equipment within the United States. These licensing requirements would cause universities to segregate equipment and use technology, require badges or other verification of authority to use equipment (which, in academic research, is indistinguishable from conveyance of technology on how to use equipment), and would undermine the free flow of research and education that takes place daily on our campuses. Even a limited number of deemed export licenses would create a campus where access and activities will need to be restricted and monitored. These requirements would alter the fundamental research and education environment in ways that are likely to disrupt the culture of discovery and innovation and the welcoming, open community of scholarship.

One of the hallmarks of the United States system of higher education is the strong coupling between forefront research and classroom education. It is this union that provides the next generation of scientists and engineers with the highest quality of cutting-edge knowledge and makes our institutions unique in the world. The roots of our strong culture of innovation can be traced to our system of inclusive, open, competitive research and education environments. To detract from this process would undermine our leadership in the science and technology domains that are crucial to our national security and economic prosperity.

International Students and Scholars

The United States has benefited from its status as the premier destination for the most talented students and scholars from across the world. According to the National Science Foundation Survey, 33% of the doctorates awarded in Science and Engineering in 2003 went to temporary residents with over 10% going to citizens of China. These high-level immigrants choose to study here because of the excellent research and educational experience that our universities offer. These students, scholars and the scientists and engineers who stay in this country contribute disproportionately to our research and innovation accomplishments. The foreign born comprise a large fraction (almost half; 61 out of 130) of the Nobel laureates the US has counted as their own since 1990 and international students and scholars contribute greatly to publications and patents in our universities. Numerous international students become successful entrepreneurs contributing to our economy in great measure, for example:

Hooisweng Ow, China, Ph.D. Cornell University, 2005. Ow created Cornell dots while working as a graduate student in the Wiesner group at Cornell University. CU dots are brightly glowing nanoparticles used as an alternative to quantum dots. Unlike their predecessors, CU dots are shelled in silica, which is cheap, easy to attach and compatible with silicon manufacturing. This new technology promises a host of possibilities in both information sciences and the life sciences.

Fariborz Maseeh, Iran (BS Portland State University, MIT Ph.D. 1990).
Dr. Masheeh created a company, IntelliSense to develop MEMS devices. In the mid-'90s he developed technology with Corning, which ultimately led to his company being acquired by Corning for approximately $750M. IntelliSense reacquired its assets from Corning in 2003 and is now the leading supplier of MEMS solutions worldwide with users in over 20 countries.

Sanjay E. Sarma University of California, Berkeley, Ph.D., 1995, Carnegie Mellon University, ME, 1992, Indian Institute of Technology, Kanpur, B Tech, 1989 Sanjay Sarma, the Cecil and Ida Green Associate Professor of Mechanical Engineering at MIT, cofounded the Auto-ID Center, an unusual cooperative effort between academia and global companies to develop the Electronic Product Code (EPC), a system for identifying objects and sharing information about them securely over the Internet.

Farid Nemati (Iran) - Stanford PhD in EE in 2001. Farid was one of two Stanford students who founded T-RAM in 2001. Hyun Jin Cho, Stanford Materials Science PhD from Korea is a key technical contributor at T-RAM. This company is developing revolutionary silicon memory technology that has the potential to substantially increase memory capability in all types of electronic devices. The company has received more than $80M in venture funding and will be sampling parts this year.

Numerous similar examples emanate from all of our campuses and indeed at campuses across this country.

6/27/05 RAB/ebg

From our perspective, we are concerned that implementation of the IG recommendations will adversely affect U.S. economic competitiveness and national security since American universities will be seen as, and will become, much less welcoming to foreign students and researchers. U.S. international graduate applications for fall 2005 are down by 5% as compared to fall 2004, which in turn declined 28% from 2003[1]. Recent changes in immigration policy may improve this situation; however, the imposition of restrictions on what these students can do once they are here is likely to reverse improvements and cause great harm.

To extend these regulations to the international student or scholar's country of birth would exacerbate this situation, causing our universities to *treat each and every international student as though they may be from a restricted country* until we can prove otherwise. Clearly this would not be an effective means of regulating our community.

Effectiveness of Deemed Export controls

U.S. deemed export controls have no effect on constraining the access of adversaries to technology that is available from uncontrolled sources outside the U.S. Unless U.S. controls are restricted to the use technologies that would clearly threaten national security AND that are truly unavailable outside the U.S. or other countries with equivalent levels of control, they provide little or no security benefit, and will serve only to damage the U.S. research enterprise and competitiveness. Technologies that are widely available in the U.S. to anyone who is willing to pay, and that are not subject to exclusive proprietary restrictions, also should not be controlled.

It is important to consider the impact of deemed export licenses on the United States' leadership in science and technology that is critical to our national security and economic prosperity. The designation of some pieces of equipment as requiring licenses for use technology would have the deleterious effect of driving researchers to:

- buy lower grade (but not use controlled) equipment
- shun foreign students and scholars because they are too difficult to work with
- migrate from forefront research in critical areas because the regulations are too onerous.

The lack of clarity in the regulations poses an additional impediment to its implementation. The ambiguity in the regulations will force us to regularly seek advisory opinions and assistance from the Department of Commerce placing a huge burden on university researchers and administrative staff. In addition, contradictory language and lack of clarity undermine our ability to develop a cooperative attitude and spirit of compliance among our researchers.

[1] *Council of Graduate Schools International Graduate Admissions Survey.*

6/27/05 RAB/ebg

Recommendations

1. We support policies that protect our national security. We believe that requiring deemed export licenses for technology on use of equipment in fundamental research is detrimental to this goal. We urge the BIS to provide the **narrowest possible definition of necessary regulations based on demonstrable national security concerns.** To restrict anything beyond those technologies that clearly pose real security issues would undermine the very security we seek to preserve. We believe that the classification process has reliably protected most technology of real concern.

2. We urge the BIS to **preserve the fundamental research exclusion** available to openly publishable and broadly shared university research. We urge the BIS to avoid making any decisions regarding the imposition of deemed export restrictions on use technology for equipment used in fundamental research until they can seek the technical expertise available in the academic community. They should seek to work with the academic community to clarify and narrow any such restrictions to respond to the most serious national security concerns and to exclude from controls any technology or related technology that is already broadly available or has substantially similar equipment that is openly available. They should seek implementations that do not place unreasonable burdens on our nations' universities. We pledge to work with BIS to achieve these ends.

3. We **reject the use of country of birth** in applying export control regulations. To require the determination of country of birth would require that virtually every international student or researchers provide proof of their birthplace prior to engaging in research. If the government decides such information is required, it should be gathered as part of the visa application process.

4. We should **rely on the visa processes to clear students and scholars for their research and education activities** throughout their course of study. If additional review is needed, it should be carried out at the time of visa issuance not by universities as the student's research and education program develops. To make such additional reviews necessary during the course of graduate or postdoctoral education impedes the educational process, places undue burden on BIS and the university, and will undermine the U.S. as the premier destination in the world for science and technology education and research.

We close with our appreciation for the opportunity to provide these comments and with a sincere promise to volunteer to work with the BIS in any way needed to promote workable and viable policies that preserve our outstanding science and technology research and education system.

6/27/05 RAB/cbg

Sincerely,

Alan Brinkley, Provost
Columbia University
** *I will authorize Robert Brown to sign in absentia for me if my assistant is unable to provide a signature. 6/27/05* **

Alan Brinkley

Richard P. Saller, Provost
University of Chicago

Steven E. Hyman, Provost
Harvard University

John Etchemendy, Provost
Stanford University

Peter Conn, Interim Provost
University of Pennsylvania

Christopher L. Eisgruber, Provost
Princeton University

Robert A. Brown, Provost
MIT

Andrew D. Hamilton, Provost
Yale University

Carolyn (Biddy) Martin, Provost
Cornell University

6/27/05 RAB/ebg

HALLIBURTON

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Don Deline
Vice President
Office of Government Affairs

June 27, 2005

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Reference: RIN 0694-AD29

On page 36 of the Department of Commerce Office of the Inspector General, ***Final Inspection Report No. IPE-16176—March 2004*** the following recommendation appears:

"3. Amend BIS' current policy to require U.S. entities to apply for a deemed export license when a foreign national employee or visitor was born in a country where the technology transfer in question is EAR-controlled (see page 16)."

This requirement, if adopted, would present a significant problem to international corporations like Halliburton. Beyond this, however, such an undertaking may not even be legally possible in some countries. We currently employ between 95,000 and 110,000 individuals world-wide and we have operations in over 110 countries. We gather information concerning employees based on our need to help them with such things as tax liability, health benefits, pay levels, and other human resource requirements. However, we do not normally ask them to state their place of birth because this does not help us or aid us in helping them. We need to know nationality, but in this day and age, nationality and place of birth are often not the same.

If such a rule were promulgated, the effort required to comply would be substantial and costly. It would require Halliburton to survey all employees globally to determine country of birth, because we could not assume that we know which ones are foreign nationals, and because many of our overseas employees often travel to the U.S. That information would then need to be incorporated in each of their records. While this would take time and resources, it may not even be possible in some countries, due to legal restrictions that prevent us from asking where an individual was born. Leaving aside the legal issues, our comments will simply address the near impossibility of complying with such a provision.

In addition to our employees, we would have to ascertain the country of birth of all foreign nationals who visit U.S. facilities of Halliburton as customers or business partners, as a precaution in case they might have access to export-controlled technology within our facilities. Such information would then have to be cross-checked against the Export Administration Regulations in every instance to determine the control level, if any, that applies to technology within our company. We would have to map the location of all export-controlled technology within all of our U.S. facilities and in our information systems and note the control level of each item. Not only would this be time-consuming and costly, but inevitably it would cause significant negative reactions among many of our customers, doubtless causing some to shift their business to our non-U.S. competitors.

Should our company be required to provide the information indicated in the above quote, here are the problems we foresee:

1. We will need to inquire of all foreign national employees where they were born. As noted above, it would actually behoove us to inquire as to place of birth for all employees. We do not keep this information currently.
2. Best estimates are that over 50% of our employees are foreign nationals.
3. Those individuals most apt to steal our technologies are also most apt to claim they were born in a country that is not EAR-controlled. For that reason, all approximately 50,000 claims of place of birth will need to receive some sort of cursory check by the company.
4. If these 50,000 foreign national employees all indicated they were born outside the United States – and that will more than likely be the case - we will need to verify where they were born which will prove impossible in some countries. The three simple reasons are that we, (a) cannot get records from some countries, (b) others do not keep records and (c) still others will not be able to provide such proof of birth for a myriad of reasons (i.e., destroyed records, unwilling to cooperate with our request, etc.) An honest estimate is that it will take about 3 hours per employee at somewhere in the neighborhood of $200 an hour to carry out a proper verification. The amount of money required to ***simply check*** the claims of our existing employees will be 50,000 X $600 = $30,000,000. But, this is only a small part of the problem.
5. It will be necessary to constantly check new personnel and record all this information in their files, keeping track of each employee as they are hired or released. Currently, we are experiencing about a 10 percent turnover which means that up to 10,000 new employees each year would need to be put through the inquiry process. Then the entire deemed export license process will need to take place on all those verified to have been born in countries of concern.
6. Of the initial 50,000 employees, our best guess is that half of them were born in a country that is subject to restrictions making it necessary for the company to apply for a deemed export license.
7. While the licenses are being obtained, we can only assume that these employees will not have access to our data banks and thus be of little or no use to the company. No one has even hazard a guess as to how much this would cost the company. However, during the start up period, 25,000 idle employees is truly a recipe for disaster.

8. Halliburton has thousands of patents. A reasonable guess would be that well in excess of 600 of those patents were created as a result of the efforts of people born in nations like India, Pakistan, and other restricted countries. We will be required to prohibit employees from dealing in the very technologies that they helped to develop until a license is attained. Ultimately, this policy will put U.S. companies at a competitive disadvantage as our most talented employees seek to transfer to foreign competitors that are not subject to similar licensing requirements.
9. To start with, we could easily be required to obtain some 25,000 deemed export licenses. Judging from past experiences, the licenses will not be forthcoming in an expeditious manner and, with all other international companies having to apply at the same time, we will experience months and months of employee down time.

Assuming for a moment that this actually is legally possible, albeit expensive, it would seem to accomplish very little. In fact, it would do worse than that. It will create a false sense of security at great expense and loss of whole markets to U.S. businesses. These background checks will be touted as a significant upgrade in security when, in reality, we will simply be chasing after an invalid discriminator – place of birth.

It is puzzling to us how this will help accomplish the ends desired by BIS. Is it actually possible to determine the intent to wrongfully obtain certain technologies based on a person's place of birth? In reality, where a person was born can hardly be considered an indicator of their desire to violate rules and regulations. It seems the United States attempted to prevent espionage during World War II by incarcerating individuals of Japanese birth only to end up in later years believing this had been a big mistake and then having to spend millions in compensation with the hope that this might right a previous wrong. It was later found to be constitutional, but it was never believed to be productive.

The type of business our company performs requires that we go to many types of countries and deal with many types of people. While we pride ourselves in having the latest in technologies and abilities, our competition is mainly with companies that possess many of the same technologies we do in all the areas that are of concern. To obtain Deemed Export Licenses for individuals based solely on their place of birth will not only prevent us from submitting timely proposals which will cost us business, it will not prevent the use of these technologies by individuals who are not licensed. They may simply be obtained from other sources. In the long run, it will prevent nothing except our ability to successfully compete on a timely basis.

We appreciate the opportunity to comment on this issue. We hope you find it helpful.

Sincerely,

Don Deline

SANTA CLARA UNIVERSITY
SPONSORED PROJECTS OFFICE

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
BIS	Linda Campbell
COMPANY:	DATE:
U.S. Department of Commerce	6/27/05
FAX NUMBER:	TOTAL NO. OF PAGES INCLUDING COVER:
202-482-3355	5
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
RE:	YOUR REFERENCE NUMBER:
RIN 0694-AD29	

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

Dear BIS Representative:

I am submitting the University's official response to the Advanced Notice of Proposed Rulemaking, published in 58 Federal Register 15607-15609, March 28th, 2005. The letter has been signed by Paul Locatelli, S.J., University President.

Sincerely,

Linda Campbell

Linda Campbell
Director of Sponsored Projects
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June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Subject: Advanced Notice of Proposed Rulemaking
58 Federal Register 15607-15609, March 28, 2005
RIN 0694-AD29

Dear Sir or Madam:

Santa Clara University welcomes the opportunity to comment on the proposed revisions to deemed export control requirements and policies. We are deeply concerned about the effects the proposed changes would have on U.S. academic and scientific communities and the economy.

Background

In May 2005 The National Academies released a new report, entitled *Polices Implications: International Graduate Students and Postdoctoral Scholars in the United States*, which states in part:

> To maintain America's leadership in science and engineering research, a comprehensive effort is need to improve the recruitment, education, and training of a cross-section of U.S. students for careers in these fields – while continuing to attract the most talented students worldwide. . .
>
> International graduate students and scholars have clearly advanced America's research enterprise, and those who return home often maintain working relationships with their U.S. counterparts and benefit from a greater understanding of the nation's culture and political system as well as its research. . . .
>
> The U.S. has drawn increasingly on human resources from abroad for its science and engineering work force. In 1966, for example, 78 percent of people with doctorates in these fields nationwide were born in the United States; 23 percent were foreign-born. In 2000, those figures were 61 percent and 39 percent. However, competition for talent has grown as other countries have expanded their research infrastructure and created more opportunities for international students.

Santa Clara University is deeply concerned with its ability to maintain educational and fundamental research programs in engineering and science under the proposed revised process.

Basic Implications for Santa Clara University

Based on University internal policies and federal laws prohibiting discrimination based on nationality, country of origin, ethnicity, gender, race, or religion, Santa Clara cannot accept any conditions of award that restrict any members of the research group (including faculty, staff and students) from meaningful participation in the project. The University's Affirmative Action Officer has stated that the only two valid reasons for denying participation in a research project are: 1) the individual lacks required background, or 2) there are no available positions on the research team.

The proposed changes would make it difficult for the University to put together research teams comprised of faculty, research staff and students in the sciences and engineering.

Comments on the Proposed Language Revisions and the Impact on Santa Clara University

Proposed Revision: Prepublication Clearance Voids the Fundamental Research Exemption

Along with most colleges and universities in the U.S., faculty at Santa Clara conduct only fundamental research. The University does not accept grants or contracts for the purpose of secret research, which is defined as any research whose methods or results cannot be published without the prior approval of a sponsor *[Santa Clara University Faculty Handbook, section 3.7.11]*.

The proposed revision states that prepublication clearance by a government sponsor would void the fundamental research exemption, which it currently does not.

Santa Clara University would find it difficult to accept awards or subawards that contain prepublication clearance language that voids the fundamental research exemption.

Proposed Revision: Definition of 'Use' Technology

Under the current interpretation, the use of equipment for which licenses are required is defined as "operation, installation (including on-site installation), repair, overhaul *and* refurbishing." The proposed revision replaces *and* with *or*, which significantly changes the meaning. At a minimum, faculty, staff and both graduate and undergraduate students who are foreign nationals "operate" equipment that is included on the export-control list. As an example, foreign nationals have access to spectrometers and electron microscopes, which are used in a variety of research programs, in a number of University laboratories. Under the proposed revisions, the fundamental research exemption no longer will apply to equipment use by these individuals. Licenses may be required to allow these individuals equipment access.

In order to comply with the proposed changes, the University would need to take a number of steps:

1. characterize each piece of equipment it currently owns, to see whether or not it is on the CCL list;
2. identify who will use each piece of equipment;
3. determine if any of those individuals are foreign nationals;
4. determine whether the 'use' requires a license;
5. apply for and obtain the necessary licenses; and
6. as additional equipment is acquired [either through purchase or donation], check each item against the CCL list and repeat steps 2-5.

The process raises numerous questions:

1. What would be the criteria for determining what qualifies as equipment "use" that would trigger a license? If the information used is readily available from open sources (manufacturers' web pages; operating or repair manuals) will licenses be required?
2. How much would a license cost? This cost, of course, is only the filing fee and doesn't take into consideration the cost to the University for implementing the program.
3. How long would the licensing process take? Delays of several months would cause serious disruption to research programs. It also would cause foreign students to consider going to universities in other countries instead of coming to the U.S.
4. How would licenses be issued? For an individual who uses multiple pieces of equipment, would one license cover the use of all?
5. For how long would the license be effective - annual or multi-year? Would the renewal process be expedited for those who already have gone through the process previously?
6. If the University acquires new equipment included on the CCL list that a foreign national would use, or if he/she begins using a piece of equipment not included in the original license application, would another application have to be submitted?

The process would be very time-consuming and expensive, both for universities to track equipment and to prepare license applications and for BIC to process the applications. A logical assumption is that institutions will err on the side of caution and submit applications for any 'use' that might possibly fall under the definition. We question whether sufficient potential threats exist to justify the vast resources that would be needed to put this program in place and maintain it.

Proposed Revision: Country of Birth vs. Current Citizenship of Foreign Nationals

Santa Clara University has a number of faculty, staff and students who are foreign nationals. As an example, the University currently enrolls approximately 350 international students on F-1 visas. The majority of those students are pursuing graduate degrees in the School of Engineering. The University, with the exception of its School of Law, operates on the quarter system. Thus, the process of reviewing foreign nationals' access to controlled dual-use technology in order to determine whether or not a license is required could occur as frequently as every 12 weeks.

To add a requirement regarding country of origin seems to create a redundancy. With the changes to visa requirements post - 9/11, foreign nationals already are subject to increased scrutiny during the application process. Our understanding is that the more stringent policies already in place will bar inappropriate individuals from entering the country. Once scholars and students receive visas, we believe it is unnecessary for them to go through another complete approval process in order to have access to equipment needed for their research.

Finally, the University is concerned that "science" and "security" are being viewed as opposites. The United States can either be "secure" or we can undertake "science" with international partners. Since terrorism is a global issue, we believe the best approach is to create scientific breakthroughs with our international partners that will help eradicate the threat of terror.

Sincerely,

Paul Locatelli, S.J.
President

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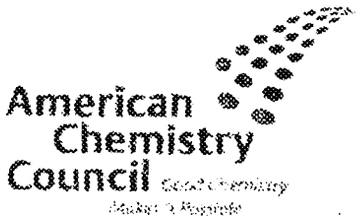
Sincerely,

Paul Locatelli, S.J.
President



American Chemistry Council
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FAX Cover Sheet

To: Dept. of Commerce

Company Name: Bureau of Industry and Security

Fax Number: 202-482-3355

From: Marybeth Kelliher

Description: RIN 0694-AD29

Number of pages (including cover): 5

Date Sent: 06/27/2005

Time Sent: 05:36:39 PM

If there are any problems with this transmission please call: Sharlene Jones-703-741-5201

American Chemistry Council
Good Chemistry Makes It Possible

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29

Re: Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, March 28, 2005)

To Whom It May Concern:

The American Chemistry Council (ACC) is pleased to submit the following comments on the Advanced Notice of Proposed Rulemaking (ANPRM) regarding the revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

ACC represents the leading companies engaged in the business of chemistry. Council members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. The Council is committed to improved environmental, health and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing.

The following comments address the Department of Commerce's (DOC) Office of the Inspector General's (OIG) recommendation to the Bureau of Industry and Security (BIS) to use a foreign national's country of birth as criterion for the deemed export (DE) license requirement.

Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

ACC is concerned over the OIG's recommendation to BIS to change the basis of its DE license requirement from a foreign national's country or countries of citizenship to his or her country of birth. If adopted, this recommendation will create a variety of compliance challenges, for our member companies.

The U.S. business of chemistry is a $516 billion enterprise. While every country in the world has a chemical industry, America is home to the world's largest chemical industry, and ACC member companies account for about 85% of the U.S. industrial chemical productive capacity. The U.S. chemical industry also has the largest share of knowledge workers of any industry, and is the largest private investor in research and development (R&D). Chemistry business R&D takes many forms. It is carried out by individual companies, multiple companies, and in conjunction with university professors and students. With 2004 exports totaling $109 billion, the business of chemistry is also the nation's leading exporter. Our exports account for ten cents out of every dollar in U.S. exports.

Clearly, ACC member companies are leaders in the business of chemistry. It is worth noting that they're also multinational businesses. A full fifty percent of ACC's 135 member companies are foreign owned and a total of 117 are multinationals with operations overseas. In 2003, U.S. chemical industry direct investment abroad rose to $90 billion, and foreign direct investment in the U.S chemical industry totaled $123 billion. The chemical industry's global workforce of American and foreign-born scientists and engineers delivers competitive advantage for their companies through the use of innovative and proprietary technology. In other words, every aspect of the chemical industry is increasingly global.

If applied on the basis of country of birth, a revised DE rule would necessitate the immediate and indefinite interruption of operations involving U.S. controlled technology. Companies would instead turn to assessing and fulfilling their obligations under the new rule, in order to facilitate both compliance and their return to business. During this assessment phase, companies could be forced to remove individuals skilled in the operation, installation, maintenance, repair, overhaul, or refurbishing of U.S. controlled equipment. Their removal could undermine business continuity by delaying work processes, projects, upgrades, research, and/or planned production runs that enable a company to reliably supply their customers in the pharmaceutical, aerospace, and automotive industries, to name just a few. Temporary placement of employees in other positions and the hiring of comparably skilled replacements could also undercut employee morale, not to mention long-term recruitment efforts. Business continuity in a globally integrated industry with an international workforce is maintained through advanced planning that depends on human as much as capital resources. Ensuring business continuity and thus competitiveness would be complicated and costly if the DE rule implicated all foreign nationals even from trusted U.S. trade and investment partners.

Canada further illustrates this point. Canada is the U.S. chemical industry's largest chemical trading partner. Many ACC member companies operate and invest in Canada and Mexico, as well as the U.S., because of the benefits they derive from the North American Free Trade Agreement (NAFTA). ACC believes the number of

chemical industry DE license applications could increase drastically if Canadian nationals working in Canada who are born in third countries are exposed to U.S. technology controlled for export to their birth country. Given the global nature of the chemical industry's operations and workforce, a revised DE rule -- especially one that applied to U.S. permanent residents -- could increase foreign national DE licenses even for citizens that have received permanent residency elsewhere in countries considered allies.

In order to comply with a revised DE rule, companies will begin by identifying and researching the laws governing the collection of country of birth information from U.S. citizens and foreign nationals, including those with the status of nationals, green card holders or refugees with asylee status. For example, ACC understands that U.S. laws generally allow a company to inquire whether or not an applicant has the right to work in the U.S., but a company typically is not allowed to inquire into the country of birth unless an applicant needs immigration sponsorship. Foreign laws may further restrict an employer's ability to obtain citizenship or birth status information. This process is doubly complicated for employees with dual citizenship. ACC encourages BIS to research careful the legal ability of U.S. companies to collect and indeed confirm country of birth information for purposes of short and long term compliance with a DE rule that requires this information

Information technology systems and work processes would also have to be expanded and training conducted, as well. Company-wide information technology systems cross the country, if not the globe, as a means of managing personnel and processes. Modifying these systems to enable the compilation, maintenance and sharing of country of birth information would require a substantial investment of time, resources, and manpower. To reiterate, a country of birth based DE rule will result in companies initiating a compliance process and suspending business.

Not only will companies be required to determine the country of birth for all foreign nationals currently working in the U.S. and/or who have access to U.S. technology, they will have to anticipate any future DE needs arising from new hires, plant upgrades or closures, joint ventures partners, visitors, and/or customers who may become subject to a revised DE license requirement. Under a revised DE rule, one ACC member company would have to obtain country of birth information from at least 3,000-4,000 members of a workforce that spans several continents. If U.S. permanent residents are not exempted, that number increases by about 2,000 for that company alone. ACC member companies urge BIS to consider the local, state and federal obstacles to obtaining this information legally, not to mention its capacity to process a significant increase in DE license applications.

Conclusion

Thank you in advance for considering ACC's comments on deemed export related regulatory requirements. ACC believes that the OIG's suggested revision of the DE rule has the potential to negatively impact commercial competitiveness and run afoul of immigration and labor laws at home and abroad. ACC encourages and welcomes greater private-public dialogue on the DE rule. We would be happy to answer any questions or to provide additional information. Please feel free to contact me at 703/741-5575 or Marybeth Kelliher of my staff at 703/741-5923.

Sincerely,

Marty Durbin
Managing Director
Security and Operations

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

Richard L. McCormick, President

June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

Dear Mr. Lopes:

This statement submitted on behalf of Rutgers, The State University of New Jersey, addresses the Department of Commerce (DoC) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, published in the Federal Register on March 28, 2005.

Rutgers is one of the nation's leading state universities conducting federally-funded basic research awarded by science agencies primarily on the basis of merit. Our faculty and students regularly publish their research results in prestigious national and international scholarly journals. Our research is generally considered exempt from export controls under the fundamental research exemption.

Our interests and those of the entire university community are in a workable export controls regime that imposes limited regulatory requirements to protect national interests reasonably balanced with the free expression of ideas, open commerce and trade, and international cooperation. The DoC Inspector General (IG) recommendations fail to support a reasonable balance.

The IG recommendations would clearly lead to an expansion of the deemed export program, though no compelling evidence has been shown that necessitates an expansion of the current program to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system.

In matters related to export controls, Rutgers supports the comment letters of the Association of American Universities and the Council on Governmental Relations on this topic and agrees with the analysis and

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conclusions drawn in those documents. We would like to take this opportunity to highlight our most pressing concerns.

The IG recommendation that would alter the definition of use technology in determining deemed exports, and the change of interpretation of the fundamental research exemption are of great concern to us as these changes will stifle fundamental research and place unnecessary and costly administrative burdens on U.S. universities and on the DoC. We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. We strongly disagree and support the current definition, in which all the actions must be taken together to constitute "use."

We disagree with the IG's interpretation that the use of equipment required for the conduct of fundamental research is not covered by the fundamental research exemption. The use of equipment and the conveyance of technology on how to use that equipment are inseparable in academic research, thus the importance of the fundamental research exemption to the progress of basic science. Subjecting the use of certain equipment required for the conduct of fundamental research to export control provisions will stifle the open, collaborative and often-times spontaneous campus research environment required to stimulate innovative and cutting-edge ideas.

Moreover, the administrative burden to categorize and catalogue equipment that may be subject to export controls is very high. With over 53,000 pieces of capitalized equipment currently on campus at Rutgers, the task of cataloguing such equipment and determining its status as per the DoC control list would necessitate special training of faculty, students and other researchers and most likely the engagement of outside firms to help accomplish this task in a timely fashion. This would cost hundreds of thousands of dollars in a university of our size, taking already scarce resources away from other fundamental programs of the university. Rutgers currently employs one full time equivalent specifically to handle issues related to export controls and will likely devote further resources to this endeavor even without the IG's recommendations being put into place.

We recommend that the DoC and BIS continue its dialogue with the universities to draft a clear definition of use and define the types of activities and use of equipment that warrant careful inspection and oversight. If adopted, the IG recommendations will make it very difficult for faculty and university administrators to comply with the regulations, despite their desire to do so. Clarification of the regulations will lead to better compliance to ensure national security and a healthy, innovative academic research enterprise.

As a university with over 4,000 international students, scholars, and faculty from all over the world, we are very concerned that these recommendations will further enhance the perception or reality that U.S.

universities are not welcoming and are a less desirable place to perform innovative research. We believe that this perception poses a grave threat to this nation's economic and national security in the long term. The unnecessary expansion of the deemed export program proposed by the IG will ultimately not only adversely affect university research, but will also adversely affect our nation's world leadership in innovation and higher education, and consequently, our national security.

For example, science is now a global proposition with collaboration being a necessary element for success. By creating a perceived inhospitable environment, universities will be hampered in their efforts to attract and recruit international talent or even collaborate with foreign talent to compete in this global research enterprise. The United States enjoys a reputation for being *the* place to learn and perform cutting-edge research. Universities help maintain this reputation by being able to recruit top scientists from within and outside the country. Once a foreign scholar is successfully recruited, he or she often represents just the first of a steady stream of scholars from a particular region. Rutgers recruits scientists from all over the world, and in fact, many foreign born scientists hold positions of responsibility within Rutgers and have become some of our greatest scientific assets. Burdensome or confusing regulations will likely lead to loss of talent to other countries and clearly present a problem for Rutgers in its quest to recruit top scientists and students and build competitive research and teaching programs in several fields.

With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as Visa Mantis, prior to beginning work or study in the United States. These safeguards have proven to be adequate to protect the U.S. from any possible damaging export of technology. Expansion of deemed exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our labs who have already been subject to multiple security reviews and who are residents of countries that have not been deemed a security risk to the U.S. By requiring additional background checks and export licenses before foreign students and scholars can use equipment required for the conduct of basic, fundamental research – after they have already been subject to extensive and thorough background checks during the visa process – the government will only be adding an additional layer of bureaucracy and inefficiency to the process.

Furthermore, we do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. While national security is extremely important, we feel that any blanket policy premised on the assumption that all individuals who were born in a particular foreign country, but who are no longer citizens of that country still hold some allegiance to that country is overly broad and not based on strong logic.

In conclusion, we believe that these changes will place an unnecessary and costly administrative burden on universities. The process of inventorying equipment, obtaining and maintaining additional nationality information,

evaluating the extent of foreign national "use" of each piece of equipment, and obtaining a license if necessary will not only cause significant delays in research, but will have an astronomical financial cost to our institution. With thousands of pieces of equipments and thousands of foreign students and scholars, these changes would grind our research to halt as faculty, staff and administrative time is used to categorize equipment used in the conduct of fundamental research. Additionally, the recommended changes will also place a heavy administrative burden on the DoC who will be forced to increasingly determine if a license is required for the use of particular piece of equipment and to process additional export licenses.

Based on these concerns, Rutgers recommends that DoC:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment;
- Continue to consider citizenship status, not country of birth, for purposes of export controls; and
- Provide a clear and narrow definition of "use technology" and focus the regulations to rely on the transfer of information such that a person could replicate proprietary and non-publicly available technologies.

As the IG recommendations are considered further, we hope that the DoC will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform. We believe that the recommendations put forward by the IG would not enhance U.S. competitiveness or national security. On the contrary, the proposals would adversely impact innovation and international cooperation without any benefit to the government or the citizenry.

Thank you for this opportunity to comment on the DoC IG recommendations.

Sincerely,

Richard L. McCormick

Richard L. McCormick

NAICU

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June 27, 2005

Alex Lopes
Director, Deemed Exports and Electronics Division
Bureau of Industry and Security
Department of Commerce
Regulatory Policy Division
14th St. & Pennsylvania Ave., NW, Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29

Dear Mr. Lopes:

I am writing on behalf of the National Association of Independent Colleges and Universities (NAICU) in response to your March 28, 2005, solicitation of comments regarding recommendations contained in the U.S. Department of Commerce Office of Inspector General Report, *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.*

With nearly 1,000 members nationwide, NAICU represents the diversity of private, nonprofit higher education in the United States. Our membership ranges from church- and faith-related institutions to traditional liberal arts colleges to major research universities. Many of our member institutions would incur substantial costs to perform the cataloging, background checking, monitoring, and licensing activities that would be involved in implementing the Inspector General's recommendations.

Our institutions take great pride in American achievements in science and technology and recognize of the importance of these achievements to the well-being and safety of our country and its citizens. The contributions of international students attending U.S. institutions of higher education to the fundamental research that has made these achievements possible are widely acknowledged. Much of the discussion about the recent drop-off in the number of foreign students choosing to study here has focused on the impact this trend will have on our ability to remain competitive in the fields of science, technology, and engineering.

We fully understand that the security needs of our nation are greater than they have been in the past, and we want to continue to play a constructive role in assuring those needs are met. Among other things, security concerns have led to the development of extensive pre-screening of foreign students before they can even receive a visa to attend a U.S. college. It is by no means clear there would be "value added" by having institutions attempt to duplicate this screening.

We have encouraged our member institutions to review the Inspector General's report and to provide directly to you the specific information you have requested regarding the estimated number of foreign nationals who would need to be licensed and the cost and nature of the steps that would be required to assure compliance. A number of institutions are working to develop these estimates, but many are finding this task difficult due to issues such as a lack of clarity about the definition of "use technology" and the fact that they do not collect information about a student's country of birth.

The American Council on Education (ACE) and several of its member organizations have also submitted comments about these issues. We share the concerns they have expressed.

Thank you for the opportunity to share our views on these critical issues.

Sincerely,

David Warren
President

CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CA 91125

David Baltimore
President

June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: RIN 069-AD29

Dear Mr. Lopes:

This letter, submitted on behalf of the California Institute of Technology (Caltech), responds to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) requesting comments on the recent recommendations of the Department of Commerce Inspector General (IG) with respect to "deemed exports." Caltech appreciates this opportunity to provide its comments on the proposed changes.

Caltech is one of the nation's leading teaching and research universities. Over half of Caltech's $400 million+ annual budget comes from federally-funded fundamental research in science and engineering. Caltech also manages the Jet Propulsion Laboratory (JPL) for NASA. JPL is NASA's only Federally Funded Research & Development Center (FFRDC).

Despite its relatively small size (i.e. approximately 280 professorial faculty members, 900 undergraduate and 1,200 graduate students), Caltech's education and research programs have produced some of our nation's leading innovators in science and technology. Thirty members of the Caltech community have won Nobel prizes since 1923. Caltech graduates have played a major role in the development of new technologies and the commercialization of products which have significantly contributed to our nation's economy. Caltech has also participated in research activities that have been integral to protecting America's national security interests.

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Key to Caltech's success has been its ability to attract the best and brightest minds in the world to join the ranks of its faculty, research staff and student body. Caltech has a significant foreign national population. Many of Caltech's faculty members and researchers are foreign born and approximately 40% of Caltech's graduate students are from other countries. These individuals contribute significantly to U.S. sponsored research in science and engineering through the conduct of fundamental research at Caltech.

Caltech believes that the IG's recommended changes to the Export Administration Regulations (EAR) will seriously compromise the ability of Caltech and other leading American teaching and research institutions to continue to draw talent from around the world. This will undermine our nation's economic competitiveness and negatively impact our national security. The importance of foreign students and scholars to our universities and the U.S. economy is well documented. The June 2004 report of the President's Council of Advisors on Science and Technology notes that "foreign students and scholars are critical to our national vitality." The report also recognizes that "[t]he openness of our campuses to students, scholars and faculty from all over the world is one of our greatest strengths, and is at the heart of the phenomenal success of the American research university." Another recent report issued by the National Academy of Sciences Committee on Science, Engineering, and Public Policy, entitled *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States,* recognizes the criticality of technological innovations to the U.S. economy and the role of foreign students, postdoctoral scholars and researchers to maintaining the scientific and engineering excellence that drives such innovations. Clearly, the international members of our academic communities are a valuable resource we cannot afford to loose.

The proposed clarification to question D(1) will inhibit the participation of foreign students and researchers in free and open academic exchanges and spontaneous experimentation that are the hallmark of American research universities and have proven so effective in generating scientific and technological innovations. If "use" of equipment and access to "use" technology are defined as controlled activities in an academic environment, universities will be required to inventory, classify and monitor scientific equipment in their laboratories and classrooms and implement security measures to control foreign nationals' access to any controlled equipment and related information. Universities will also be required to obtain licenses before permitting affected students and scholars from engaging in research activities involving controlled equipment, that they would otherwise be restricted from using. This would place an incredible administrative burden on universities, not to mention the crushing workload for the Department of Commerce that would result from the dramatic increase in licensing submissions.

The negative results of such a policy far outweigh any foreseeable benefit, especially when you consider that most of this equipment is freely available for purchase on the open market.

The ANPR does not provide any compelling reason for implementing what is erroneously characterized as a clarification, but is in fact a dramatic change to a well thought out, sound and long standing national policy relating to university based fundamental research. National Security Decision Directive 189 (NSDD 189), issued by President Reagan and reaffirmed by the current administration, recognizes that America's "leadership position in science and technology is an essential element in our economic and physical security." Accordingly, NSDD 189 directs that "no restrictions may be placed upon the **conduct** or reporting of federally-funded fundamental research that has not received national security classification, except as provided in applicable U.S. statutes." (Emphasis added). Since the conduct of research necessarily includes using equipment, it is clear that NSDD 189 was intended to protect the use of equipment in federally-funded fundamental research activities.

The IG's recommended change in the definition of "use" in Section 772.1 to replace the word "and" with "or" further muddies the waters. The change does nothing to clarify what "use" technology is, and therefore what is restricted. Furthermore, this change, taken in conjunction with the proposed clarification to the answer to Question D(1) discussed above, could lead to absurd results. It is conceivable that a faculty member's instructions to a student on how to use a piece of equipment in conducting an experiment may be considered "use" technology requiring a license. It is Caltech's position that restricted "use" technology should be limited to information that is subject to government imposed restrictions on dissemination and proprietary information that is not publicly available.

Caltech also views as alarming the IG's recommendation that organizations be required to apply for deemed export licenses for foreign nationals based on their country of birth, regardless of their current citizenship or permanent residency. This proposed change raises serious constitutional, discrimination and privacy issues. Foreign students and scholars already are subject to considerable security processes, such as visa clearances, prior to beginning work or study in U.S. labs. These existing safeguards are adequate to protect the U.S. from any possible damaging export of technology controlled under the EAR.

This change would also compromise the ability of universities and the federal government to engage in international collaborations. Caltech, in its operation of JPL, manages many missions on behalf of NASA that involve international collaboration. Caltech echoes NASA's concerns as expressed by John Hall, NASA's Director of Export Control and Interagency Liaison Division, in his

response to the ANPR (attached), that this recommendation may impair U.S. international relationships and jeopardize Federal missions. As noted in the NASA response, the change raises issues of international comity. It also may prove impracticable to implement when dealing with international partners as there are foreign privacy laws that may prohibit them from providing information about an employee's country of birth. Additionally, this proposed change would create inconsistencies in how U.S. persons, including foreign-born permanent residents and naturalized citizens, are treated under U.S. export control regulations (e.g. the International Traffic in Arms Regulations).

Finally, Caltech recommends that the proposed clarification to the answer to Question A(4) be refined to make it clear that the acceptance of a prepublication clearance requirement solely intended to ensure that the publication would not compromise proprietary or export-controlled information provided by the Government, or to ensure compliance with Government publication formatting standards, would not automatically subject the project and its personnel to the requirements of the EAR.

Caltech urges the Commerce Department to reconsider its proposed changes. Caltech would be happy to participate in further discussions with the Commerce Department to develop alternative approaches to dealing with concerns raised by the IG's report on deemed exports.

Thank you for this opportunity to comment on the proposed changes to the EAR.

Sincerely,

David Baltimore

Attachment

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001

May 26, 2005

Reply to Attn of: Office of External Relations

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security, Regulatory Policy Division
14th Street & Pennsylvania Avenue, N.W.; Room 2705
Washington, D.C. 20230

Re: RIN 0694-AD29

Dear Mr. Lopes:

In response to the March 28, 2005, Advance Notice of Proposed Rulemaking regarding the U.S. Department of Commerce Office of Inspector General Report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.," NASA is pleased to provide to the Bureau of Industry and Security (BIS) its comments to the recommendations provided therein.

As an initial matter, NASA supports the recommendation that BIS revise the definition of "use technology" in section 772.1 of the EAR, 15 CFR § 772.1, to replace the word "and" with the word "or," or even "and/or," as follows: *"Use". (All categories and General Technology Note)--Means all aspects of "use," such as: operation, installation (including on-site installation) maintenance (checking), repair, overhaul, [or] [and/or] refurbishing.* This appears to be a logical and reasonable recommendation.

The second recommendation urges BIS to amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign persons with access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency. In other words, one of the "home countries" of a foreign person consignee, as described in 15 CFR § 734.2(b)(2)(ii), would be her country of birth, regardless of whether she had ever lived there beyond her nativity or was a resident – or had even acquired citizenship – in another country. NASA is concerned that this recommendation may perhaps be unduly-broad, and could have the untoward result of imposing export license requirements or prohibitions on transfers of dual-use technology to foreign persons with no real nexus to a proscribed state. The recommendation may also contrast with the manner in which U.S. persons, including foreign-born permanent residents and naturalized citizens, are treated under U.S. export control regulations. See, e.g., 15 CFR § 772, 22 CFR § 120.15.

Additionally, the fact that a Syrian-born *permanent resident* of the United States is treated as a U.S. person under U.S. export control regulations, but a Syrian-born *citizen* of Canada should be treated as a Syrian person under those same regulations may raise questions of international comity – upon which the success of multilateral export control efforts must ultimately depend. Finally, in the context of Government-to-Government cooperation, the suggested revision would create a duty to inquire about the country of birth of a foreign government partner's employees, to which inquiries the foreign government may be unable or unwilling to respond, due to foreign privacy laws. Ultimately, such a change could impair intergovernmental agency relations and missions.

NASA concurs in the recommended revision to Question A(4) of Supplement 1 to Part 734 of the EAR, but only to the extent that the prepublication review requirements addressed therein relate to national security, foreign person access, or export controls. In our view, a prepublication review requirement that exists exclusively to ensure that the publication would not compromise proprietary or export-controlled information provided by the Government to the research institution (i.e., "background technology"), or to ensure compliance with Government publication standards (e.g., as to format or usage), would not void the fundamental research exclusion. cf. 41 CFR §§ 1835.070, 1852.235-73 (NASA FAR Supplement clauses on "Final Scientific and Technical Reports", including Alternate 1 on fundamental research).

Finally, NASA agrees with the recommendation to revise Question D(1) of Supplement 1 to Part 734 of the EAR. The fundamental research exclusion runs only to information *arising during or resulting from* basic and applied research in science and engineering, where the resulting information is ordinarily published and shared broadly within the scientific community. 15 CFR § 734.8, 22 CFR § 120.11(8). The exclusion does not relieve a sponsored research institution – or the sponsoring Government agency – from the requirement to otherwise comply with export control limitations governing background technology or general foreign person access restrictions relating to export-controlled technology or hardware used in the sponsored research.

Thank you for the opportunity to comment on these important matters.

Cordially,

John F. Hall, Jr.
Director
Export Control and Interagency Liaison Division

cc: Matthew S. Borman, Deputy Assistant Secretary for Export Administration

OFFICE OF THE PRESIDENT

THE UNIVERSITY OF TEXAS AT AUSTIN

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June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW, Room 2705
Washington D.C. 20230

Dear Mr. Lopes:

Please find below my comments on the Advance Notice of Proposed Rulemaking (ANRP) published on March 25, 2005, in the Federal Register (RIN 0694-AD29) under the heading "Revision and Clarification of Deemed Export Control Regulatory Requirements." The comments relate to the recommendations made the Office of Inspector General (OIG) of the U.S. Department of Commerce in its report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technologies to Foreign Nationals in the U.S." As President of The University of Texas at Austin, I appreciate the opportunity to share my views on issues that are critical to the competitiveness and security of the Nation and to the health of its academic research institutions.

The University of Texas at Austin is a major research university with membership in the Association of American Universities. It is composed of 16 colleges and schools, and more than 90 research units, including units at the main campus, the J. J. Pickle Research Campus in Austin, the Marine Science Institute at Port Aransas, Texas, and the McDonald Observatory near Fort Davis, Texas. Its enrollment is among the largest for single-campus universities in the United States. In the Fall of 2004 it enrolled over 50,000 students coming from all counties in Texas, all 50 states, and more than 100 foreign countries. At any given time, approximately 1,300 undergraduates and 3,000 graduate students attending the university are foreign nationals.

The university's research expenditures in fiscal year 2004-2005 exceeded $380 million. As an institution that performs a wide variety of research, including classified research, our faculty, researchers and administrators are aware of the need to protect sensitive information that can aid the cause of terrorism or industrial espionage. The university supports and actively maintains a security apparatus to protect classified research. At the same time, our ability to nurture and maintain a culture of openness that encourages the free exchange of ideas emerging from fundamental research has been the key to our success and, I believe, to the success of all research universities in the Nation. Thus, while I support the implementation of effective strategies aimed at reducing the risk of research being used to support terrorism or industrial espionage, it is vitally important that we also work diligently to protect the ability of our research universities to continue to attract the best minds from around the world. The competitiveness and economic health of the Nation depend on it.

Implementation of the Inspector General's recommendations, while it might arguably achieve some limited security benefits, it will, demonstrably, have a significant negative impact on the university research environment in the United States. History and experience indicate to me that the long term security and economic interests of the Nation will not be well served.

A fundamental flaw in the OIG report is that it fails to recognize that the products of fundamental research are intricately linked to the tools, equipment and materials used to perform such research. Thus, implementation of the OIG's recommendation requiring licensing controls on equipment used in fundamental research will, in effect, impose controls on fundamental research without due consideration and full understanding of the impact on the short and long term national security objectives, on the impact on the Nation's competitiveness and economic health, on the administrative and financial burdens imposed on the universities, and on the long term impact on the Nation's research infrastructure. I respectfully submit that the uncertainties regarding any material benefits, combined with the potentially significant negative impact on the Nation's research universities, makes it imperative that the OIG's recommendation on "use technology" be rejected at this time, and that an exhaustive, thorough and consensus-building process be initiated by the Department of Commerce aimed at effective and strategically sound deemed export control rules.

Implementation of the OIG's recommendations will predictably contribute to the decline in the number of foreign students attending U.S. universities, thus depriving the Nation of access to the world's "best and brightest." This, in turn, would place our competitiveness, capacity to innovate and economic health at risk. I agree with the statement in the June 2004 report of the President's Council of Advisors on Science and Technology (PCAST) on *Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities* that the nation's "entire national innovation ecosystem is at risk" by losing foreign graduate students to foreign competitors. Foreign students and scientists have historically played an important role in the development of U.S. science and engineering. Thus, it is vitally important that any rule making by the Department of Commerce on deemed exports take into consideration our nation's broad strategic goals.

In closing, I would like to reiterate that The University of Texas at Austin is supportive of the efforts by the Department of Commerce to establish deemed export control rules that will effectively prevent the transfer of sensitive technologies to foreign nationals. However, I am of the opinion that the OIG's recommendations may not be properly aligned with the Nation's long term security and economic objectives. Thus, I urge the Department of Commerce to carefully review the recommendations in light of the concerns noted above.

Thank you for the opportunity to comment.

Sincerely,

Larry R. Faulkner
President

UNIVERSITY OF FLORIDA

Vice President for Research
Winfred M. Phillips

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June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, N.W., Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29
FAX: (202)482-3355

Dear Reviewer:

The University of Florida is pleased to have the opportunity to comment on the subject Advanced Notice of Proposed Rulemaking. The contemplated revisions and clarifications of deemed export related regulatory requirements represent either a threat to the participation of foreign nationals in fundamental research at U.S. universities, or an opportunity to clarify the exemptions that would enable fundamental research at universities to continue to enhance national security.

1. Of the issues raised by the proposed rulemaking, the definition of "Use" (EAR 772.1) is the most important. The recent debate centers on replacing the word "and" with the word "or" in the current definition:

"Use". (All categories and General Technology Note)—Means all aspects of "use", such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing.

Clearly all of these aspects of "use" are present in the case of a true export of equipment to a foreign country. Claiming an exemption from "deemed export" within the U.S. because all of these aspects are not present does not seem reasonable either. However, mere use of equipment by a foreign national in a U.S. university should not, by itself, constitute "deemed export". Some compromise between these extremes appears needed. Perhaps some clarification similar to patent law language regarding access to "enabling" technology by virtue of the use would provide a better basis for judging "deemed export".

2. A related issue is exemption based on publicly available information (EAR 734.7). The list of bases for public availability does not include technical information from equipment manufacturers that is available without confidentiality agreements. Adding this unrestricted source of information to the current list would exempt much of the equipment in use at research-intensive universities from the specter of deemed export.

3. Finally, the current definition of Fundamental Research (EAR 734.8) includes "Basic and applied research where resulting information is ordinarily published and broadly shared within the scientific community." A key word is "ordinarily". Recent awards for research from some Federal agencies have placed controls on publication of work that is "ordinarily" published and shared broadly within the scientific community. This has created a barrier for universities participating in such research for fear that these publication restrictions will void the fundamental research exemption. Clarification of this exemption is needed to encourage university participation in these important projects.

In regard to the magnitude of the effort required by universities to assure compliance with EAR, at the University of Florida there are over 95 thousand capital equipment items, five thousand foreign students, and 773 foreign faculty. Examining all of these for "deemed export" versus real export is counterproductive to producing the research outcomes that will truly enhance U.S. security through technological advances.

Sincerely,

Winfred M. Phillips
Vice President for Research

The Boeing Company
1200 Wilson Blvd.
Arlington, VA 22209-1989

June 27, 2005

BOEING

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Street and Pennsylvania Avenue, NW
Room 2705
Washington, DC, 20230

ATTN: RIN 0694-AD29
Advance Notice of Proposed Rulemaking: Revision and
Clarification of Deemed Export Related Regulatory Requirements

Ladies and Gentlemen:

The Boeing Company appreciates the opportunity to comment on the referenced Advance Notice of Proposed Ruling by the Bureau of Industry and Security regarding deemed export related regulatory requirements.

We will focus our comments only on the proposal to base the requirement for a deemed export license on a foreign national's country of birth, since that is the aspect of the proposed regulations which would have the greatest direct impact on the company. Further, we expect that you will be receiving many comments from a large number of sources, and for that reason we decided that it might be more helpful for you if we take an empirical approach and concentrate on facts and figures to show the far reaching effect that the proposed regulations could have for our domestic and international operations.

Specifically:

- We currently have over 3200 foreign nationals (suppliers, customers, etc.) temporarily working at Boeing facilities in the U.S. who hold active Boeing badges; we also have over 300 full time, permanent foreign national employees working in the U.S.

- Boeing has over 4200 permanent foreign national employees at facilities and offices overseas (in thirty-five countries). While we do not have consolidated records about the number of third country nationals who

may be hired by or on average visit these foreign locations, we are certain that the numbers would be significant for our purposes.

- Foreign national visitors to Boeing offices (for meetings, etc.) in the Washington State Puget Sound area alone average 2,500 every month, or a total of about 30,000 foreign persons per year.

- In 2004, we had 82,000 general public tour visits to our Everett, Washington Plant alone; this year we expect the number will be around 100,000, and our projection for 2006 is 230,000. These numbers include international visitors, but we do not keep track of them. While the information provided is not controlled, under the new regulations it is possible that we would have to obtain country of birth information to ensure that no services are provided to a person born in a country subject to the OFAC regulations.

- The visitor data provided above for the Puget Sound area is the most significant since it is in that area that the largest numbers of employees are located. However, on a much smaller scale (particularly with respect to visits by the general public) we expect that similar situations could be described at several other U.S. locations (we have major facilities in twenty-seven states), as well as at a number of foreign locations.

- Our personnel databases do not record the country of birth, and our Enterprise Plant Security System (EPSS) only records citizenship. Therefore, we would not be able at this time to produce employee country of birth information. Guidance from the Boeing Legal Department has also been that organizations are not permitted to ask the country of birth of individuals, since that could be, or could be perceived as, a basis for discrimination. In order to obtain this information worldwide we would have to face not only our own non-discrimination laws but those of every country in which we do business.

- The impact of the new rule would particularly be felt by our foreign subsidiaries. For example, in Australia our subsidiary had to obtain an exemption from the Australian Government just to ask for citizenship information for purposes of exports subject to the jurisdiction of the International Traffic in Arms Regulations (ITAR). The exemption took over twelve months to receive, and was granted only after intense lobbying efforts. Significant publicity was generated by the labor unions involved, but reportedly an effort on their part to appeal to the Commonwealth legislation did not succeed as the legislation does not address "citizenship" or "nationality" as a ground for discrimination. The legislation does, however, address "country of origin" and it is possible that an action would be taken by the labor unions to prevent us from obtaining country of origin information should it be required for purposes of deemed re-exports.

We hope that the magnitude of the numbers will demonstrate not only that the new regulations would have an immense direct impact on Boeing, but also that they would reverse the direction Boeing and many other multinational companies in the U.S. and abroad want to follow to become truly global and to be able to compete effectively in the global marketplace. Today's model, not only in the global marketplace but in all aspects of life within the community of free nations, is to work together across borders and to set aside national origins and cultural differences in order to enhance free trade and advance human rights and democracy around the world.

More generally, it is our position that there are other agency rules, requirements and systems in place, such as visa programs, or intelligence driven programs, to prevent the threat of espionage which the proposed regulations intend to address. If there are flaws in those systems, a change in the deemed export licensing requirements should not be used to correct them. Records show that only 1% of deemed export license applications submitted to BIS were denied. We understand that under another foreign national control effort related to the transfer of U.S. technology, the MANTIS visa program, only 1% of visa applications were rejected last year as a result of technology transfer concerns. While any number in this regard should be meaningful for obvious reasons (one spy is already too many), these percentages are insignificant enough to show that to capture potentially hundred of thousands of people, if not more, in order to catch a few who, in fact, might not be caught by imposing a licensing requirement, will cause much more real harm than a most certainly elusive good.

One particular issue that may be of concern is that with increasing migration of the work force across international borders the country of birth identification on a passport may no longer be as meaningful as it may have been in the past. For example, in certain countries a child born from citizens of another country is not considered a citizen of the country in which he was born but of the country in which his parents have citizenship. In sum, for probably millions of individuals country of birth would not be an accurate discriminator for purpose of export controls, yet under the new proposed rules it would be.

On the same subject, we have gathered information on the permanent residency and naturalization, as well as citizenship determination requirements of 44 countries in which Boeing has representation. We found that citizenship determination requirements were often not aligned with birthplace, and that naturalization and permanent residency requirements were quite stringent. It would appear that permanent residency and/or citizenship may still be the best way of determining export control applicability. The information that we gathered is provided as an attachment to this letter, and was obtained through publicly available sources.

In closing, Boeing has always taken pride in supporting the national security and foreign policy goals of the U.S. Government and we are not only willing to help in any way we can but also have a vested interest, as a global business and a

responsible corporate citizen, in ensuring that our own technology does not fall into the wrong hands. However, we believe that the solution proposed by BIS to address the threat of espionage may cause more harm than good and for that reason respectfully ask that decisions not be made without a concerted and coordinated effort among BIS, other regulatory agencies and industry to address that threat and whether or not deemed export and re-export regulations are a realistic venue for action.

Sincerely,

BOEING

Norma Rein
Manager, Export Policy and Regulatory Reform
703-465-3655

Attachment: Permanent Residency Requirements
Naturalization Requirements
Citizenship Determination Requirements

PERMANENT RESIDENCY REQUIREMENTS FOR SELECT COUNTRIES WITH BOEING REPRESENTATION

Country	Conditions for Permanent Residency
Argentina	Must live in country 2 years
Australia	Must live in country 2 of 5 consecutive years
Austria	10 years
Bahrain	Must reside for 25 years continuously if foreigner. If Arab, 15 years, and an estate in your name
Belgium	5 years (2 if your are a refugee)
Brazil	5 years
Canada	3 out of 4 years (must have baisic knowledge of Canada, not under criminal sentence, or order of deportation).
China	Must have close relatives in China, be a Foreign National who held prior citizenship
Chile	5 years
Columbia	5 years
Denmark	9 years
Egypt	10 years and a presidential decree
EU	depends of laws of EU-Member state
Finland	5 years and rennouncment of previous nationality
France	Must reside for 5 years in country, spent 2 years in University, or rendered a service to France
Germany	8 years
Iceland	7 years
India	14 years and posses a resident permit + residency 1 year before application
Ireland	8 years
Israel	3 years out of 5 before application, intent to reside permanently, and renounced prior nationality
Italy	3 years if family ties, 4 years for EU citizens, 5 years for refugees or foreigners, 10 yrs for others
Japan	5 years prior to application, relinquish other nationality
Kuwait	
Lebanon	only if granted by government
Luxembourg	10 years
Malaysia	N/A
Norway	7 years (Nordic nationals 2 years)
Oman	only for women through marriage
Panama	5 years; birth in Spain
Portugal	10 years (6 years if from Portuguese speaking country)
Qatar	20 years; 15 years for Arab Nationals
Russian Federation	ancestry is Russian, or 3-5 years prior to application +
South Africa	reside in country 1 year before application and 4 of 8 years after application
South Korea	Either need blood tie, or reside in country 5 or more years
Spain	10 years
Sweden	5 years + reouncement of former citizenship
Switzerland	12 years
The Netherlands	must hold residency permit for 5 years
Turkey	5 years, shows intent to remain in Turkey, able to support onesself
UAE	If Arab, must reside 7 years; all others must reside 30 years
UK	5 years
Venezuela	5 years
Yemen	10 years (Muslims w/special skills needed by country; 5 years for foreigners with special skills

Source: Publicly available data
http://multiplecitizenship.com/worldsummary.html

NATURALIZATION REQUIREMENTS FOR SELECT COUNTRIES WITH BOEING REPRESENTATION

Conditions for Naturalization:	Permanent Residency Requirement	Age requirement	Language Requirement	Marriage	Dual - Citizenship
Country					
Argentina	Must live in country 2 years	18	N/A	Y(2 years residency)	N
Australia	Must live in country 2 of 5 consecutive years	18	English	must apply	Recognized, not favored
Austria	10 years	N	N/A	Y(5 years residency)	N (unless child born in foreign country and father is citizen)
Bahrain	Must reside for 25 years continuously if foreigner. If Arab, 15 years, and an estate in your name	N	If Arab, must have command of Arabic language	N	N
Belgium	5 years (2 if your are a refugee)	18	N	Y	N
Brazil	5 years	N	N	N	N
Canada	3 out of 4 years (must have balsic knowledge of Canada, not under criminal sentence, or order of deportation).	18	English or French	N	Y
China	Must have close relatives in China, be a Foreign National who held prior citizenship	N	N		N
Chile	5 years	21	N	N	N
Columbia	5 years	N	N	Y(2 years residency)	Y
Denmark	9 years	18	Danish (supported by a certificate)	N	N
Egypt	10 years and a presidential decree	N	N	Y (after 2 years of marriage)	N
EU	depends of laws of EU-Member state	varies with country	varies with country	varies with country	varies with country
Finland	5 years and rennouncment of previous nationality	18	N	N	N
France	Must reside for 5 years in country, spent 2 years in University, or rendered a service to France	N	N	Y	Y
Germany	8 years	N	N	N	N
Iceland	7 years	18	N	Y	N
India	14 years and posses a resident permit + residency 1 year before application	N	Stated under Constitution	N	Y
Ireland	8 years	N	N	Y (3 year residency)	Y

Source. Publicly available data
http://multiplecitizenship.com/worldsummary.html

NATURALIZATION REQUIREMENTS FOR SELECT COUNTRIES WITH BOEING REPRESENTATION

Conditions for Naturalization:	Permanent Residency Requirement	Age requirement	Language Requirement	Marriage	Dual - Citizenship
Israel	3 years out of 5 before application, intent to reside permanently, and renounced prior nationality	N	N	N	N
Italy	3 years if family ties, 4 years for EU citizens, 5 years for refugees or foreigners, 10 yrs for others	18 (having previously living in country)	N	Y (unless criminal history)	Y
Japan	5 years prior to application, relinquish other nationality	20	N	N	N
Kuwait		N	N	Y(If a woman, but live in country for 15 years, if a man, not eligible)	N
Lebanon	only if granted by government	N	N	N	Y
Luxembourg	10 years	N	N	N	N
Malaysia	N/A	N	N	Y	N
Norway	7 years (Nordic nationals 2 years)	18	N	Y (6 years residency)	N
Oman	only for women through marriage	N	N	Y (residency required)	N
Panama	5 years; birth in Spain	18	Spanish	N	N
Portugal	10 years (6 years if from Portuguese speaking country)	21	N	Y(3 years residency)	Y
Qatar	20 years; 15 years for Arab Nationals	N	Arabic	N	N
Russian Federation	ancestry is Russian, or 3-5 years prior to application +	18	N	N	Y
South Africa	reside in country 1 year before application and 4 of 8 years after application	N	N	N	Y
South Korea	Either need blood tie, or reside in country 5 or more years	N	Korean	N	N
Spain	10 years	18	N	N	Some countries
Sweden	5 years + renouncement of former citizenship	18	N	N	Y
Switzerland	12 years	N	N	Y(5 years residency)	
The Netherlands	must hold residency permit for 5 years	N	Dutch	N	N
Turkey	5 years, shows intent to remain in Turkey, able to support onesself	N	Turkish	Y (upon making a declaration of intent)	Y
UAE	If Arab, must reside 7 years, all others must reside 30 years	N	N	Y (if female)	N
UK	5 years	N	English	Y(3 years residency)	Y
Venezuela	5 years	18	N	Y	N
Yemen	10 years (Muslims w/special skills needed by country; 5 years for foreigners with special skills	N	N	Y(2 years residency)	N

Source: Publicly available data
http://multiplecitizenship.com/worldsummary.html

CITIZENSHIP REQUIREMENTS FOR SELECT COUNTRIES WITH BOEING REPRESENTATION

Conditions for Citizenship:	By Birth	By Descent	Naturalization
Country			
Argentina	Y (except to minister of foreign powers)	Y	Y
Australia	Y	Y	Y
Austria	N	Y	Y
Bahrain	Y	Y(only by father)	Y
Belgium	N	Y	Y
Brazil	Y	Y	Y
Canada	Y	Y	Y
China	Y	Y (unless child choses citizenship of other country if born abroad)	Y
Chile	Y	Y	Y
Columbia	N	Y	Y
Denmark	N	Y	Y
Egypt	N	Y(only by father)	N (unless receive presidential decree)
EU	N	Y(if you are a citizen of a EU country)	Y(if you are a citizen of a EU country)
Finland	N	Y	Y
France	Y	Y	Y
Germany	N	Y	Y
Iceland	N	Y	Y
India	Y	Y	Y
Ireland	Y	Y	Y
Israel	Y	Y	Y
Italy	N	Y	Y
Japan	N	Y	Y
Kuwait	N	Y(only by father)	only by special act of gov't
Lebanon	N	Y(only by father)	N
Luxembourg	N	Y	Y
Malaysia	N	Y	N
Norway	N	Y	Y
Oman	N	Y(only by father)	Y
Panama	Y	Y	Y
Portugal	N	Y	Y
Qatar	N	Y(only by father)	Y
Russian Federation	N	Y	Y
South Africa	N	Y	Y
South Korea	N	Y	Y
Spain	N	Y	Y
Sweden	N	Y	Y
Switzerland	N	Y	Y
The Netherlands	N	Y(only by father)	Y
Turkey	N	Y	Y
UAE	N	Y	Y
UK	Y	Y(must declare by age of 25)	Y
Venezuela	Y	Y	Y
Yemen	N		

Source: Publicly available data
http://multiplecitizenship.com/worldsummary.html

SIA | SEMICONDUCTOR INDUSTRY ASSOCIATION

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Ave., N.W.
Room 2705
Washington, DC 20230

ATTENTION: RIN 0694-AD29

Re: Request for Comments on Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607)

Ladies and Gentlemen:

The Semiconductor Industry Association ("SIA") would like to offer comments on the advanced notice of proposed rulemaking to the deemed export related regulatory requirements. The SIA is the leading voice for the semiconductor industry, comprising more than 85 percent of the U.S. semiconductor industry.

The Office of Inspector General ("OIG") issued a report on the so-called deemed export rule entitled "Deemed export controls may not stop the transfer of sensitive technology to foreign nationals in the U.S.," (Final Inspection Report no. IPE-16176-March 2004, hereinafter "IG Report"). The Bureau of Industry and Security ("BIS") is seeking comments on the revisions to U.S. export control policy and regulations that would be needed to implement the recommendations of the IG Report. In particular, BIS highlights two regulatory changes upon which it is seeking comment:

- Clarify the definition of "use" technology; and
- Base the deemed export license requirement on a foreign national's country of birth.

SIA is pleased to comment on these two regulatory changes that would be necessary to implement the main thrust of the IG Report, as well as to comment on the report more generally.

Summary:

SIA believes the IG Report is fundamentally flawed. Its focus is misplaced on access to technology in the United States by foreign nationals rather than on illicit exports to foreign countries; its analysis is directed at technicalities

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that do not pose significant risks to foreign policy or national security interests; and it is devoid of findings or new facts that could serve as an appropriate basis for modifications to the deemed export rule.

At the same time, the recommendations of the IG Report would be highly disruptive to U.S. industry and U.S. research institutions. There is no evidence to suggest that these recommendations would produce any value relative to the direct and indirect harm they could cause to research activities in the United States.

Of the two principal recommendations that BIS identifies as requiring regulatory action, modifying the definition of "use" in the Export Administration Regulations ("EAR") should not necessarily result in major problems for industry. If, however, BIS attempts to exploit the change to restrict the scope of the fundamental research exemption 15 C.F.R. § 734.3(b)(3)(ii), this could undermine current research activities at universities, complicate the hiring of foreign nationals by U.S. industry and provide a significant incentive to move research and development activities offshore. Similarly, if the proposed language change results in new restrictions with respect to the applicability of the publicly available exemption for use technology, this also will adversely affect industry by limiting the ability of foreign nationals to merely operate equipment and increasing needlessly the export licensing burden.

The proposal to apply the deemed export rule based on birth rather than in accordance with most recent citizenship or permanent residence would create the greatest problems for SIA member companies. Only U.S. companies will face additional costs of compiling more information on foreign nationals, developing enhanced internal control systems to track compliance with myriad license conditions and keeping the entire work force trained and alert with respect to expanded deemed exports requirements.

In addition, country of birth information can be difficult to obtain, especially in many foreign jurisdictions. Because it bears no demonstrated or rational relationship to illegal export activity, compiling country of birth information raises civil rights and privacy concerns. To extend the deemed export rule to anyone born in a foreign country would greatly expand the number of export license applications requested by SIA member companies. Although an accounting is not available and would vary significantly from company to company, estimates are that the number of license applications could increase from two to three times to up to ten times the current level for SIA member companies depending upon whether the deemed export rule modification is made applicable to U.S. permanent residents. This would represent a massive increase in licensing activity.

Even more important would be the indirect but inevitable consequences of such an expansion of the deemed export rule. Foreign national employees who face special conditions and are subject to discriminatory treatment become detached from otherwise seamless research teams. This obstructs technology development and undermines the ability of SIA member companies to attract and retain the best technical talent to the United States. Even a relatively small impediment to having the best technical talent can have a profound effect on the competitiveness of SIA member companies that operate in a global market.

Finally, BIS has requested comments with respect to alternatives to the IG recommendations. SIA recommends that a fundamental reassessment be made of the deemed export rule – its rationale, the practical limitations of government review and licensing in the absence of an actual export, the effectiveness of the licensing process as well as the license itself and the adverse effects on technology development and leadership in the United States. SIA believes such an examination would conclude that the costs of the deemed export rule far outweigh its benefits.

If the Commerce Department cannot conclude that the deemed export rule should be repealed, SIA recommends that a license exception be established for intra-company transfers.

Deficiencies of the IG Report Generally:

The Inspector General indicates that the purpose of its Report and its congressional mandate is "to assess the adequacy of current export controls to prevent the acquisition of sensitive U.S. technology by countries and entities of concern." IG Report, ii. With this purpose, one would have expected the IG Report to review the evidence with respect to technology diversions occurring as a result of foreign nationals obtaining technology in the United States, the degree to which foreign nationals seek to transfer restricted knowledge to the country of their nationality, the impact of the deemed export license on the flow of intangible know-how, and so forth. The IG Report contains no such factual research or analysis; instead it focuses exclusively on the extent to which foreign nationals may obtain access to technology in the United States regardless of whether it actually goes to a third country or entity of concern. This is a far too narrow and theoretical dimension of the deemed export rule to provide a useful assessment of its effectiveness.

More importantly, the current IG Report ignores what has been a fundamental and continuing thrust of its earlier reports on the deemed export rule beginning in 1999: "we believe that not only are these regulations ill-defined, but the export control policy concerning deemed exports itself appears to be ambiguous." (Final Inspection Report No. IPE-11488/June 1999, 37). The 2000

IG Report contained the recommendation that "BXA work with the National Security Council to determine what the United States' goal is with regard to requiring deemed export license. ..." (Final Inspection Report No. IPE-12454-1, March, 2000, 10).

This same IG Report speculated that the deemed export rule as revised in 1994, "more clearly reflects the idea that these foreign nationals may eventually return home and it should be assumed that whatever knowledge they have absorbed will go with them." (Id.9). The assumptions inherent in this idea are substantial and critical:

- To what extent and after how long do foreign nationals in fact return to the country from which they came?
- To what extent do these foreign nationals without U.S. authorization transfer their knowledge to third parties in the foreign countries?
- To what extent does the transfer of such personal know-how, which is wholly apart from tangible technical data, pose a risk to U.S. security?
- To what extent if any does this risk diminish as a result of the issuance of a deemed export license?
- To what extent should the United States constrain the technology contributions of all foreign nationals in order to address a future contingency that a few permanent employees may someday seek to transfer personal know-how to the country from which they came?

None of these questions have been formally or systematically addressed. As SIA noted in its comment following promulgation of the deemed export rule modification:

> "No evidence was offered as to why the change was needed or justified. The rationale provided was bureaucratic -- inconsistency with previous, non-binding interpretations of the Department and conformance to other regulations." SIA comments on Interim Rule, Export Administration Regulations, Docket No. 950407094-6022-02, May 24, 1996, 2.

Equally significant, the modified deemed export rule created a legal fiction in contradiction to the applicable statute. The term "export" was defined in the Export Administration Act to mean:

> "a transfer to any person of goods or technology either within the United States or outside of the United States with the knowledge or intent that the goods or technology will be shipped, transferred or

> transmitted to an unauthorized recipient." Export Administration Act of 1979 as amended, (reauthorized by Pub. L. No. 106-508 (November 13, 2000) and as lapsed (August 20, 2001)), Sec. 16(5)(c).

This statutory language gave exporters the responsibility and flexibility to deal with differing risks of unauthorized export by foreign nationals. A temporary visitor returning to another country was treated differently than a long-term, loyal employee who has signed a non-disclosure agreement and acknowledgement that company technology may not be transferred outside the United States without explicit U.S. authorization.

In its 2005 report, the OIG seems content to ignore its previous recommendations and the lack of any convincing underpinning to the deemed export rule. Now it summarily calls for a major tightening of the deemed export rule.

Some recommendations in the IG Report are so vague and overreaching as not to deserve a response, *e.g.* researchers need to review research that is intended to be published before it is made available to foreign nationals in the United States or BIS should reevaluate its approval of deemed export licenses for foreign nationals from Iran and Iraq. BIS properly ignores these recommendations in its request for comment.

The recommendations of the IG Report upon which the Commerce Department seizes are technical and abstract. They address a grammatical change with respect to use and the possibility that some foreign nationals depending upon their country of birth might gain access to technology in the United States. These recommendations are made wholly apart from whether the problems they address pose real national security threats. No evidence is presented with respect to the impact of changing the definition or trying to utilize mere country of birth information.

By failing to come to grips with the rationale of the deemed export rule, the IG Report is complicit in the same deficiency for which it has for years been criticizing the Commerce Department. By making policy recommendations without providing any factual evidence or examining the likely effects of its recommendations, the IG Report does a disservice to industry, the Commerce Department and the nation.

Definition of Use Technology:

The IG Report recommends that the various activities set forth in the definition of use technology should be viewed in the disjunctive, not in the

conjunctive, as currently stated in the regulations. This change would comport with the common sense definition of "use" – it can constitute several different activities such as operation and repair but does not have to involve every such activity. It also, as pointed out by the IG Report, would be more consistent with how some related multilateral control regimes treat use technology.

Had the IG Report stopped with a simple clarification that substituted "or" for "and," there would be little upon which to remark. Such a change is easily understood and is in the nature of a minor technical correction. But instead, the IG Report proclaims that this change is "critical in determining how to implement and enforce" the deemed export rule. It rightly points out that the fundamental research exemption is not generally available for use technology and as a result leaps to speculation that: "many of the academic and Federal laboratories might need to seek deemed export licenses for some foreign national working with controlled equipment or otherwise restrict their access to such equipment."

Nowhere does the IG Report offer any evidence to support this speculation. It provides no specifics as to what use technology may have been improperly provided to foreign students and what may be the consequences. The grammatical glitch is examined only in the abstract. There are no findings and there is no analysis of how use technology has actually been transferred to foreign nationals.

While the IG Report rightly disqualifies the fundamental research exemption as a normal basis to transfer use technology, it ignores the overwhelming basis through which use technology is transferred by industry: the publicly available exemption, 15 C.F.R. § 734.3(b)(3). Use technology begins with the equipment maker. When the equipment is highly precise, sophisticated and expensive, such as would be found in university basic research, technical data necessary to install, maintain or refurbish the equipment is usually beyond the interest or understanding of a mere user. This type of technical data is typically valuable and proprietary and not freely available to an end-user.

What is generally available to an end-user is operations data to enable simple use of the equipment. This data is free or at a minimal cost to any user. It takes the form of instructions that are available on the internet or published as manuals or brochures.

The innocuous nature of most use technical data is implicitly acknowledged in License Exception Technology and Software Unrestricted (TSU). This license exception provides standing authority for the export of use technology "to the extent required to ensure safe and efficient use of the commodities or software." 15 C.F.R. § 740.13(a)(1). In other words, the minimum technology for use – the very type of technology that students can be

expected to utilize to operate equipment in the course of their studies -- does not require a license to be exported when accompanying the equipment itself.

The well understood distinction between technical data that is freely available to an end-user and data that would be reserved as proprietary for purposes of providing installation, repair or maintenance services has largely governed the relatively small resort by industry to export license applications for use technology. Foreign students, like all students, can be expected to engage as public users of equipment rather than as proprietary servicers of equipment.

The distinction that the IG Report held to be "critical" should not be expected to have any material effect on licensable transfers of use technologies. This means it would also have little effect on the deemed export rule, unless, of course, the OIG or BIS would seek to restrict the publicly available exemption. Unlike the change from "and" to "or," narrowing the publicly available exemption would have a critical effect on how industry and academia can share use technology. SIA would strongly oppose such an unjustified restriction.

Likewise, SIA would oppose any cutback in the scope of the fundamental research exemption, a mechanism that has served this nation well and is truly critical to technology development in the United States.

Country of Birth Requirement:

The IG Report would modify the applicability of the deemed export rule from a foreign national's most recent citizenship or permanent residency to a foreign national's country of birth. Although not clearly stated, the IG Report seems to suggest that a country of birth requirement be added to the most recent citizenship or permanent residency requirement.

Presumably, the IG Report would not make the country of birth requirement for the deemed export rule applicable to a U.S. citizen. In contrast, the IG Report does take issue with the supposed rationale for eliminating applicability of the deemed export rule to U.S. permanent residents. It emphasizes that nothing prevents a U.S. permanent resident from returning to his or her country of birth. Thus a theoretical possibility of an unauthorized export arises.

The country of birth requirement recommended by the IG Report represents a broad expansion in the scope of the deemed export rule. Indeed, it goes beyond what has been the stricter standard for a "deemed" export in the International Traffic in Arms Regulations ("ITAR"). The ITAR impose an export license requirement for technical data "disclosed to a national of another country." 22 C.F.R. 125.1(c). But even for the more sensitive munitions items, there has

never been a demonstrated need for a deemed export rule based on country of birth. The IG Report would have the anomalous result of creating a more sweeping regime for the transfer of dual-use technology than exists for transferring munitions technology.

a. Nationality is a Suspect Category.

A country of birth requirement would present several problems. First, nationality has long been treated as a suspect category under U.S. law and hence in most instances must be shown to have a strict or at least reasonable connection to an alleged evil. In Graham v. Richardson, 403 U.S. 365, 372 (1971), the Supreme Court announced the principle that "classifications based on alienage, like those based on nationality or race, are inherently suspect and subject to close scrutiny." Even within the narrow limits where the law may distinguish on the basis of nationality, the Court still has required a rational basis test. See Foley v. Connelie, 435 U.S. 291, 296 (1978) (Foreign nationals may be prohibited from serving in important government policy positions but the state still needs to "justify its classification by a showing of some rational relationship between the interest sought to be protected and the limiting classification."). National security concerns, of course, present a special exception, but should not enable the executive branch to proceed without articulating a connection between country of birth and national security.

While there may be some historical basis to contend that a person born in a particular country is prone to return at some point in his or her life, there is no demonstrated basis that particular foreign nationals are prone to break the law in doing so. In discriminating against such people, it is incumbent upon the government at least to demonstrate some connection between country of birth and willingness to divert personal know-how unlawfully. No such showing has ever been made.

b. Country of Birth Information Can Be Difficult to Obtain.

Second, it can be very difficult as a practical matter and quite complicated as a legal matter to obtain data about a person's birth since this is often suspect information in jurisdictions throughout the world. Privacy laws of other nations can protect employees from being forced to divulge nationality information. This can subject U.S. companies to conflict of laws problems and hence double jeopardy.

c. Licensing Burden Would Greatly Increase.

Third, imposition of a country of birth requirement in connection with the deemed export rule would greatly expand the licensing burden on the U.S. semiconductor industry. Based on submissions from member companies, SIA

estimates that foreign nationals working in the United States, including U.S. permanent residents, could constitute up to ten percent of the workforce. Requiring a deemed export license for all of these individuals would probably represent a ten-fold increase in license applications over current levels with all the accompanying costs and delays inherent in that process. The percentage of foreign national employees working in foreign jurisdictions is likely to be smaller by a few percentage points, but would still represent a significant potential increase for deemed re-export applications.

If permanent residents in the U.S. and permanent residents overseas are left out of the calculation respectively for exports and re-exports, the increased deemed export and re-export applications are projected to increase two or three times from current levels. This would still represent a very substantial challenge to the U.S. semiconductor industry, especially when the foreign competition faces no similar requirement.

It is possible, of course, to try to expand the scope of the deemed export rule without going to the extreme of a country of birth criteria – *e.g.*, make the rule dependent upon such citizenship that a foreign national may possess rather than the most recent citizenship. Such an approach would reduce the additional licensing burden somewhat, but would still suffer from all the same type of problems as country of birth.

d. Security Interests Will Not Be Significantly Affected.

Fourth, an expansion of the deemed export rule cannot be expected to provide any significant benefit to U.S. security interests. A person who passes the employment screening at a U.S. semiconductor firm, has demonstrated the requisite technical talent to prosper in the industry and is willing to make an extended commitment to develop extensive personal know-how is not likely to appear to be a security risk at the time of hiring. The Central Intelligence Agency ("CIA") has consistently found the screening of such persons with respect to missile, nuclear, chemical or biological proliferation to be not worth the effort as evidenced by the statement in the IG Report that the CIA has declined to continue to screen deemed exports for these purposes.

The security risk posed by a deemed export is simply too far in the future – a foreign national must generally spend years accumulating personal know-how – too unpredictable – a foreign national is no more likely to divert personal knowledge than anyone else – and too tenuous – personal know-how, unlike classified information, technical data or other forms of technology theft, is too general and amorphous to provide clear strategic advantage.

e. Major Competitive Cost Will Fall on U.S. Industry.

Finally, there is a real and substantial cost to U.S. industry in tightening the deemed export rule. Compliance with the deemed export rule is already the largest export control burden that most SIA members face. The administrative costs of gathering personal data, visa information and requirements for various technology levels are substantial. Waiting for approvals adds to these overhead costs.

Even more substantial are the systems and monitoring that must be put in place to ensure compliance with what have become in the semiconductor industry a myriad of complicated license conditions. Companies develop and maintain internal control programs to ensure:

- Employees, co-workers and managers understand the license requirements;
- Access is limited through establishing fire walls, limiting network permissions and controlling physical access; and
- Continuous tracking and monitoring are undertaken, including obtaining periodic affirmations from foreign nationals and supervisors.

The need for license upgrades and renewals is also highly disruptive. All of these costs can be expected to increase with an expansion of the deemed export rule.

But the direct costs to the SIA member companies pale in comparison to the consequences for obtaining and retaining the best talent for technology leadership. When a U.S. semiconductor company is competing to recruit a foreign national, the prospect of a lengthy and uncertain waiting period for a deemed export license can be a critical impediment to attracting a candidate.

Similarly, when foreign nationals must be encumbered with special badges, firewalls and restricted access, they cannot readily participate in the open and nondiscriminatory atmosphere that is essential to effective technology development. This represents a major disincentive to working in the United States and drives talent and research offshore. If the United States is to maintain its technology leadership, it cannot afford to rely on such a blunt demarcation in its treatment of technical talent.

In short, SIA believes the recommendation for a country of birth requirement for the deemed export rule is misguided and would do more harm than good for U.S. technology leadership and national security.

Alternative to IG Report Recommendations:

In 1994, the Commerce Department abruptly and without any substantive justification abandoned the statutory presumption of an export in certain circumstances and invented the deemed export rule. In its early reports, the IG highlighted the confusion and lack of foundation for the deemed export rule, calling on the National Security Council to review the matter. Despite the apparent willingness of the IG now to look past this ignored recommendation, SIA believes it is as compelling now as when it was first made in 1999.

Properly conducted, a full evaluation of the deemed export rule would examine the assumptions upon which it is based, weigh risks, benefits and costs and compare the new rule to the tried and true procedures that prevailed during the Cold War and are set forth in the Export Administration Act. Such an evaluation, in SIA's view, would result in repeal of the deemed export rule.

If such an evaluation is not feasible, SIA would recommend the establishment of a license exception for foreign nationals who are full-time employees. This would facilitate world leading research in the United States, enlist the voluntary compliance efforts of U.S. industry and result in no material increase in security risks.

Respectfully submitted,

David Rose
Chairman, SIA Export Controls Committee

W. Clark McFadden II
Dewey Ballantine LLP

U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION
Washington, D.C. 20507

Office of
Legal Counsel

Fax Transmission

Fax (202) 663-7671

To:	Bureau of Industry & Security	**Date:**	June 27, 2005
Fax #:	202-482-3355	**Pages:**	3, not including this cover sheet.
From:	Peter S. Gray 202-663-4604		
Subject:	**RIN 0694-AD29**		

COMMENTS: Comment also submitted via www.regulations.gov

1801 L Street, N.W.
Washington, DC 20507-0001

U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION
Washington, D.C. 20507

Office of
Legal Counsel

June 27, 2005

U.S. Department of Commerce
Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Ave., NW., Room 2705
Washington, D.C. 20230

Re: RIN 0694-AD29 — Revision and Clarification of Deemed Export Related Regulatory Requirements, 70 Fed. Reg. 15607 (Mar. 28, 2005)

Dear Sir/Madam:

On behalf of the Equal Employment Opportunity Commission (EEOC or Commission), we are submitting the following comment on the referenced advance notice of proposed rulemaking. Specifically, our comment is directed to the proposal of the Bureau of Industry and Security (BIS) that would require US organizations, including employers, to apply for a deemed export license for employees who are foreign nationals and have access to controlled dual-use technology if the employee was born in a country where the technology transfer would require an export license, regardless of the employee's most recent citizenship or permanent residency. It is our understanding that the proposed change would not require a license for a non-US citizen who is a permanent resident of the US or an asylee, refugee, or person accorded temporary resident status under the Immigration Reform and Control Act, 8 U.S.C. § 1324b.

The EEOC enforces, among other federal employment nondiscrimination statutes, Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e *et seq* (Title VII or the Act). Title VII prohibits an employer from discriminating against applicants and employees on the bases of race, color, national origin, religion, and sex. Title VII's protections extend to all workers in the United States, whether born in the United States or abroad and regardless of citizenship status. *See Espinoza v. Farah Mfg. Co., Inc.*, 414 U.S. 86, 95 (1973); 29 C.F.R. § 1606.1.

As a general rule, recruitment practices or employment decisions predicated on an individual's place of birth would violate Title VII's prohibition on national origin discrimination. Title VII provides, however, an affirmative defense to a claim of employment discrimination based on national security. Specifically, Title VII section 703(g) states:

> Notwithstanding any other provision of this [title], it shall not be an unlawful employment practice for an employer to fail or refuse to hire . . . [or] to discharge any individual from any position . . if –
> (1) the occupancy of such position, or access to the premises in or upon which any part of the duties of such position is performed or is to be performed, is subject to any

> requirement imposed in the interest of the national security of the United States under any security program in effect pursuant to or administered under any statute of the United States or any Executive Order of the President; and
> (2) such individual has not fulfilled or has ceased to fulfill that requirement.

42 U.S.C. § 2000e-2(g). Addressing this provision in its Compliance Manual on National Origin Discrimination, the EEOC noted that

> employers may justify hiring and other selection decisions by relying on security requirements. Title VII permits refusal to hire, refusal to refer, or termination, where an individual does not meet job requirements that are imposed in the interest of national security under any security program in effect pursuant to federal statute or Executive Order.

EEOC Compliance Manual on National Origin Discrimination, 2 BNA EEOC COMPL. MAN. 622.001, 622.005 (also available at http://www.eeoc.gov/policy/docs/national-origin.html). The Commission further noted in the Compliance Manual that "U.S. export laws also restrict the transfer of technology to foreign nationals from certain countries. Employer actions taken pursuant to requirements under U.S. export laws do not violate Title VII." *Id.* at n.30.

The substance of the BIS decision to require that employers obtain and report place of birth for certain applicants and employees having access to dual-use technology, and your Agency's decisions regarding requests for licenses, lie outside our purview. We have become aware, however, that some employers have expressed concern that merely requesting place of birth information may cause them to violate Title VII's prohibition on national origin discrimination. While we do not believe that careful employer compliance with the BIS proposed requirement would conflict with Title VII's prohibition on national origin discrimination, we note that employers may violate Title VII if they seek to use the requirement as an opportunity to obtain and use place of birth information beyond the scope of the BIS rule. It also is possible that some employers may view the requirement as a broad mandate to obtain place of birth information from every applicant or employee, regardless of their potential exposure to controlled dual-use technology, and to make employment decisions based thereon.

For these reasons, we urge BIS to include a statement in a notice of proposed rulemaking (as well as in any final rule) advising employers to confine their request for place of birth information to persons who will, or are likely to, have access to controlled dual-use technology for which a license is required. Employers should be cautioned that the BIS requirement does not give them the right to reject applicants or adversely affect the employment of current employees based solely on an individual's place of birth, given the prompt review and rare rejection of these license applications. As a general matter, employers should be reminded of their obligation not to discriminate against applicants or employees on the basis of national origin when asking for this information.

Thank you for your consideration of our comment. Please contact Carol R. Miaskoff, Assistant Legal Counsel for Coordination (202-663-4645), if you have any questions regarding this comment.

Sincerely,

Peggy R. Mastroianni

Peggy R. Mastroianni
Associate Legal Counsel

From: "Stanek, Carolyn" <carolyn_stanek@ace.nche.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 9:39 AM
Subject: Comments in reference to RIN 0694-AD29

June 23, 2005

Alex Lopes

Director, Deemed Exports and Electronics Division

Bureau of Industry and Security

Department of Commerce

Regulatory Policy Division

14th St. & Pennsylvania Ave., NW, Room 2705

Washington, DC 20230

ATTN: RIN 0694-AD29

Dear Mr. Lopes:

On behalf of the 1,800 institutions and associations represented by the American Council on Education (ACE), I appreciate the opportunity to comment in response to the Advance Notice of Proposed Rulemaking (APRM) published on March 28, 2005, in the Federal Register seeking public input on a number of recommendations from the Office of Inspector General (OIG) with respect to deemed exports. More specifically, I write in reference to RIN 0694-AD29 and the recommendations to the Bureau of Industry and Security (BIS) contained in Deemed Exports May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S. (Final Report Number IPE-16176-March 2004).

ACE is quite concerned about the impact that the proposed changes would have on scientific research at our institutions of higher education. We are concerned that implementation of these proposed regulations will restrict the participation of international students in even the most fundamental research and will add an unnecessary regulatory burden at university research laboratories. University-based research is a vital component to our national and economic security. The United States has been the premier destination for the world's students and scholars.

In their current form, we believe the regulations would stifle the participation of international students in academic research

once they arrive in the United States. Requiring these students to obtain an export control license before they can conduct or use equipment for basic research would create another hurdle in their ability to study and conduct research at U.S. institutions. With the documented decline in international scholars attending U.S. higher education institutions and an increase in competition for these individuals from other countries, we fear these regulations will further deteriorate our ability to attract and keep talented scholars at our research institutions.

While we are sensitive to the issues of security and transmission of knowledge that may have a negative effect on national security, we feel that international students and scholars should be cleared to conduct research through the current visa process. As part of the Visa Mantis process at the Department of State, extensive background checks are already being conducted on those individuals wishing to enter the United States to conduct research or study. The recommendations proposed by the Commerce Department Inspector General would create another series of background checks in order to receive an export control license. This, in our opinion, adds an unnecessary additional layer of bureaucracy to the process and would discourage international students and scholars from participating in research projects.

Specifically, we are concerned with the Inspector General's interpretation that "use" of equipment needed for the conduct of fundamental research is not covered under the fundamental research exception is troubling. Currently, Export Administration Regulations (EAR) exempt fundamental research from export licensing requirements. However, in a March 2004 report, the Commerce Department Inspector General suggested that technology relating to the use of controlled equipment is subject to the deemed export control provision regardless of how the use is defined. Subjecting the use of certain equipment required for conducting fundamental research to deemed export control provisions runs contrary to the original intention of the fundamental research exemption. This interpretation would greatly limit open, collaborative research on our campuses and in our labs. We therefore urge that you reject that OIG's interpretation that equipment used in the conduct of fundamental research is not, in fact, a part of the research itself, and therefore not covered by the existing fundamental research exception currently granted to academic institutions.

Additionally, requiring institutions to monitor the "use" of export-controlled equipment would significantly increase the administrative and cost burden on U.S. universities as well as the Department of Commerce. Universities will have to categorize equipment on their campuses in order to determine which pieces require a deemed export license. One major research university estimates that the process of surveying and determining a list of items controlled for use technology would cost as much as $1.5 million. Others have estimated that the costs will be even greater. University officials believe this process is a crucial step in ensuring compliance with the proposed regulations. This estimate does not include the ongoing cost associated with monitoring the "use" of export-controlled equipment by foreign

students and scholars.

Unfortunately, we are unable to further quantify the cost and impact on universities trying to comply with these regulations because the proposed regulations on "use technology" are incredibly non-specific and complex.

The Inspector General's report recommends using a foreign national's country of birth as a criterion for deemed export license requirements as opposed to country of most recent citizenship. The State Department and Department of Homeland Security collects all relevant information while conducting background checks on those individuals applying for a visa. Most universities do not collect country of origin information from a student or scholar attending their institution. This recommendation, in effect, would require institutions to conduct a second level of background checks by requiring that both citizenships (country of origin and country of citizenship) be compared against the Department of Commerce's Control List and the Country Chart when determining whether to apply for a deemed export license. The country of origin of an individual in our opinion should not be a determining factor in requiring a deemed export license and universities should not be responsible for obtaining this information.

The Association of American Universities (AAU), the National Association of State Universities and Land Grant Colleges (NASULGC), the Council on Governmental Relations (COGR) and the American Association of Medical Colleges (AAMC) has submitted their own comments addressing their concerns with the proposed regulations. We share their concerns and fully support their statements.

Thank you for the opportunity to comment on the proposed rule on deemed exports. We appreciate your consideration of our concerns. We look forward to working with you during this process.

Sincerely,

David Ward

President

DW/cms

From: John Wikswo <john.wikswo@vanderbilt.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 12:46 AM
Subject: RIN 0694-AD29 --- [Docket No: Doc. no. 050316075-5075-01];[FR Doc: 05-06057];[Page 15607-15609]; Export administration regulations: Deemed export licenses; clarification and revision

June 26, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW., Room 2705
Washington, DC 20230

Fax: (202) 482-3355

ATTN: RIN 0694-AD29

Dear Sir or Madame:
I am writing to respectfully but vehemently object to the changes in the Export Administration Regulations (EAR) that have been proposed by the Department of Commerce (DOC), its Office of Inspector General (OIG), and the Bureau of Industry and Security (BIS).

I have been on the faculty at Vanderbilt University for 28 years. I have received over $20,000,000 of research funding from federal agencies and private foundations. This research led to over 130 published research articles and book chapters, and more than 300 conference papers, abstracts and reports, and 10 patents. Most of this work was accomplished by people working with me: I have directed the research of 31 graduate students, 19 research associates, and 9 research assistant professors. Today, I have over 20 people in my research group. Because the United States does not have a sufficient number of physics or engineering graduate students or Ph.D.s, these trainees and group members include over twenty individuals from other countries, including Australia, Brazil, China, Columbia, England, Ghana, Germany, Iran, Nigeria, the Netherlands, Russia, Sri Lanka, and Taiwan. All but four of these individuals have chosen to remain in the US and are contributing productively to the US economy; most are now citizens. While I can easily determine the nationality of everyone working in my laboratory, I cannot imagine the cost or complexity of the proposed requirements that my university certify the country of birth of each of my foreign trainees or faculty colleagues. I cannot run a research program where US citizens can work on some pieces of equipment, whereas foreign nationals cannot be allowed even to see the same instruments. The simple solution would be to refuse to hire or train foreigners – this would destroy graduate education and postgraduate training in my group as well as the United States.

Much of my research could be considered dual use. I have worked on superconducting magnetometers for my entire career, have twenty or more in my laboratory, and regularly use custom-built or commercial magnetometers

that are a factor of 100 more sensitive than the limit stated in Commerce Control List (CCL) 6A006 "Magnetometers". These instruments were designed for biomagnetic measurements (excluded from 6A006), but can be used for other applications as well, including geophysics, and hence might be considered "dual use." Virtually every of the hundred or so low-temperature physics laboratory in the United States using superconducting magnetometers are using instruments that exceed the allowed sensitivity and hence may be governed by CCL 6A006. To remove the research exemption from these laboratories may destroy the US dominance of the field of superconducting magnetometers. To require each laboratory to obtain an export control license for every superconducting magnetometer they have would be a devastating bureaucratic, financial, and legal burden. It would be easier to remove all foreign nationals from the building, i.e., remove all foreign nationals from graduate and postgraduate study in US physics departments.

I am now also working on physiological measurements, models, and instrumentation for toxicology, biodefense, and drug discovery. Devices we are developing will be suitable for clinical diagnosis, but also for diagnosis of the effects of agents listed in 1C351 "Human and zoonotic pathogens." Virtually every medical school in the United States is conducting research that might be governed by clauses contained in CCL CATEGORY 1 - MATERIALS, CHEMICALS, "MICROORGANISMS," AND TOXINS." Their collaborators in departments of Physics, Biology, Chemistry, and Biomedical Engineering may not be covered by the exemptions granted for medical applications. To remove the research exemption from these laboratories may destroy the US dominance of the field of toxicology, infectious disease research, and advanced biomedical instrumentation. To require each laboratory to obtain an export control license for every restricted instrument or instrument capable of studying restricted organisms they have would be a devastating bureaucratic, financial, and legal burden. It would be easier to remove all foreign nationals from the buildings, i.e., remove all foreign nationals from graduate and postgraduate study in US departments of physics, biology, chemistry, and biomedical Engineering.

In the course of our physics, bioengineering, and physiological research, we use commercial instruments and computers with components that may be included in CCL "CATEGORY 3 – ELECTRONICS". Other laboratories at Vanderbilt and other universities have even more powerful instruments in daily and widespread use. How am I or my colleagues to know whether such instruments contain restricted components that could not be used or even viewed by students, postdoctoral research associates, and faculty members who are not US citizens? My commercially available email program probably contains controlled encryption technology. To require each laboratory to obtain an export control license for every restricted instrument or instrument capable of studying restricted organisms they have would be a devastating bureaucratic, financial, and legal burden. Strict and literal enforcement of the proposed removal of the research exemption would be devastating to graduate and postgraduate study in the US. Is that what the DOC, OIG, and BIS want?

I have created and am operating state-of-the-art research laboratories in a typical academic environment. I have done this in part to contribute to

our national strengths. Our nation's universities have trained an outstanding work force and have developed technologies that lead to increased industrial productivity and improved health care worldwide. While I recognize the concerns about exporting sensitive technologies to countries that are hostile to the United States, I am convinced that the proposed changes to the EAR were made without adequate consideration of the nature of the academic environment, and as proposed they will be impossible to implement in a fair, equitable, and just manner. As proposed, the revised rules could well lead to a small number of high-profile cases that produced an entirely unexpected chilling, in fact destruction, of our entire nation's academic research enterprise. Ten years in prison and fines of $100,000 to $250,000 would be chilling, to say the least.

I urge the Department of Commerce (DOC), its Office of Inspector General (OIG), and the Bureau of Industry and Security (BIS) to revisit the EAR lest they inadvertently destroy the academic research enterprise in the United States.

Sincerely,

John P. Wikswo

John P. Wikswo
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A.B. Learned Professor of Living State Physics
Director, Vanderbilt Institute for Integrative Biosystems Research and Education
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CC: "Wikswo, John P" <john.wikswo@vanderbilt.edu>

From: Laura Levy <llevy@tulane.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 10:42 AM
Subject: RIN 0694-AD29

June 27, 2005

VIA ELECTRONIC MAIL
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230
E-mail: publiccomments@bis.doc.gov

RE: RIN 0694-AD29, Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Mr. Lopes:

This statement submitted on behalf of Tulane University addresses the Department of Commerce (Commerce) Bureau of Industry and Security (BIS) advance notice of proposed rulemaking regarding proposed revision and clarification of deemed export related regulatory requirements, as published in the Federal Register on March 28, 2005.

Tulane University is one of the nation's leading private research universities conducting federally-funded research awarded by science agencies primarily on the basis of merit. Our diverse faculty and students regularly publish their research results in prestigious national and international scholarly journals.

Our interest, as a member of the university community, is in a workable export controls regime that imposes the minimal regulatory requirements necessary to protect national interests while preserving the free expression of ideas and fostering international cooperation. The Commerce Inspector General (IG) recommendations eliminate what we feel has been an appropriate balance between the safety needs of the country and a healthy academic research environment.

The first IG recommendation of great concern to us would alter the definition of use technology in determining deemed exports. Although the IG has stated that the recommended changes are merely a "clarification" of existing policy intent, we believe the IG recommendations would clearly lead to an expansion of the deemed export program. We find the IG's recommendation to change the definition of use technology to be directly opposite of the intent of the current definition. The IG proposes that the conduct of any one of the items in the current definition of a deemed export of use technology (operation, installation, maintenance, repair, overhaul and refurbishing) is the equivalent of exporting the technology. Knowing the nature of research and the situations which make it thrive, we cannot in good conscience support any encroachment into the fundamental

research exception to the export control regulations by such a broad definition of the word "use".

Tulane University currently has 207 H1B visa professionals and 168 J1 scholars. As you are aware, an H1B visa is issued to a person once an entity has demonstrated that the person has unique skills which are not readily available in the workforce. The proposed changes would place the university in the untenable position of having someone here with a specialized background that is not easily replaced, but then to be unable to use his or her expertise. Although we would have already demonstrated the need for such a worker, we would be denied use of his or her talents while we investigated the need for an export license and then applied for one, if required.
Collaborative research which brings together the best minds on a given subject and then lets them creatively explore our world is at the heart of our nation's thriving research enterprise. The impact of stifling collaborations on such fundamental research while determinations and approvals are received would be devastating and would weaken the innovations for which our country is renowned throughout the world. Fundamental research is the basis and inspiration for the scientific technology that makes our nation safer. Universities exist in order to provide an environment for this research to occur, and laboratory equipment is the means by which we accomplish this mission. Universities intend to comply, and in fact comply, with the rules. However, to make us now determine, on a case-by-case basis, whether a researcher can simply use a piece of equipment is an unreasonable burden. Research laboratories contain many pieces of scientific equipment and this determination would need to be made each time a new foreign national had access to a laboratory.

Furthermore, no compelling evidence has been shown that an expansion of the current program is required to protect the interests of the United States. In fact, BIS indicates that it denies only 1 % of the requested deemed export licenses under the current system. We believe that the burden is on Commerce to show that there is a real problem that will be solved by implementing the IG recommendations. Thus far, BIS has requested statistics from the academic community to justify rejecting the expansion of the deemed export regime rather than placing the burden squarely upon the government to show how these recommendations would benefit the country without harming the nation's scientific enterprise.

Secondly, we are concerned that difficulties in recruiting and retaining foreign faculty and graduate students will be exacerbated by the IG recommendation that foreign nationals be categorized by country of birth rather than current citizenship status. We do not support the IG's recommendation that country of origin should be determined on the basis of a foreign national's place of birth instead of by the most recent country of citizenship. With regard to universities, foreign faculty and graduate students are subject to considerable security processes, such as visa clearance, prior to beginning work or study in United States laboratories. The existing safeguards have proven to be adequate in protecting the country from any dangerous effect the export of technology on university campuses may pose. Expansion of deemed

exports based on the IG recommendation would treat as potential enemies those legitimate scientists in our laboratories who have already been subject to multiple security reviews and who are current residents of countries that have not been deemed a security risk to the United States.

The proposed changes have the effect of making universities act as additional visa screeners. However, this shifts the burden from the entity with the most resources to effectively accomplish such checks (i.e., the government) and places it on universities who do not have the proper training or resources. Our campuses are centers of learning and we are quite successful at that endeavor. Universities are in no position to act as police delving into the motivations of scholars for using equipment. The proposed changes have the effect of establishing two tiers of students and faculty and are the antithesis of fostering a robust research environment.

Based on these concerns, Tulane University asks that Commerce:

- Withhold reforms to the current system of license requirements for use of export-controlled equipment in university basic research;
- Clear international students and post docs for access to controlled equipment when their visas are issued such that admission to university academic programs is coupled with access to use of export controlled equipment; and
- Continue to consider citizenship status, not country of birth, for purposes of export controls.

As the IG recommendations are considered further, we hope that Commerce will take the proper steps to fully and publicly evaluate the impact and necessity of export control reform.

Thank you for this opportunity to comment on the Commerce IG recommendations.

Sincerely,

Laura S. Levy, Ph.D.
Professor of Microbiology & Immunology
Associate Senior Vice President for Research
1440 Canal St., Suite 2400 (TW5)
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Phone: (504) 988-3291
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CC: Laura Levy <llevy@tulane.edu>, Michael Herman <mherman@tulane.edu>, Nicholas Altiero <altiero@tulane.edu>, Angelique Dorsey <adorsey@tulane.edu>

From: Paul Richards <richards@ldeo.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 4:25 PM
Subject: comment on RIN 0694-AD29

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230
scook@bis.doc.gov

Attn: RIN 0694-AD29

Dear Sir or Madam

I am writing to express my concern about the proposed new rules for Revision and Clarification of Deemed Export Related Regulatory Requirements. In my opinion, limitations on access to equipment and knowledge based on a person's country of origin are likely to have a bad effect on one of our nation's greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative and global. Many of my colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here, and from that point on they are treated as any other member of the University community. University policy prohibits discrimination of any kind, and mandates that all members be treated equally.

Although University ID cards are required of all individuals, the cards do not distinguish among nationalities. To do so would discourage foreigners from coming to the US as they would be made into second-class citizens. The alternative - to obtain a license for foreign nationals from particular countries to be instructed in the use of export controlled equipment - would be costly and time-consuming, both for the University to prepare the paperwork, and for the government to process it.

The direct impact on my own research program cannot be assessed completely, but I fear that it would compromise certain aspects of my work. Thus, I am currently conducting research projects to enable much more accurate estimates to be made, of the location of earthquakes in China and other countries in East Asia. I have a Chinese graduate student who is supported by one of these projects (funded by the U.S. Department of Defense, whose interest in this subject is driven by the need to improve monitoring for underground nuclear explosions). The need to apply for an export license for foreign nationals who would have access to certain equipment and especially to restrict access to unauthorized individuals would constitute a significant burden and would force me to restrict some of my fundamental research.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. I urge you not to adopt these revisions.

Sincerely,

Paul G. Richards

Mellon Professor of the Natural Sciences, Columbia University

From: Steven Feiner <feiner@cs.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 1:19 AM
Subject: Letter of concern about RIN 0694-AD29

Bureau of Industry and Security
Regulatory Policy Division
U.S Department of Commerce
14th Street and Pennsylvania Avenue, NW, Room 2705
Washington, D.C. 20230

Re: RIN 0694-AD29

Dear Colleagues:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am extremely concerned about both the possibility of such tracking and the effect that it would have on one of our nation's greatest assets: its research in science and technology.

The nature of science in the 21st century is increasingly interdisciplinary, collaborative, and global. Many of my colleagues and students are from foreign countries. The University ascertains their eligibility to enter the country by complying with all visa requirements when they become employed or enrolled here. From that point on, they are treated the same as any other members of our community. In fact, University policy, which prohibits discrimination of any kind, mandates that all members be treated equally. Furthermore, to obtain licenses for foreign nationals from particular countries to be instructed in the use of export-controlled equipment would be costly and time-consuming, both for the University to prepare the paperwork and for the government to process it.

While I cannot at this point determine the full impact of these proposed revisions on my own research program, I fear that they would have a significant detrimental effect. For example, since 1996, my lab has been designing software and user interfaces for prototype mobile augmented reality systems that use see-through head-worn displays to overlay 3D graphics on a user's view of the real world. To accomplish this, we track outdoor users with commercially available GPS and Glonass receivers---technologies that I understand would be subject to these regulations. Our research was the direct inspiration for the Battlefield Augmented Reality System (BARS) project being conducted by the Naval Research Laboratory in collaboration with my lab. It is worth noting that several of the key contributors to this research have been foreign nationals, without whom this project would simply not have been possible. It is quite disheartening to imagine that these researchers, two of whom are now assistant professors at other major US universities, might have been prohibited from working

on this project, had these restrictions already been in place. The requirement to apply for an export license for foreign nationals who need to have access to what is standard, commercial "off the shelf" technology, and to restrict access to unauthorized individuals, would constitute a significant burden and could potentially force me to curtail some of our fundamental research. I do not understand how this be beneficial to our national security.

Science and technology have been major economic drivers in this country and have given our country preeminence in many fields. Leading-edge research can only flourish in an open environment with the free exchange of ideas. Therefore, I urge you not to adopt these revisions.

Sincerely,

Steven Feiner
Professor of Computer Science
Columbia University
500 W 120th St., 450 CS Building
New York, NY 10027
feiner@cs.columbia.edu
212-939-7083

From: Vincent Crespi <vhc2@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 3:16 PM
Subject: deemed exports

just a short note to indicate that the proposed change in interpretation of deemed export rules will have a substantial negative impact on my research, particularly collaborations with experimentalists.

this is the sort of policy change that will damage the health of the overall US research and development enterprise and is not a sustainable way to maintain US economic competitiveness. Although 'on paper' it may sound like a reasonable policy, the US simply does not have the choice to cut itself off from the international research and development community in this way, and maintaining a leadership position in the world in the long term.

vin

Vincent H. Crespi
Professor of Physics & Materials Science and Engineering
Associate Director, Penn State Materials Research Science and Engineering Center
Mail: 104 Davey Lab, #193
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My current schedule of appointments and travel:
http://www.phys.psu.edu/people/display/index.html?person_id=202;mode=schedule

If possible, please avoid sending me Word or PowerPoint attachments.
http://www.gnu.org/philosophy/no-word-attachments.html

From: "Cooper, Bo" <bocooper@paulhastings.com>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 6:01 PM
Subject: RIN 0694-AD29

I have attached a letter offering comments from the Global Personnel Alliance on the BIS advance notice of proposed rulemaking entitled "Revision and Clarification of Deemed Export Regulatory Requirements", RIN 0694-AD29. A copy of the letter has been submitted by fax and through the Federal eRulemaking Portal as well. Thank you very kindly.

Bo Cooper

Please note my new contact information. Thank you.

Bo Cooper | Paul, Hastings, Janofsky & Walker LLP | 875 15th Street, N.W., Washington, D.C. 20005 | direct: 202 551 1750 | main: 202 551 1700 | direct fax: 202 551 0150 | bocooper@paulhastings.com <mailto:|bocooper@paulhastings.com> | www.paulhastings.com/immigration <http://www.paulhastings.com/immigration>

Global Personnel Alliance

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June 27, 2005

The Honorable Peter Lichtenbaum
Acting Undersecretary
Bureau of Industry and Security
Regulatory Policy Division
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Room HCHB 3898
Washington, DC 20230

Subject: Advance Notice of Proposed Rulemaking, RIN 0694-AD29, "Revision and Clarification of Deemed Export Related Regulatory Requirements," Federal Register, March 28, 2005 (Vol. 70, No. 58)

Dear Undersecretary Lichtenbaum:

I am writing on behalf of the Global Personnel Alliance (GPA) to comment on the deemed export licensing requirement proposals contained in the advance notice of proposed rulemaking, RIN 0694-AD29, published by the Bureau of Industry and Security (BIS) on March 28, 2005. GPA is a forum of internationally active companies interested in global personnel mobility. GPA includes companies in a wide range of industries, from technology to manufacturing to transportation. Its member companies range in size from Fortune 500 companies to smaller businesses, and GPA includes business organizations such as chambers of commerce. GPA is therefore well qualified to comment on a broad range of issues affecting global personnel mobility and international business, and has done so when important policy issues have been at stake. For example, GPA has testified before Congress on national immigration policy.

GPA welcomes this opportunity to contribute to the thinking within the Department of Commerce about deemed export licensing policy. Our comments will focus

particularly on the proposed recommendation to extend the Bureau of Industry and Security's ("BIS") deemed export license requirements, so that they would apply on the basis of an affected person's country of birth. This recommendation comes from a March 2004 Report from the U.S. Department of Commerce Office of Inspector General, entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S," Final Inspection Report No. IPE-16176 (OIG Report).

Current regulations base deemed export licensing requirements on a foreign national employee or visitor's country of most recent citizenship or place of permanent residence. In its report, the OIG expressed concern that, under this policy, foreign nationals originally from countries of concern could obtain access to controlled dual-use technology without scrutiny, if they maintain current citizenship or permanent resident status in a country to which the export of the technology would not require a license. The OIG recommended that BIS amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign nationals, and who have access to dual-use controlled technology, merely if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency.

It is a longstanding practice to regulate, through deemed export license requirements, circumstances in which foreign national employees or visitors have access to controlled dual-use technologies. The OIG's recommendation that such regulation be triggered by a person's country of birth, however, goes far beyond what is appropriate or necessary for purposes of national security. Such a rule would be unworkable as a practical matter, it is flawed conceptually, and the Department of Commerce should not incorporate it into regulation.

As a practical matter, the pool of employees or visitors for whom an export license is necessary would increase dramatically, without a comparable increase in national security. Significant additional delays would result, as companies would be required to postpone productive employment of persons subject to the time-consuming license requirements. The administrative costs of innovation would increase tremendously. So would the administrative burdens to the government, which would be required to take on a massive new adjudications burden, again without a concomitant strengthening of national security. The damage to the U.S. position of leadership in economic and technological development would cause more harm than good to the national security.

The proposed change would also significantly complicate companies' recruiting and hiring processes. The I-9 form, which employers use to verify eligibility to work in the United States, does not collect information regarding country of birth. Nor do employers typically collect such information at other points in the recruitment and hiring process, for Equal Employment Opportunity and other reasons. Yet companies would find themselves in a position of recruiting or hiring without having an effective basis for understanding the extent to which complex and burdensome licensing requirements will come into play.

It is not necessary to expand the current deemed export regulations in order to identify foreign nationals who may require deemed export licenses. It is precisely the ties and allegiance that come with nationality or residency that underlie security concerns surrounding foreign nationals from countries of concern. A "citizen" is "a person who, by either birth or naturalization, is a member of a political community, owing *allegiance* to the community and being entitled to enjoy all its civil rights and protections." Blacks Law Dictionary 237 (7th ed. 1999) (emphasis added). Likewise, the term "national" is defined in section 101(a)(21) of the Immigration and Nationality Act (INA) as "a person owing permanent *allegiance* to a state." Place of birth, on the other hand, does not necessarily confer the privilege of citizenship. Nor does a person's place of birth involve on its own the sorts of ties or allegiance that nationality or residence do. The focus on a foreign national's country of birth simply fails to serve as an effective proxy for more meaningful ties to a country of concern.

Basing predictions about security risk on a person's country of birth was similarly a part of the "Special Registration" program, a post 9/11 security-based program implemented in the immigration context. That program, known also as the "National Security Entry-Exit Registration System (NSEERS)," has not been seriously considered as an effective tool for enhancing national security, and the Department of Homeland Security has chosen to curtail the program dramatically. See 68 Fed. Reg. 67577 (December 2, 2003), "Suspending the 30-Day and Annual Interview Requirements from the Special Registration Process for Certain Nonimmigrants." The Special Registration program broadened existing registration requirements for certain nonimmigrants and broadened the scope of nonimmigrants covered by such registration requirements. Persons subject to the program fulfilled extensive registration requirements, including fingerprinting and photographing upon admission; in-person appearance before government officials at

regular intervals; and stricter requirements for notifying the government of changes of address, changes of employment and changes of educational institution. Affected nonimmigrants were also required to exit the U.S. only through limited designated ports. Stiff penalties applied where requirements were not met.

Special Registration program requirements applied to "nationals or citizens" of certain countries, including those with dual citizenship in countries not listed in the program. The Department of Justice and the Immigration and Naturalization Service implemented these requirements by considering place of birth to indicate citizenship. One of the most widely criticized flaws in the program was the extent to which this "country of birth" rule ensnared many foreign nationals who were born in affected countries but whose ties to those countries were so tenuous and bare as to have no articulable connection to national security risks.

The following examples are real. They show the extent to which the Special Registration program requirements were wastefully applied to persons with no significant ties to countries of concern, because of the "country of birth" rule. The same mistakes would be repeated in the export control context if the recommendation in the OIG report were adopted by regulation.

a. Mr. F. was born in Pakistan but is not a citizen or national of that country. Mr. F. is a citizen of Canada, and carries a Canadian passport. Mr. F. was born in 1963 in Pakistan. At that time, Mr. F.'s parents were residing in Bangladesh. His mother flew to Karachi, Pakistan in order to avail herself of the better medical facilities available there at the time of Mr. F.'s birth. The fact that Mr. F.'s birth occurred in Pakistan is a coincidence. No members of his family hold or have ever held Pakistani citizenship. Mr. F. remained with his mother in Pakistan only until his mother could leave with him as a tiny infant. Mr. F. and his mother then returned to Bangladesh.

b. Mr. A. was born in Iran, but he is no longer a citizen or national of that country. Mr. A. and his family fled Iran in the fall of 1986 when Mr. A. was 7 years old to avoid persecution by the Iranian government. He and his family were subsequently granted asylum status in Sweden, where he and his family ultimately obtained Swedish citizenship. Mr. A. owes no allegiance to Iran and its government, and he does not hold an Iranian passport.

c. Mr. B., who is of the Jewish faith, was born in Tunisia while his French parents were there on brief assignment for the French government. Mr. B.'s parents were in Tunisia for less than a year. Importantly, at the time of his birth in 1942, Tunisia was not an independent nation, but rather a French protectorate. Mr. B., who is the CEO of a U.S. company, is a French citizen with strong ties and allegiance to the French government.

Even more alarming, the OIG recommendation that deemed export license requirements be driven by a person's place of birth does not follow from the discussion of the issue in the OIG Report. The discussion underlying the OIG's recommendation is based entirely on the concern that a foreign national with citizenship in a country of concern could bypass export controls simply by having more recent citizenship or nationality in a country to which exports would not be regulated under the Export Administration Regulations. See OIG Report, pp. 16-17. The OIG Report also cites favorably the State Department's Directorate of Defense Trade Controls policy. Notably, that policy is based not on country of birth, but upon dual or multiple current nationalities. OIG Report, p.16. Yet the OIG Report then leaps inexplicably to a recommendation that licensing requirements should be controlled not on the basis of any country of which the person currently is a citizen or national, but instead on the country in which the person was born. This would be the rule whether or not the person in fact maintains (or even could maintain) nationality in that country. Country of birth is by no means the equivalent of country of nationality, and the OIG report offers no analysis for concluding that they are equivalent.

GPA commends BIS for the careful, deliberate process it has put in place for evaluating the issues addressed in the OIG Report. Changes that strengthen our national security clearly must be at the top of the nation's public policy agenda. Basing deemed export license requirements on country of birth, however, would not be such a change.

Again, we are grateful for the opportunity to comment.

Sincerely,

Bo Cooper
WDC/311583.1

From: "Linda Menghetti" <LMenghetti@ecattrade.com>
To: <Publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 1:56 PM
Subject: Attn: RIN0694-AD29

Please find attached the comments of the Emergency Committee for American Trade on the above-referenced matter. Please do not hesitate to contact me if you have any questions.

<<6-27-05 ECAT Comments.pdf>>

Linda Menghetti
Vice President
Emergency Committee for American Trade
1211 Connecticut Ave., N.W.
Suite 801
Washington, D.C. 20036

202-659-5147-tel
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EMERGENCY COMMITTEE FOR AMERICAN TRADE

June 27, 2005

Publiccomments@bis.doc.gov

Attn: RIN0694-AD29
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Ave., N.W.
Room 2705
Washington, D.C. 20230

Re: RIN 0694-AD29; Proposed Rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam:

Founded in 1967, the Emergency Committee for American Trade (ECAT) is an organization of leading U.S. international business enterprises that seek to promote economic growth through the expansion of trade and investment. ECAT's members account for major segments of the manufacturing and services sectors of the American economy. Their combined exports run into the tens of billions of dollars. Their annual worldwide sales total nearly $2 trillion, and ECAT companies employ approximately five million persons.

Given the substantial export and global activity of ECAT's membership, ECAT is, therefore, very concerned by proposals in the Bureau of Industry and Security's (BIS) *Proposed Rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements* (70 Fed. Reg. 15607 (Mar. 28, 2005)). In particular, ECAT objects to the proposed adoption of recommendations from the U.S. Department of Commerce Office of Inspector General Report (Final Inspection Report No. IPE-16176-March 2004). Of particular concern is the proposed change to the BIS export license requirements that would base the license requirement on the original country-of-origin of an employee.

Over the last 20 years, the business environment has become increasing global. Many U.S. companies have a very substantial presence outside the United States – a presence that complements their activities here in the United States, helping to open and expand new export and sales markets.

At the same time, U.S. exporting companies have made and continue to make substantial investments in ensuring compliance with U.S. export rules and have been a key ally of the U.S. government in promoting national security through their compliance activities. As a result, U.S. companies already face substantial burdens compared to foreign exporters who are not subject to these requirements. The proposed country-of-origin requirement will, as explained below, put U.S. companies at an even greater competitive disadvantage compared to our foreign competitors. This result is neither justified, nor likely to promote U.S. national security objectives.

1211 Connecticut Avenue, N.W., Suite 801, Washington, D.C. 20036 Phone 202.659.5147 Fax 202.659.1347

For many, if not most, U.S. companies, a significant global presence entails the hiring of a substantial number of employees outside the United States of non-U.S. origin. Such employees are hired based on talent, not national origin or country of birth. In order to develop excellent managers with broad experience in the company's operations and with an appropriate understanding of cross cultural, international, and other issues, a company needs to move these employees freely around their organization and around the world. Making an individual's country of birth a significant consideration in personnel decisions – as the proposed rule would do – will make it difficult and cumbersome for U.S. companies to develop non-U.S. born talent and may ultimately lessen their ability to compete effectively in a global economy.

Indeed, U.S. companies with global operations employ many skilled personnel such as engineers, scientists, computer scientists, and others who are citizens or legal permanent residents of the country in which they are employed. These employees may live in multiple countries over the course of their employment. Even if they stay in one country, under the proposed new rules, their country of birth could cause them to become subject to deemed export or re-export licensing, to have their job significantly change, or to no longer be able to do the job for which they were hired or be considered for other opportunities.

While seeking the most talented individuals here in the United States and abroad, U.S. companies are, at the same time, very careful to review and assess the qualifications and backgrounds of their employees, regardless of the country in which they are hired. Country of birth, however, is typically not a criterion for hiring, job selection or promotion. The focus for most companies is on "whether an otherwise talented, qualified person has the legal right to work in the country in which he is being hired or can he obtain the legal right to work in the country to which we want to send him?" Furthermore, privacy laws outside the United States make it difficult to obtain country of birth information if it is not required under local law. Therefore, many companies do not gather or track country of birth information. Changing current license requirements to add a country-of-birth component would, therefore, entail a massive burden on U.S. companies, without any corresponding evidence of such a rule's effectiveness in addressing core national security concerns.

Many U.S. companies also have significant numbers of personnel working in the United States who are not U.S. citizens and who are either living permanently in the United States or are in the United States through a temporary visa. When these individuals are hired, companies will review and ensure the right of such individuals to work in the United States, but have generally not sought country-of-birth information. In many cases, personnel from one location are moved in and out of the United States or between other countries, oftentimes where a company wants to give broad subject matter and geographic exposure to such employees as career development and because of their expertise. A company will know the country of last citizenship or permanent residency for these individuals, but will not know country of birth. Thus, in the case of both permanent residents and employees under visa, companies simply do not know how many of these individuals would be subject to deemed export licensing, having their jobs significantly changed, or being dropped from consideration for technical jobs if country of birth became the determining factor for licensing.

In addition, in recruiting for technical jobs, U.S. companies with global operations see more and more students who are not born in the United States or the country where they are studying. This is especially true for advanced degree (Ph.D.) engineers and scientists. The number of U.S. born students going for advanced degrees in technical fields has been declining for years. Many U.S.-based graduate students in technical fields are now non-U.S. born. Many technical graduate students at respected universities outside the United States were not born in the country where they are studying. Using country of birth rather than the country with which the technical graduate student has chosen to permanently associate him/herself will negatively impact U.S. companies' ability to hire, utilize and develop these highly intelligent individuals in key technical fields. It will reduce the pool of technical expertise available to U.S. companies, while leaving a much larger pool

available to non-U.S. companies, undermining, thereby, the competitiveness of U.S. companies. At a time when there are many reports of declining U.S. preeminence in the math and science fields, the proposed rule change may also result in U.S. companies not hiring or using the best technical talent and thus becoming less competitive and capable in the global economy.

Finally, the proposed rule change penalizes and stigmatizes individuals based on accident of birth. Even if they leave a country looking for better opportunities or to escape a repressive regime, the rule change says the U.S. will always view them as being associated with a country of concern. Some individuals will chose to relocate to countries other than the U.S., which also offer good opportunities. Because of U.S. immigration laws, not everyone who applies can obtain U.S. citizenship or permanent resident status. Those who take affirmative steps to associate themselves on a permanent basis with another country and are accepted by that country should be given the export control status of that country, not the status of the country where they happened to be born and from which they disassociated themselves.

In sum, the proposed requirement to utilize country of birth, rather than the most recent citizenship or permanent residency, represents an extremely burdensome requirement that would undermine the competitiveness of U.S. companies and increase substantially already significant compliance burdens, without appearing to advance effectively national security purposes.

We appreciate the opportunity to submit these comments and look forward to following up with your office on these extremely important issues. Please do not hesitate to contact us if you have any questions.

Sincerely,

Calman J. Cohen
President

From: "Christopher Calabrese" <CCalabrese@aclu.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 4:47 PM
Subject: RIN 0694-AD29 American Civil Liberties Union Comments

<<comment export controls scientific freedom - final.doc>>

Christopher Calabrese, Esq.
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June 27, 2005

Matthew S. Borman
Deputy Assistant Secretary for Export Administration
U.S. Department of Commerce
14th & Pennsylvania Avenue, NW.
Room 2705
Washington, DC 20230

Re: Export Controls, RIN 0694-AD29

Dear Deputy Assistant Secretary Borman:

The American Civil Liberties Union submits these comments, formally opposing the Department of Commerce's proposed rule changing the definition of "use" in the regulatory requirements for deemed exports. The proposed rule[1] stifles scientific freedom, threatens America's preeminence in the sciences, and harms national security. Instead, the Department of Commerce should retain the existing rules that recognize that our scientists and engineers need the freedom to pursue fundamental research. Their research is vital to discovering innovative new technologies that are critical for America's economic and national security.

As the Commerce Department knows, export controls do not just control technology and information exported outside the United States. They also govern what technical information individuals who are not United States citizens or legal permanent residents can learn.[2] The NPRM's proposed change in the definition of use would mean that any researcher who is not a United States citizen or legal permanent resident may have to get a license to work with a variety of technologies. [3] It is even possible that if the researcher is from a country to which export of a specific technology is controlled, and an export license is denied, the researcher could be completely banned from working on a project.[4] Much more troubling, the proposed rules would create an extraordinarily burdensome regulatory process which requires: cataloguing every technology in the university lab; determining if that technology is subject to use restriction; ascertaining if the technology is publicly available (and hence exempt from export controls); and

[1] 70 Fed. Reg. 15607-15609, "Revision and Clarification of Deemed Export Related Regulatory Requirements," RIN 0694-AD29.
[2] 15 C.F.R. § 734.2
[3] *Id.*
[4] 15 C.F.R. § 736.2

learning the national origin of every researcher and the projects upon which they are working.[5]

The obvious effect of this regulation will be a delay in the start of research. But the more subtle and dangerous effect will be the stigmatization of foreign researchers, thus making work in the United States more difficult and cumbersome for foreign nationals. In some cases, universities may choose, justly or unjustly, to simply avoid this burden altogether by not employing foreign researchers at all.

The direct result of the policy enumerated in the NPRM will be a decrease in the number of individuals who choose to study and work in the United States. We have already seen a similar pattern after the US increased the burdens and restrictions on the granting of visas through programs like Student and Exchange Visitor Information System (SEVIS),[6] Visa Condor Program[7] and Visa Mantis Program.[8] In 2003, total enrollment of foreign students in the U.S. fell for the first time in three decades, following only a minimal increase in 2002. Total enrollment in 2003 fell by 2.4%, and 2002 enrollment had increased by only 0.6%, as compared to 6.4% increases the previous two years.[9] Forty-two percent of universities responding to a survey conducted by the Association of American Universities in 2004 attributed a decline in foreign student enrollment to the applicants opting to study in another country.[10] It is reasonable to assume that increased restrictions like the ones contemplated by the NPRM will only accelerate these trends.

Nor should there be any question regarding the value of foreign born visitors to our nation and its history of successful academic and scientific inquiry:

- More than 580,000 international students attended colleges and universities in the U.S. in 2002.[11]
- These students contributed almost $12.9 billion to the U.S. economy.[12]

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[5] 15 C.F.R. §§ 734 & 736.

[6] Section 416 of the USA Patriot Act mandated the creation of a the full-scale implementation and expansion of a national electronic foreign student tracking system, SEVIS, which requires schools to enter and maintain current information about all of their foreign students and nonimmigrant exchange visitors.

[7] Under the Visa Condor Program visa applications from individuals determined to be "high risk" are forwarded to the FBI and compared against various government databases.

[8] Under Visa Mantis, students and scholars applying for visas to study subjects or engage in activities that will involve exposure to technologies must undergo extra scrutiny and obtain additional security clearances.

[9] Goodman, Allan E., "Addressing the New Reality of Current Visa Policy on International Students and Researchers," Statement before the U.S. Senate Foreign Relations Committee, 6 October 2004. Available at: http://foreign.senate.gov/hearings/2004/hrg041006a.html

[10] Association of American Universities (AAU), "AAU summarizes 2004 visa survey results for AAU universities," 10 November 2004. Available at: http://www.aau.edu/homeland/students.cfm

[11] Goodman, Allan E., President and C.E.O., Institute of International Education, Written Testimony, "Addressing the new reality of current visa policy on international students and researchers," Senate Foreign Relations Committee Hearing, 6 October 2004.

[12] Jischke, Martin, President, Purdue University, Testimony before the U.S. Senate Foreign Relations Committee, 6 October 2004.

- Over the past 20 years, noncitizens have accounted for more than 50% of the growth in the number of Ph.D.s earned in the U.S. Most of this growth has occurred within the sciences.[13]
- More than half of the students enrolled in science and engineering programs in the U.S. are foreigners.[14]
- Approximately 40 percent of U.S. engineering faculty[15] and engineering, math, and computer sciences graduate students are foreign-born.[16]

The contributions of foreign nationals to our society and to global security are immense. Many foreign nationals who study in the U.S. return to their home countries where they take on leadership positions with an understanding and appreciation of American culture and American values. The fact that nations around the world from Nepal to Saudi Arabia are seeded with leaders in a variety of fields who received their educations in the United States cannot be anything but an enormous boon for our country.

Other foreign nationals stay on in the U.S. to make invaluable contributions to our society. Consider that:

- More than a third of U.S. Nobel laureates are foreign-born.[17]
- 38% of doctorate holders in America's science and engineering workforce are foreign-born.[18]
- Nearly 50% of the scientific and medical professionals at the National Institutes of Health are foreign nationals.[19]

Our nation's hard earned position as a world leader in the sciences has been put at risk by ill-conceived "security" policies that will only harm our nation by unduly restricting hundreds of thousands of talented foreigners. Once famous for its open arms and its ability to attract talented and enterprising individuals from around the world, the United States risks losing out in the competition for global brainpower. Misguided policies including those contemplated by the NPRM could have the disastrous effect of excluding or repelling some of the world's best and brightest minds. This loss will be felt not only by America's thousands of colleges and universities; it will reverberate

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[13] "Academic freedom and national security in a time of crisis: A report of the AAUP's special committee," *Academe*, Vol. 89, No. 6 (November-December), 2003.
[14] Zakaria, Fareed, "Rejecting the next Bill Gates," *Newsweek*, 28 November 2004 (citing National Science Board (NSB) Statistics from 2003).
[15] Gast, Alice P. "The impact of restricting information access on science and technology," MIT, April 2003, p. 4. Available at: http://www.anu.edu/research/Gast.pdf
[16] Statement issued on December 13, 2002, by Bruce Alberts, president of the National Academy of Sciences; William A. Wulf, the president of the National Academy of Engineering; and Harvey Fineberg, the president of the Institute of Medicine. Available at: http://www.aaup.org/publications/Academe/2003/03so/03sointer.htm
[17] Gast, 2003, p.4.
[18] Zakaria, 2004 (citing National Science Board (NSB) Statistics from 2003).
[19] Gast, 2003, p.4.

throughout our corporate, medical, scientific, and engineering communities for decades to come.

Such actions not only threaten the scientific advancement that has brought so many benefits to the United States and the world, but also are a misguided response to the threat of terrorism. Our ability to address problems or respond to disasters – whether they are caused by terrorists or not – is at least partially dependent on international scientific communication and cooperation. Hamstringing the free exchange of scientific ideas and information will diminish the capacity of the scientific community to address threats to public health and safety.

This NPRM is part of a larger trend evident since 9/11 of hindering scientific inquiry, not just by restricting the people that can work in the sciences but also by limiting the materials that scientists can work on and the type of information that they can speak about and publish. For more information please see the ACLU's recently released report describing restrictions on academic freedom at www.aclu.org/scientificfreedom.

For all of these reasons, we urge the Department of Commerce to reject the regulatory scheme outlined in its Notice of Proposed Rulemaking and continue the current policy of exempting most university research under the exemption for "fundamental research".

Sincerely,

Christopher R. Calabrese
Counsel, Technology & Liberty Program

Barry Steinhardt
Director, Technology & Liberty Program

From: Cynthia Wythe <cwythe@u.washington.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 6:16 PM
Subject: RIN 0694-AD29

Attached is a pdf file with comments from the University of Washington on Proposed rulemaking, 58 Federal REgister 15607-15609, March 28, 2005.

CC: Cynthia Wythe <cwythe@u.washington.edu>

UNIVERSITY OF WASHINGTON

DATE: June 27, 2005

TO: US Dept of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, D. C. 20230

FROM: Craig J. Hogan
Vice Provost for Research

SUBJECT: Advanced Notice of Proposed Rulemaking
58 Federal Register 15607-15609, March 28, 2005
RIN 0694-AD29

The University of Washington appreciates the opportunity to comment on the Advanced Notice of Proposed Rulemaking, 58 FR 15607-15609, March 28, 2005, Revision and Clarification of Deemed Export Related Regulatory Requirements. As explained below, we believe the proposed revision and clarification would actually reduce national security by throttling the open exchange of ideas and information and by regulating in an overly broad, untargeted manner.

President Ronald Reagan famously remarked: "True, lasting peace cannot be secured through the strength of arms alone. Among free peoples, the open exchange of ideas ultimately is our greatest security." At the University of Washington (UW), thousands of faculty, staff and students continue to put President Reagan's dictum into practice every day.

Our academic and research programs attract talented people from around the world. In Fall Quarter of 2004, there were 1560 international graduate students enrolled at UW, accounting for approximately 15.2 percent of the total graduate enrollment. Foreign students comprise 30 percent of the graduate enrollment in the UW College of Engineering.

UW's success in scientific research depends on collaboration of communities of talented scholars, and fundamentally requires the open exchange of information. Progress and quality are only possible with access to the best ideas and talent worldwide, and with uncompromisingly comprehensive review and validation. History has shown that our nation's leadership in technical advances, and ultimately our national security, depends on an open exchange of ideas. From the time of the Manhattan Project to the present day, US national security has relied heavily on unique contributions from foreign-born scholars.

The Reagan administration confirmed the importance of fundamental research and the free exchange of ideas for the advancement of science through National Security Decision Directive

189, which stated that "to the maximum extent possible, the products of fundamental research remain unrestricted." This policy was reiterated in the November 1, 2001 letter of Condoleezza Rice, then Assistant to the President for National Security Affairs, wherein she confirmed that NSDD 189 remains in effect, and reaffirmed that "[t]he linkage between the free exchange of ideas and scientific innovation, prosperity, and U.S. national security is undeniable."

At the same time UW recognizes that the need for security and information control is critical in certain areas of research. UW scientists conduct classified research at our Applied Physics Laboratory under the required security regulations. UW has also been vigilant in developing a compliance plan for required export controls. We support the policy laid out in NSDD 189 for managing this work: "... the mechanism for control of information generated during federally-funded fundamental research in science, technology and engineering at colleges, universities and laboratories is classification." We have administrative systems in place for managing sensitive information in this framework, while protecting the free exchange of unclassified information.

We agree with the detailed findings and recommendations in several recent commentaries that describe the likely negative impact of the proposed new regulations on national security. In particular we concur with the letter (September 9, 2004) signed by MIT President Charles Vest and a large group of leading university presidents, addressed to science policy leaders reporting to President Bush. We also concur with the findings and recommendations detailed in the recent White Paper from the Center for Strategic and International Studies, "Security Controls on Scientific Information and the Conduct of Scientific Research." [http://www.csis.org/hs/0506_cscans.pdf] The following discussion adds our detailed concerns regarding the proposed changes to the regulations.

Definition of "use"

Nearly all of the research carried out at the UW falls under the fundamental research exemption (FRE): normally, the UW does not accept funding that imposes restrictions on publication or participation by foreign graduate students or post-doctoral fellows. It is our understanding that research covered by the FRE allows foreign graduate students and post doctoral fellows access to controlled laboratory equipment for that research. In light of the high participation of foreign-born scholars in the UW's world-class research programs, we are concerned that the proposed changes to the "deemed export" regulations will undermine the FRE, impeding our scientific progress and our ability to attract the most talented people to the US scientific workforce in areas of critical need.

Currently "use" is defined as the ability to operate, install, maintain, repair, overhaul *and* refurbish equipment. As proposed, "*and*" would change to "*or*", which would result in the requirement of licenses for a foreign-born researcher to use controlled equipment in a US laboratory even in research projects under a FRE. These proposed changes would require that

every piece of equipment in a laboratory be identified and linked to the particular technology involved. Then the countries of birth of all foreign researchers would need to be identified and checked against the equipment they would access. This would inflict a huge and expensive administrative burden and would be extremely damaging to research productivity.

We do not believe it is practical to manage any basic research project where access of researchers to basic tools and equipment is restricted. This would create at least two classes of researchers within a laboratory, those with access to all research equipment and those with limited access. Monitoring this activity in a laboratory operating under a fundamental research exemption would seriously affect the productivity of the laboratory, and for many laboratories would be impossible. In practice, many projects would be abandoned in the US but not abroad, endangering national security.

We suggest that regulations need a better definition of "use" versus "use technology". Using a piece of equipment doesn't equate with transferring the actual technology of the equipment, any more than driving (or even buying) a car empowers an owner to manufacture one. Narrowly targeting the regulation to the actual "use" of concern would be more practical in the setting of university research collaborations.

Country of birth vs. citizenship

International graduate students working in science and technology areas are currently reviewed under the Visa Mantis program. The proposed regulation change would create a system in which students are forced through two regulatory hoops both of which are federally mandated, but which are implemented separately by separate institutions. Even though a student is issued a visa based on citizenship and interest in science and technology, the university would still be required to verify country of birth and apply for federal licenses.

To use country of birth as the criterion for access to equipment would mean that universities would assume an unfunded administrative and investigatory burden, regardless of the student's possession of a valid visa. Moreover, it is unclear why allegiance to country of birth would take precedence over citizenship in matters of security in a research laboratory. This can only contribute to a further decline in the number of foreign graduate students and post doctoral fellows entering US graduate scientific programs, reducing the most important source of US talent in critical national security technologies.

The UW does not believe country of birth should be the basis of review, but if that is to be adopted, then this verification process should be done in coordination with the visa issuance process.

Supp No.1, Part 734 – Clarification of Supplemental Questions and Answers on Sponsored Research and Fundamental Research

Question A(4)
This question addresses the issue that prepublication clearance voids exemptions and triggers "deemed export" rules. The UW agrees that this answer could be clarified. It is UW policy that we do not accept restriction on publications. Therefore we would not accept agreement language that requires prepublication clearance (approval) as it would compromise the FRE.

Question D(1) Research Correspondence and Informal Science Exchange -
Does a foreign graduate student require a license to work in a laboratory? The current answer is "not if the research on which the foreign student is working qualifies as fundamental research." We maintain that that answer is correct. If a clarification is provided it should be that access to proprietary research equipment or data may require a foreign national to have a license even under a FRE.

We are making the following recommendations to the Bureau of Industry and Security for clarifying the Export Administration Regulations (EAR) while maintaining the positive functioning FRE.

1.) Review and update the Commerce Control List (CCL), so that it is more current and easier to use.
2.) Provide clearer definitions of "use" and "use technology".
3.) Maintain the use of citizenship as the criterion for access to research equipment.
4.) Reinforce the importance of the Fundamental Research Exemption for academic research.

The University of Washington wishes to join many other academic institutions and associations expressing concern about the negative impact of the proposed changes both to the progress of science and the health of the US academic research enterprise.

From: "Johnson, Cynthia (Washington DC)" <ckjohnson@ti.com>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 3:13 PM
Subject: RIN 0694-AD29

Please find Texas Instruments' comments to the Revision and Clarification of Deemed Export Related Regulatory Requirements.

Regards, Cynthia Johnson

TEXAS INSTRUMENTS

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Suite 375
Washington, D.C. 20004

(202) 628-3133

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Ave, NW
Room 2705
Washington, D.C. 20230

ATTN: RIN 0604-AD29

Re: Comments by Texas Instruments Inc responding to Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam:

I am writing on behalf of Texas Instruments (TI) in response to the Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of Deemed Export Related Regulatory Requirements published by the U.S. Department of Commerce, Bureau of Industry and Security (BIS) on March 28, 2005 (70 Fed. Reg. 15607) ("the Notice").

TI is a global semiconductor company and the world's leading designer and supplier of real-time signal processing solutions. The company's businesses also include sensors and controls, and educational and productivity solutions. Headquartered in Dallas, Texas, TI has approximately 36,000 employees worldwide with corporate, sales and manufacturing facilities in more than 25 countries across Asia, Europe and the Americas.

An important factor in TI's long-term success is its process technology and manufacturing strength. The company has maintained consistent investment in R&D and process technology development to provide a sustainable advantage to its customers and position TI ahead of the competition. TI has continued to invest in developing new technologies in-house. The company is one of only a few semiconductor companies that have successfully transitioned to 300-millimeter wafers, 130-nanometer chips and copper interconnects. TI has the industry's broadest deployment of 130 nm technology with more than 90 products in production and more than 100 million units shipped in total.

TI has 38 design and manufacturing locations worldwide, including 10 world-class, high-volume wafer fabs and 11 assembly/test sites. Manufacturing facilities are located in the US, Japan, Asia and Europe. TI links its in-house semiconductor manufacturing closely to its design and process technology development to deliver silicon products competitive with any company in the world. As designs grow to millions of gates and silicon features shrink, this linkage between design and manufacturing is increasingly critical. This close alignment was a key consideration in the June 2003 site selection announcement of the Dallas, Texas, area for TI's next 300-mm wafer fabrication facility.

TI's has a longstanding and strong commitment to its export compliance program. In addition to a strong internal compliance program, TI actively participates in advisory committees to the BIS and in industry associations which focus on export control policy. In these fora TI has consistently held the position that export controls be multilateral, narrowly tailored to meet the national security objectives and predictable. We agree with BIS officials that:

"It is incumbent upon the government to create a system that is rational and transparent, so that exporters can comply with it. The system should not adversely affect U.S. companies from competing equally with their foreign competitors, unless there is an overriding national security or foreign policy interest at stake. The system also should be predictable, so that exporters can safely plan their business activities."

Under Secretary for Export Administration Department of Commerce Testimony before the Committee on International Relations, U.S. House of Representatives, May 23, 2001.

In TI's experience, the deemed export rule, as it currently exists, does not meet these criteria. It is not multilateral and, in fact, few if any other countries requires this of their exporters. It is not narrowly tailored.

This is a blunt instrument, the premise of which is that no one except American citizens, permanent residents and those with political asylum should be free from the presumption that they may divert technology. It is also an unpredictable system in which time to license and conditions can vary significantly (admittedly this has improved dramatically in recent years). In addition, despite commendable efforts by many at BIS, the program has been plagued with: periods where licenses were stalled in 2000; with short lived efforts to rationalize and streamline the system (the DEL); and with various efforts to bring consistency to conditions that frankly have fallen short of their goal. Expanding the rule in the ways contemplated by the Notice will broaden and compound the problems.

Caught in this flawed program are real TI employees whose work is interrupted while their backgrounds are scrutinized, sometimes for the second or third time, for signs that they might divert technology that they had acquired while working at TI. In some instances these are individuals who were already working on leading edge technology before TI hired them. However, because the control levels for semiconductor technology have not kept up with mainstream commercial levels, TI applies for licenses for individuals whose knowledge surpassed control levels years ago and who will be adding to TI technical capabilities, not diverting from it,.

The expansion of the deemed export rule, both with regards to clarifying the definition of use and basing the licensing requirement on a foreign national's country of birth, would extend the reach of this flawed rule to many of TI's most productive employees (particularly in the case of a country of birth criteria.) Furthermore, the proposed expansion of the rule would disrupt and divert scarce resources from U.S. universities upon which TI depends for its future engineering talent. TI, like most other U.S. semiconductor companies, typically does not go overseas to recruit individuals. The vast majority of TI's foreign nationals are either recruited at U.S. universities as part of its regular on-campus recruiting efforts, or are experienced engineers who may have worked for another company, but who also have an advanced degree from an American university.

As long as 56 percent of the masters' degrees and 66 percent of the PhDs in electrical engineering at U.S. schools are awarded to foreign nationals, TI will, by necessity, need to hire some foreign engineers. These individuals are among the most talented from their native countries. In addition, U.S. companies and taxpayers have already invested in them through support for university-based research. It is counterproductive to restrict these highly educated engineers from adding to TI's competitive advantage.

The deemed export rule makes it more likely that TI will lose engineering talent because it has a detrimental effect on hiring, collaboration in the workforce and retention. In a 2004 survey of Semiconductor Industry Association members, some companies indicated that hiring managers might avoid foreign nationals from restricted countries because they were concerned with the delays and unpredictability of licensing. Even after the foreign national has joined the company, there are instances in which their contribution to a project is prohibited by a license condition. Finally, it is important to note that the intrusiveness of licensing can be part of the foreign national's work experience for as many six years or more. This is because the license typically will expire in two years time. However, it can take as many as six years to complete the process for permanent resident status. TI pursues permanent residence for all of its U.S. based foreign national employees, except in rare cases.

It is also worth noting that the deemed export license process (depending on the size and composition of workforce) may be more resource intensive to comply with when compared with other corporate export control responsibilities. That is because the deemed export rule requires TI to gather the personal data (schooling, employment history, abstracts etc.) on each foreign national employee, track their movement throughout the company, and monitor compliance to conditions (meeting with employees, groups, managers of FN), access to systems and buildings, visa information, and requirements for higher level technology. In addition, these licenses require renewals every two years, amendments for changes in technology, and management of TCPs including periodic affirmations from supervisors and foreign nationals and day-to-day supervision of the foreign national by TI's managers.
TI is concerned that the current deemed export system is not only failing to meet a national security objective, but also, as the rules stand today, is at odds with TI's ability to bring in the best talent that the world has to offer and thereby strengthen TI's competitive edge. Maintaining leadership in key technologies clearly is in the U.S. national interest and, where possible, policies should be aligned to that objective.

TI strongly opposes recommendations in the Notice which would significantly expand the reach of the rule and burden within its company and in U.S. universities.

TI estimates that the country of birth requirement could generate at least a six fold increase in the number of licenses. It would also require that TI examine at least 1,500 employees to determine whether they are from restrictive countries. If applied to permanent residents of third countries, this would require TI to inquire as to country of birth for employees in as many as 20 countries.

It is TI's understanding that in some countries asking for the country of birth for all employees may conflict with rules on collection of personal data.

Finally, it is TI's understanding that the BIS has given assurances that the country of birth recommendation would not apply to U.S. permanent residents. TI hopes that this is the case. If not, TI objects to this recommendation in the strongest possible terms. Such a change would mean an increase in the compliance and licensing burden. Much more troubling is that this would require that TI subject some of its most talented contributors to government scrutiny, monitoring and perhaps a curtailing of their work activity. As just one example, TI looked at a population within some of its greatest technical contributors who are on TI's Technical Ladder. The purpose of the Technical Ladder is to recognize and reward TI's most exceptional technical talent. The election to the Technical Ladder is one of the primary means of recognizing this top talent. There are over thirty U.S. permanent residents from restricted countries who have been recognized for their contributions to TI by being elected to the Technical Ladder. This is only one way to measure the kind of disruptive impact such a change could have.

TI appreciates the opportunity to comment on this important matter. TI believes that the recommendations contained in the Notice should be rejected. TI hopes that the BIS will continue in efforts to significantly streamline or replace the current deemed export rule and looks forward to working towards that end.

Sincerely,

Cynthia Johnson
Director, Government Relations
Texas Instruments Inc

From: David Padgham <david.padgham@acm.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 4:52 PM
Subject: Comments regarding RIN 0694-AD29

Attached please find the comments of the U.S. Public Policy Committee of the Association for Computing Machinery (ACM) with respect to "RIN 0694-AD29."

Please call or email us with any questions, problems, or issues.

Thanks.

Association for Computing Machinery (ACM)
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CC: <david.padgham@acm.org>, Cameron Wilson <cameron.wilson@acm.org>

Comments on Proposed Revision and Clarification of Deemed Export
Related Regulatory Requirements
(RIN 0694-AD29)

U.S. Public Policy Committee
of the Association for Computing Machinery (USACM)

27 June 2005

INTRODUCTION

We write as members of the U.S. Public Policy Committee of the Association for Computing Machinery, which is widely recognized as the premier organization for computing professionals, delivering resources that advance the computing as a science and a profession, enabling professional development, and promoting policies and research that benefit society. ACM is the world's first educational and scientific computing society with almost 80,000 members worldwide. USACM members include leading computer scientists, engineers, and other professionals from industry, academia, and government.

We appreciate the opportunity to comment on the Department of Commerce's (DOC's) Office of Inspector General's proposed changes[1] to United States' policy on so-called "deemed exports." We wish to join with others from the computing and research communities to register our concerns with the Inspector General's interpretation of long-standing precedent in the application of Export Administration Regulations (EAR). The proposed changes would negatively impact the computing and research communities and, ultimately, the U.S. economy and society.

The Department's Advanced Notice of Proposed Rulemaking seeks comments on three of the Inspector General's proposals intended to limit inappropriate access to controlled equipment and technology: first, amend the current definition of "use" technology by adding "or" to the definition of "use" by ensuring access to controlled technologies is limited to those involved in the "operation, installation (including onsite installation), maintenance (checking), repair, overhaul, and refurbishing"; second, begin using a foreign national's country of birth, instead of the current practice of using a foreign national's most recent citizenship or permanent residency, as the basis for determining deemed export licenses; and third, clarification of the supplemental questions used for

understanding how the EAR is applied for the publication of government-sponsored research and the use of technology for fundamental research.

USACM believes the Inspector General's report is not clear both in the terms and in the concepts of what it is trying to address. In seeking to clarify the definition of "use" controlled technology, the Inspector General mentions that long-standing exemptions to the EAR based on publicly available technology and fundamental research may no longer be appropriate. In fact, it states that "... according to the BIS the technology for the use of controlled equipment – regardless of how it is defined – is subject to the deemed export provision regardless of whether the research being conducted with that equipment is fundamental or not. This would mean that many of the academic and Federal laboratories might need to seek deemed export license for some foreign nationals working with controlled equipment or otherwise restrict their access to such equipment." While the application of this new definition may not be clear, the implication that this will be a new burden on research is clear. Confusion about -- or an overly broad interpretation of -- this definition could (1) impose new, costly, and undue burdens on academia and industry with respect to technological research and development; and (2) unnecessarily encumber innovation in the United States.

NEW, COSTLY, AND UNDUE BURDENS

There is substantial confusion regarding exactly what equipment or technology would be subject to the deemed export requirements of the EAR. The changes suggested by the IG would do little to clear up this confusion. The IG recommends amending the current definition of "use" of controlled equipment so that it will include any of the following: "operation, installation (including onsite installation), maintenance (checking), repair, overhaul, or refurbishing." The IG argues that this change would conform the EAR definition of use to that used by other federal agencies. However, in making this change the IG seems to imply that the "use" of controlled equipment would result in the transfer of controlled technology. In fact, the IG seems to confuse the use of controlled equipment with the technology (or information) necessary for the use of the equipment.

It is critical that the BIS understand the difference as it reviews this issue. For example, a manual or software to operate controlled equipment might be publicly available, meaning there would be no government restrictions on a foreign national's access. The IG implies that all technology involved in the use of equipment could be subject to deemed export rules. This is contrary to long-standing exemption guidelines, which state that publicly available technology includes the following:

- information that is or will be published;
- information that arises during, or results from, fundamental research; and
- educational information.

The BIS should be very clear that changing the definition of "use" would only affect proprietary information and would not include information in any of the above-listed categories.

The IG also states that the fundamental research exemption should be much more limited than it is now. This recommendation runs contrary to the intent with which the fundamental research exception was established in the first place. Moreover, subjecting the use of certain equipment required for the conduct of fundamental research to deemed export control provisions will stifle the open, collaborative, and often-times spontaneous research environment characteristic of the campus research atmosphere and one that is required to stimulate innovative thinking and cutting-edge ideas.

Changing U.S. export policy to comply with the Inspector General's recommendations would impose new, costly, and undue burdens on academia and industry with respect to technological research and development. The increased costs for university laboratories and researchers could be substantial. For example, a University of Maryland representative, speaking before a recent meeting on deemed export policy at the National Academies, pointed out that a "conservative estimate to categorize all of the equipment going through the Export Control Classification Numbers, determining whether there is control on use technology for each of those is $1.5 million."[2]

Even the process of determining which equipment may require a license is a substantial burden on institutions at a time when research dollars are scarce. Indeed, another university official described how it recently took over 90 hours of attorney and faculty time (and fully 6 months to process) to reach the conclusion that an export license was not needed when attempting to send some meteorological equipment overseas to take detailed readings of ultraviolet radiation in that area.[3] This is a tremendous burden on the research enterprise at a time many universities are facing flat or curtailed research budgets.

ENCUMBERING INNOVATION

The U.S.'s economic strength lies in the innovation that is driven by a robust and open research base. The research enterprise depends upon the free flow of information to stimulate new ideas and new directions for development of technologies. It also depends on getting the best people to work on the hardest problems. The new focus on country of origin puts both hallmarks of our open research enterprise at risk. First, as mentioned above, this rule change would unnecessarily burden research by adding additional costs to the enterprise while potentially limited the free flow of information among researchers. Second, the new rule would add to an already hostile atmosphere (currently due to substantial burdens on U.S. granted visas) for talented foreign nationals who may be considering coming to the U.S.

Much of our innovation is fueled by the brightest students in the world wanting to come to the U.S. to study, and, while here, deciding to join the workforce and stay. The U.S. benefited by choosing the brightest people from tens of millions in the same age group in countries around the world. However, recent heightened fears over foreign nationals in the U.S. and visa rules mean that those students are unable or unduly encumbered if they wish to come to this country to study, and often are not allowed to stay after finishing their degrees and contribute to U.S. innovation and creativity. This rule would create an even more hostile atmosphere by sending a message to foreign researchers that they may not be allowed to access the most state of the art technologies for their work.

Recently, a representative of the semiconductor industry described the high level of competitiveness within the global semiconductor research and development environment and how crucial it was for her company to be able to recruit and retain talented foreign nationals.[4] This sentiment has been echoed by many industries and recently by leading academic and science groups, including the Association of American Universities.[5] Clearly, the talent of foreign nationals is a critical component of our nations ability to maintain a technological edge over its international competitors.

Not only does the proposed rule change short-change our research environment and economy, but it means those bright young scientists and engineers will either stay in their existing countries or go where they are able to work unencumbered (i.e., with the competition). At a time when America's technological leadership is being challenged as never before by competition from overseas and outsourcing of once-U.S.-based operations, these proposed changes in export policy would work to encourage many organizations to move research activities overseas to mine this talent. The end result would be to undermine the United States' technology leadership edge – an area that has been and is central to U.S. economic vitality now and in the future.

CHANGING CITIZENSHIP CRITERION FOR DEEMED EXPORT LICENSING

Under current BIS policy, institutions consider a foreign national's most recent citizenship or permanent residency to determine whether or not deemed export licensing is required. The IG report found that the existing policy was not adequate, as it did not take a person's country of birth into account as other federal agencies do for access to sensitive equipment. The IG states, "For example, a person born in Iran who is current a citizen of Canada would be categorized as Canadian according to the EAR even if she/he maintained dual citizenship as an Iranian. In this instance, given that most exports to Canada are not controlled, a deemed export license would not be required for this foreign national."

Country of origin is, at best, an ambiguous indicator of security risk. The IG report indicates one scenario where BIS regulations do not take dual citizenship of a foreign national into account; however, there are many more possible scenarios that reflect the uncertainty and costs of incorporating country of origin as a security criterion. For example, consider a foreign national born in China, but whose parents emigrate from China to Canada when she is only six months old. Under the IG's proposal the person would be subjected to export restrictions placed on China, despite being a permanent resident of Canada almost her whole life. She would be subject to much more scrutiny than any of her Canadian colleagues, creating different burdens on essentially the same pool of researchers. Similar to the issue raised in the previous section, creating two classes of foreign nationals from the same country could ultimately deter top researchers from coming to the United States.

While providing little additional information, this change would be costly to the universities. Currently, most universities do not collect information about a student/scholar's country of birth. The IG recommendation would force universities and companies to perform two different background checks if a foreign nation's citizenship or

legal residency had changed at any point during their life.

Given the scope of the countries involved and the different export controls for each, this change could create substantial new costs for universities and additional delays in getting world-class researchers into the United States. USACM urges BIS to carefully weigh the extent that this change would provide useful and relevant security information, against the additional, and likely substantial, costs it would create.

CONCLUSION

The proposed regulations and procedures make the existing EAR compliance process more complicated and opaque. An arguably greater fear is that deemed export control policy will ultimately have a chilling effect on research and development of new technologies in the United States by limiting or encumbering the work of talented individuals and encouraging organizations to move research activities overseas in an effort to remain competitive.

While USACM members hope the comments above demonstrate some of the reasons that the IG's proposed changes are ill-advised. Should the BIS move forward with these changes, we urge the agency to be very clear as to how the existing process and precedents for determining deemed export licenses would change, and clarify exactly how the U.S. institutions should implement these new changes. We specifically urge that BIS adopt clear guidance for the "publicly available technology" and "fundamental" research exemptions in a way that protects and fosters innovation. Furthermore, we urge BIS to consider carefully the impact that adding even more burdens on foreign researchers interested in working in the United States would have on U.S. competitiveness.

ABOUT USACM

USACM is the U.S. Public Policy Committee of the Association for Computing Machinery, which is widely recognized as the premier organization for computing professionals, delivering resources that advance the computing as a science and a profession, enabling professional development, and promoting policies and research that benefit society. ACM is the world's first educational and scientific computing society with more than 80,000 members worldwide. USACM members include leading computer scientists, engineers, and other professionals from industry, academia, and government. Please contact the ACM Office of Public Policy Office at (202) 659-9711 if you have any questions about this. For more information about USACM and ACM, see <http://www.acm.org/usacm/about.html>.

Notes

[1] The Inspector General's report is available at <http://www.oig.doc.gov/oig/reports/2004/BIS-IPE-16176-03-2004.pdf>.

[2] "Deemed Export Policy: A Workshop on the Inspector General's Report to the Department of Commerce," National Academies, May 6, 2005. Transcript available at

<http://www7.nationalacademies.org/rscans/IG_Workshop_Transcripts.pdf>.

[3] Ibid.

[4] Cynthia Johnson, Texas Instruments, speaking before the National Academies workshop noted in [2] above.

[5] The joint statement is available at <http://www.aau.edu/homeland/05VisaStatementPR.pdf>.

From: "Ray, Douglas" <doug.ray@pnl.gov>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 5:03 PM
Subject: FW: "RIN 0694-AD29"

> -----Original Message-----
> From: Ray, Douglas
> Sent: Monday, June 27, 2005 1:53 PM
> To: 'scook@bis.doc.gov'
> Cc: 'Donald.Erbschloe@science.doe.gov';
> 'Paul.Kruger@pnso.science.doe.gov'; Peters, Len (PNNL Director); Boyd,
> Donald M; Ray, Douglas; Rither, Alan C; Beldin, Bernard E
> Subject: "RIN 0694-AD29"
>
>
> Attached is the Pacific Northwest National Laboratory's (PNNL)
> comments in response to Department of Commerce Notice in the Federal
> Register March 28, 2005, Concerning 15 CFR Parts 734 and 772; Revision
> and Clarification of Deemed Export Related Regulatory Requirements.
>
> Please feel free to contact me if you have any questions.
> <<Deemed Exports_PNNL 6-27-05.pdf>>
>
>
> Thank you.
>
> Doug Ray
> Chief Research Officer
> Pacific Northwest National Laboratory
> PO Box 999
> Richland, WA 99352
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>

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Subject: Response to Department of Commerce Notice in the Federal Register March 28, 2005 Concerning 15 CFR Parts 734 and 772; Revision and Clarification of Deemed Export Related Regulatory Requirements

These comments are submitted by Battelle Memorial Institute, Pacific Northwest Division, the management and operating contractor for the U.S. Department of Energy's Pacific Northwest National Laboratory (PNNL). PNNL is one of several Department of Energy science laboratories engaged in fundamental research in fields such as atmospheric sciences, biomolecular systems, environmental sciences, nanoscience and scientific and engineering education.

PNNL is submitting these comments in response to the proposed change in the definition of "use" with respect to deemed exports. At present, in Section 772.1 of the Export Administration Regulations (EAR) the term "use" is defined as "Operation, installation, (including on–site installation), maintenance (checking), repair, overhaul, and refurbishing." The Department of Commerce proposes to change the "and" to an "or". It is PNNL's position that operation and installation do not normally provide an individual with enough information about an item on the Commerce Control List to enable that person to transfer the technology required to develop or make the item itself. Installation of an export controlled item may involve nothing more than plugging in some wires and hoses and certainly would not always disclose information relating to the manufacture of the item. Therefore it is only after making a careful determination as to the extent of knowledge gained about the item being operated or installed that one can decide whether or not an export of technical data would take place.

For example, PNNL has one of the world's most powerful Nuclear Magnetic Resonance (NMR) devices operating at 900 MHz located in the William R. Wiley Environmental Molecular Sciences Laboratory, a Department of Energy designated user facility. We are currently seeking expressions of interest in performing research that will utilize its capabilities in areas such as environmental processes, including waste remediation, carbon management, biomass conversion, and energy production, membrane biology, heterogeneous catalysis, environmental biomarkers,

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biogeochemistry, and biomolecular complexes. Investigators will come from all over the world to use this equipment. We cannot imagine how their use of this equipment to generate scientific data about the DNA of organisms could enable that scientist to replicate the equipment.

In light of the above, PNNL urges that the definition of "use" be divided into two parts. The first part of the definition should state that the operation or installation of export-controlled technology may or may not be a deemed export and that a technical evaluation of the specific technology being operated or installed must be performed to see if any technology is released or transferred. The second part of the definition could then contain the remaining parts of the proposed definition.

The impact of the definition proposed in the Federal Register versus the one being proposed in this response is extremely significant for our laboratory. PNNL has hundreds of foreign citizens who come to use the unique scientific facilities at PNNL each year. Part of PNNL's mission for the Department of Energy is to provide state-of-the-art facilities for the international scientific community. In the course of doing experiments, many of these scientists operate and install sophisticated equipment but such use does not transfer or release any of the technology contained in that equipment. They rarely perform any of the other functions in the proposed definition of "use". If the proposed definition stands, PNNL would have to process several hundred deemed export licenses despite the fact that there is no realistic possibility of technology transfer or release. A major effort would be required to process such applications by both PNNL and BIS.

In addition to the cost of processing the export licenses, there will be a significant impact on the operation of Department of Energy scientific facilities. Users of Department of Energy facilities give advanced notice of their arrival of about 30 days. That would have to be extended in order to allow the processing of the license. More importantly, an evaluation of exactly which scientific equipment will be used would have to precede the application of the license. There are many instruments that may or may not be used depending on how a particular experiment proceeds. It is difficult to predict ahead of time what will be used and the ensuing delays would be detrimental to the research schedule.

If a situation develops that requires an instrument that was not anticipated to be used, the experiment would need to come to a complete halt while a new or amended license for a deemed export was being processed. This would occur even though, in our opinion, no technology would be transferred or released by operating the test instrument.

In view of the above, PNNL urges the Department of Commerce to retain the current language of the regulation and to continue to study methods to enhance the security of U.S. technology in other ways.

Sincerely,

Douglas Ray, Ph.D.
Chief Research Officer

From: Edward Gillespie <eag@us.ibm.com>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 6:17 PM
Subject: Fw: Final Document -RIN 0694-AD29

Per the Federal Register Notice of March 28th, 2005 IBM is submitting comments on the ANPRM for Revision and Clarification of Deemed Export Regulatory Requirements.

(See attached file: Deemed Exports Final now.doc)

Regards,

Ed Gillespie
IBM Governmental Programs
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eag@us.ibm.com

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Street & Pennsylvania Avenue, NW
Room 2705
Washington DC 20230

June 27, 2005

Attention: RIN 0694-AD29

Re: Comments on Advance Notice of Proposed Rulemaking Concerning Revision and Clarification of Deemed Export Related Regulatory Requirements

On behalf of IBM, we are submitting these comments in response to the request of 3-28-2005 regarding Revision and Clarification of Deemed Export Related Regulatory Requirements (FR Doc. RIN 0694 -AD29). IBM provides information technology services to customers in more than 170 countries and employs more than 320,000 persons based in 75 countries. Revenues for 2004 were $96 billion of which more than 60% was generated outside of the U.S. Last year IBM invested more than $5 billion for research and development at 8 major research and development facilities and dozens of smaller labs in a variety of countries. Technology transfer and collaborative work by citizens of numerous countries is a common and everyday occurrence for the IBM company on hundreds of hardware products and thousands of software products. In addition, development of advanced technologies that are not yet in particular products, such as next generation semiconductors, materials research and nanotechnology, are but a few of the areas where we utilize highly skilled foreign nationals, some who require deemed export licenses and some who do not. Given the broad based nature of our business and the need to maintain a commensurate export control program, we feel a strong need to comment on this far reaching proposed regulation.

We believe that a regulation following the outline of the Advanced Notice of Proposed Rulemaking (ANPRM) will ill serve the exporting community as it is overreaching; will complicate management of deemed export and deemed reexport licensing worldwide by creating massive internal compliance issues for American companies; will create legal conflicts with anti-discrimination and privacy statutes worldwide in regard to country of birth; and slow the pace of innovation for U.S. business.

The ANPRM is a response to the Office of Inspector General's (OIG) Report of March 2004 which focused on a variety of issues within the export regulation process, including the "deemed export" rule, a unilateral export control. Although the 2004 OIG Report mentions potential exposures where technologies could be improperly or illegally obtained by foreign nationals it does not quantify the problem nor establish a firm linkage that the changes suggested will solve or significantly reduce it. At a minimum, no changes should be considered without a comprehensive analysis of both problems and solutions. We oppose adoption of the proposed changes as it would have a considerable negative impact on our worldwide business. The ANPRM cites two specific items, the definition of "use" technology and "country of birth" in regard to the deemed export licensing process, as areas requiring changes. We are directing most of our comments to the country of birth question as it would have a substantial impact on the company.

Country of Birth

For IBM, we have more than 1000 foreign national visa holders working in the US. At a minimum, the rule change contemplated would cause a review and analysis of the personnel files and job responsibilities of these employees and contractors to ascertain their country of birth status and scope of their job relative to controlled technologies. For those who have applied for permanent residence we would know their country of birth but for the others we would only

know their last country of permanent residence. To be compliant with a new BIS regulation or policy, we would want to screen all of them to ascertain country of birth. For any foreign national that would have a change to their country status, there would need to be an evaluation on whether their job responsibilities and previous approval were now in compliance with the export regulations given their new country of birth affiliation. It is likely that IBM would have to stop the work activities of some employees until a deemed export license could be obtained. In the high technology environment this could be devastating to a project as delays of even weeks result in the loss of a competitive advantage.

Although reviewing country of birth information initially sounds simple, there is a large management and record keeping burden associated with this contemplated change. As a first step all employees and contractors with visas would need to be reviewed to ensure compliance as a first step. (For example a naturalized Canadian citizen or Canadian landed immigrant born in Russia working on a controlled technology in the US would require a formal change.) However, any change to an employee's affiliation with a country grouping or tier has the potential to affect the previous assigned status and therefore current work assignment. Furthermore, a change would also affect the need for a deemed export license for the employee' s future work if he or she were to work on higher level technology.

For instance, if IBM employed a computer engineer who worked on a CPU (Central Processing Unit) who was born in India but had Permanent Residence (PR) status in Britain, this individual would have a major change in status under the rule and thereby the technology he or she could work on without a license. While the change to a link with India from a link with Britain would not require a deemed export license for his or her current work, it would require a file review and potential future restrictions for work on higher level technology that is more tightly controlled. This type of change would create a significant workload to manage a new large pool of employees and contractors for both present and future deemed export licenses.

Similarly, this proposal would complicate IBM's visitor screening process at scores of facilities as we would need to comply with country of birth requirements. Today IBM facilities have thousands of visitors annually in the US and globally. While most are for innocuous marketing purposes, there are some that involve technology discussion and cooperation. As with the visa population we would be altering radically the screening process for this population. This could pose significant problems in ascertaining what constitutes proof. For example, if a naturalized citizen from France (originally from Iraq) were to visit IBM in New York, how does that individual prove he is from Iraq (and not from Iran) if his documents from Iraq are long discarded or unavailable. This too has the potential to impact existing business practices. Further, as drafted with a focus on country (location) of birth, the OIG report overlooks the fact that more than 100 countries confer citizenship based on the heritage of the parents and not the location of birth as is the practice in the United States. This is not an inconsequential detail as under the ANPRM the BIS would thereby be focused on some individuals incorrectly while overlooking others.

It is our understanding that statements made by BIS leadership subsequent to the Federal Register Notice indicate that any proposed rule would not affect current US green card holders who have achieved permanent resident status in the US and naturalized citizens. We support this perspective; however, we take this opportunity to note that if a rule were to affect those classes of individuals, IBM employs more than 2000 U.S. foreign national permanent residents. Just as the pool of visa holders would need to be evaluated and managed, this even larger group would need the same treatment and obviously would be an even larger administrative and financial burden.

In addition to the activities in the US with existing groups of foreign nationals, there is the annual or periodic turnover with new employees, contractors and students as well as our total

international employee population that could be affected from a deemed reexport perspective. We believe the contemplated changes will have a major impact to our business both financially and administratively. In addition our ability to ascertain country of birth will be in conflict with the laws of other countries.

Currently we do not know the country of birth for IBM employees (or contractors) working in various countries. In EU countries and Canada, one's ethnic heritage or background is considered sensitive information and national laws are in place prohibiting certain questions. Our Human Resources departments in various countries have managed operations for decades under these strict requirements which are decidedly different than US practice in the area of privacy and anti-discrimination. IBM Human Resources has advised us that they will be unable to obtain information uniformly and where we will be able to obtain information, we are likely to be subject to complaints for discrimination. Further, in the EU, Directives typically set one level of requirement but individual nations may go further in implementing national law, adding additional requirements or prohibitions on disclosure. So for example, IBM in Germany may have unique requirements beyond IBM in Spain.

Of paramount concern for IBM is assessing how far reaching the impact of a proposed rule would be on our overseas operations. With more than 170,000 non-US based employees, we have a greater likelihood of having a pool of individuals not living in their country of birth that could be affected by this change. To comply with this single change in approach to the deemed export regulation it would be necessary to ascertain the affected population (notwithstanding potential legal restrictions in the EU countries and Canada) and then manage and track all employees with their appropriate "new" country affiliations and technology levels with which they could freely interact.

Given that permanent residents and naturalized citizens (not just visa holders) also could have a change in status (i.e., a German national now designated Iranian due to birth country) IBM might be compelled to screen all overseas employees due to the unique requirements of US export regulations. Even low level technology such as EAR99 could not be given to nationals of certain countries. So in the case of an individual being designated from Cuba, as opposed to his country of permanent residence, this employee would most likely no longer be employable because of the US policies against Cuba. Depending on the country, we foresee significant roadblocks to data collection aside from tremendous expense. In the EU for example, despite there being the existence of a citizen's ability to "consent" to the release of sensitive information, consent can be refused or blocked by a third party (i.e., the state or a work council depending on country).

Further, in situations where we may be able to obtain consent, there are unique requirements for the treatment of the information, including storage, transmission and destruction within time limits. Overall we would have significant legal conflicts in attempting to comply with local law and ascertain the status of employees to ensure we were in compliance with U.S. export regulations or policy.

Given this complexity both in the US and overseas, we can not ascertain a monetary impact to any proposed change. With employees and contractors in more than 75 countries, large employee populations and questions about feasibility in some geographies, we anticipate a significant cost involved with implementing and maintaining this change.

In conclusion, BIS should not adopt a rule with a focus on "country of birth" but retain the current process unless there is clear and overwhelming evidence that the current practice is so fundamentally flawed as to be broadly compromising US security interests. The current format for identifying foreign nationals and their most recent country of permanent residence or citizenship is by far the most relevant information concerning an individual. We believe that

persons are overwhelmingly invested in their particular country as evidenced by their residence time in country and efforts to work through the permanent resident or citizenship process. U.S. companies would be put at a significant competitive disadvantage vis-a-vis other countries as the deemed export regulation is not part of any other country's regulatory regime.

Change in the definition of "use"

The OIG sees the current definition of "use" in Section 772 of the EAR as insufficient as applied to the deemed export provisions and seeks to broaden the definition, substituting the word "or " for "and."

> Section 772.1 reads: "Operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing."

The OIG was concerned that the presence of "and" leads to an interpretation that all activities must be present for "use" to occur. This change could result in confusion regarding the new definition. If BIS were to decide to agree with the OIG recommendation, it is critical to establish where "use" does not apply, because a broad application has the potential to create uncertainty for both the academic research community with fundamental research activities and industry. It will result in a large increase in the number of deemed export applications by both sectors which will create unnecessary workload in BIS.

If BIS provided a hierarchy of exceptions that apply to "use" concurrent with any change, the regulated community could avoid significant burdens. We would recommend adding clarity in the following ways as an expansion in this area will cause many more businesses and universities to participate in the regulatory process.

BIS should reiterate that information in the public domain is not captured (published manuals, information through other legitimate channels, libraries and the internet, etc.). Further, where "use" is not described in selective ECCN categories, there is no application of this definition. Where ECCN categories are subject to the definition of "use," it is important to note that the "General Technology Note" (GTN) applies to the definition and that simple operation does not typically rise to the level of other activities cited in the definition. Only where the technology is "required, " to achieve a control parameter, would "use" be so broadly defined to fall into an expanded definition. As these latter instances usually occur with specific performance parameters in production and development technology, we think this is the proper division for controls.

Of particular importance is that BIS should clarify that License Exception TSU does apply to deemed exports just as with actual exports. Technology that is the minimum necessary to operate and maintain the product must be excluded from the concept of "use" as any other interpretation would make deemed exports inconsistent with the treatment of actual exports and create a large administrative burden to track deemed exports of operations technology. For example, a product could be shipped to India under license exception and with it, operating and basic maintenance instructions. Under an initial reading of the ANPRM, Indian foreign nationals working with the same product here in the U.S. would need a deemed export license to do so. This makes no sense, it will create a substantial burden for industry and universities and we question what the benefit to BIS will be.

We also think that some guidance should recognize that a foreign national may have "use" knowledge apart from his or her immediate research or employment, and therefore, a university or company would not be obligated to obtain a deemed export license in such a scenario.

Overall, a guidance by BIS as described above would be extremely valuable to both the university and business communities as they will establish parameters around the definition that simplify its application, highlight already existing exceptions such as under the GTN, and recognize that simple operation does not typically rise to the level of other activities cited in the definition.

Effects on Innovation

One of the principal themes mentioned in the OIG report is the exclusion of large numbers of foreign nationals from licensing requirements in what the OIG terms "avoidable loopholes." These include technology that is already published or will be published; arising out of fundamental or educational research; or included in certain patent applications. We understand that OIG and Commerce are weighing national security concerns in the report and this ANPRM respectively, but we question if they have weighed the potential impact to U.S. technology leadership should a proposed regulation emerge with such radical provisions as suggested. There are significant advantages to openness as evidenced by the success of the U.S. system over the past 50 years. The interaction of domestic and foreign researchers working in the U.S. and indirectly in U.S. corporate subsidiaries overseas produces significant achievements. Further, in the academic community, the ability to attract the best and brightest researchers should be a primary goal of US policy. Tightening restrictions and imposing excessive process controls such as an overly broad expansion of "use" will undoubtedly drive some of these individuals to institutions or companies in other countries, thereby weakening U.S. development as a whole.

While restricting technology flow and requiring a significant number of additional deemed export licenses may yield some as yet undetermined benefit, this must be weighed with the impact to the overall research and development process at universities and in the private sector. If the changes slow or retard US development and leadership in key areas because researchers

choose other countries' universities and businesses, this will be an extremely high price to pay. We are locked in a competitive battle for technology leadership with other countries. As previously mentioned, no other country has regulations regarding restrictions on deemed export. The question is whether the OIG and Commerce recommendations will help or hurt our competitiveness. We think a comprehensive review that builds a substantive case for these type of proposed constraints is the minimum required before any such changes are contemplated. This should include the specific exposures and how proposed solutions will address them. For instance, where espionage or other criminal acts have been factors in technology transfer, we do not see how tightening the deemed export process (which incidentally has a high rate of approval) and placing restrictions on fundamental research are going to address those exposures.

To date, U.S. R&D has yielded an impressive pipeline of technological advances that have benefited U.S. economic growth. We are the envy of the world. To maintain US leadership we do not believe the Government should be considering adjustments that will inhibit the existing system. We are opposed to these changes, because we appreciate the benefits of openness that among other things continues to attract premier researchers. These researchers, students and scholars make a huge contribution in US companies like IBM in advancing research, achieving breakthroughs, obtaining patents and developing products.

In examining this topic, we reviewed our own recent history in R&D and examined successful patent applications as a measurable indicator of the benefit of foreign national participation. Patent applications and their approval are obviously vital to all types of companies providing the basis for ownership of intellectual property and we believe an indicator of success. For the past 11 years, IBM has been the leading recipient of patents from the US Patent and Trademark Office (USPTO). In 2004, we were granted 3248 US patents. For 602 of these patents (18.5%), there was at least one non-US resident inventor associated with them. This is a clear indicator of the value of the participation of foreign nationals in just one company. To put this in another

perspective, if this subset of IBM patents were a stand-alone company it would rank 30th overall in terms of patents received, on par with some very well known technology companies (Motorola, Microsoft, Lucent, Cisco). Further, we note that a portion of our IBM researchers and engineers change their status over time with some becoming naturalized US citizens or US permanent residents and no longer listed as nonresident inventors.

An even more dramatic indicator in the patent area is with the total number of patents issued. In 2004, there were 164,412 patents issued by the USPTO. Of those 83,193 or 50.6 % included one or more inventors whose residence was outside the U.S. These residents were from 115 different countries. While these statistics are not indicative of an absolute cause and effect link between foreign participation in US R&D and patents, they are an indicator of how intertwined US researchers are with foreign counterparts. Given these statistics we do not think the US Government should alter radically how a large portion of U.S. and foreign national inventors cooperate and collaborate.

The OIG report raises fundamental questions about the U.S. model of openness and raises the need for additional restrictions on fundamental research and publication of findings. If accepted, these broad policy changes would cause universities and industry to increase substantially their deemed export licenses and inhibit cooperative research efforts by creating a division that previously did not exist with the country of birth focus. These actions will discourage foreign researchers from coming to the US and working in US high technology companies and in American universities. US technological leadership is due in part to this foreign participation with their American counterparts. Creating restrictions of this nature will affect the quality of overall US research programs over time. When individuals decide that conducting research in the US is less attractive, they will consider alternatives and US industry, the economy and potentially national security will suffer.

Therefore, we would encourage BIS not to proceed with this ANPRM but rather consider a detailed study of the issues. As specific problem areas are identified, we would recommend tightly drawn solutions tailored to address these areas leaving the positive attributes of the current system intact. We thank you for the opportunity to comment.

Vera Murray
Director Export Regulations
IBM Corporation
1301 K St. N.W. Suite 1100
Washington DC 20005

From: "DeGraff-Twyman, Leslie (NIH/OD)" <DEGRAFFL@od1tm1.od.nih.gov>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 5:55 PM
Subject: Comments on RIN 0694-AD29

Attached are comments from Dr. Elias Zerhouni, Director of the National Institutes of Health, on the Department of Commerce's Federal Register Notice "Revision and Clarification of Deemed Export Related Regulatory Requirements" (RIN: 0694-AD29).

Leslie DeGraff-Twyman
Program Analyst
NIH Executive Secretariat, Bldg, 1
Phone: (301) 496-3960
E-mail: <mailto:ld37o@nih.gov> ld37o@nih.gov

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892
www.nih.gov

JUN 27 2005

Mr. Peter Lichtenbaum
Assistant Secretary of Commerce for Export Administration and
Acting Under Secretary of Commerce for Industry and Security
U.S. Department of Commerce
Bureau of Industry and Security
14th & Pennsylvania Avenue, N.W.
Room 2705
Washington, D.C. 20230

Dear Mr. Lichtenbaum:

I am writing to express my concerns regarding the impact of implementing the recommendations of the Department of Commerce (DOC) Inspector General's (IG) report, as described in the advance notice of proposed rulemaking (ANPR). The proposed changes, while well intentioned, are too sweeping in scope.

NIH fully recognizes that both the Nation's security and its economic interests must be promoted in order for us to remain in a world leadership position. We are very concerned that the proposed changes, while attempting to address potential security risks, will seriously compromise NIH's ability both to conduct fundamental research on its own campus and to support fundamental research throughout the Nation and in a number of countries around the world.

The NIH is the primary Federal agency for conducting and supporting biomedical research. Foreign nationals, at both the pre-doctoral and post-doctoral levels, play a critical role in the conduct of this research. Should the IG recommendations be implemented as described in the ANPR, the change would have a profoundly chilling effect on the conduct of fundamental research which involves foreign nationals. The free and broad exchange of ideas and information across borders, upon which the conduct of science depends, would be greatly hampered. The biomedical scientific research community, which has been the crucible for the innovation and creativity that gave birth to and has fueled the growth of the Nation's biotechnology industry, would loose diversity of perspective, a critical component of its success. Our leadership in science and technology, which is an essential element in our Nation's economic and physical security, would be seriously compromised.

National security interests are, of course, a high priority for the NIH. On our own campus, we have established and significantly improved resources to secure our facilities and ensure that the materials used in, and the results of, the research that we conduct are not misused to threaten human health. We have implemented the DHHS and USDA Select Agent Rules; we conduct background checks and carefully evaluate visiting

222907

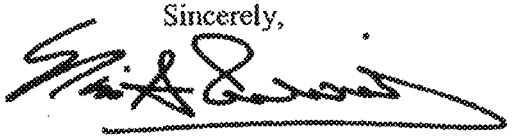
foreign national scientists; we have installed a perimeter fence to secure the NIH campus; and we routinely check IDs for entry. Next week, NIH will host the first meeting of the National Science Advisory Board for Biosecurity (NSABB). The NSABB has been established under the leadership of the Department of Health and Human Services to provide advice to federal departments and agencies on ways to minimize the possibility that knowledge and technologies emanating from vitally important biological research might be misused to threaten public health or national security. The NSABB is a critical component of a set of Federal initiatives to promote biosecurity in life sciences research. As with the proposed ANPR, the NSABB's recommendations on national policy for dual-use biological research will have related and broad ranging implications for the conduct of biomedical research in this Country. The NSABB will advise on and recommend specific strategies for the efficient and effective oversight of federally conducted or supported life sciences research for which there is the greatest potential for misuse of its findings and technologies, taking into consideration both national security concerns and the needs of the research community.

NIH suggests that alternative approaches to achieving the aims of the proposed changes be explored. DHHS and other relevant agencies, in consultation with NSABB, will be working with the scientific community to define the areas of technology used in the conduct of fundamental research which pose the greatest risks, and will collaborate on appropriate measures to address these risks. This approach would entail extensive outreach to the scientific community to raise awareness of the risks and provide the tools necessary to manage and eliminate the most critical concerns without implementing cumbersome regulations that would compromise our Nation's leadership in the conduct of biomedical research.

NIH applauds the DOC for recognizing that these major issues could have significant negative consequences, and thanks the DOC for engaging in a trans-agency discussion of the issues via the subcommittee of the Office of Science and Technology's Committee on Science (OSTP/COS), under your leadership. NIH also applauds the DOC for engaging, via the ANPR, the science and technology communities that would bear directly the brunt of the impact of the proposed changes.

We appreciate the opportunity to work with you on these important issues and would welcome the opportunity to discuss our concerns in more detail.

Sincerely,



Elias A. Zerhouni, M.D.
Director

Enclosure

Attachment 1: National Institutes of Health Comments in Response to the Department of Commerce's Advance Notice of Proposed Rulemaking

Significant revision of fundamental research exemption to the EAR

The Bureau of Industry and Security (BIS) ANPR suggests that the well-established scope of protection for fundamental research should be narrowed by (a) revising the definition of fundamental research; (b) using a foreign national's country of birth as a criterion for requiring Deemed Export licensing; and (c) requiring that foreign nationals conducting fundamental research be licensed if in the course of conducting the research they need access to controlled equipment or technology. NIH is very concerned that this narrowing of the exemption will make it impossible to conduct fundamental research in the open manner that has led to critical innovation, and thereby will lose for both the NIH and for the nation, the fundamental value of fundamental research, as recognized by Presidential National Security Decision (NSDD-189).

The fundamental research exemption is based on principles set out by NSDD-189, which has been in place and relied upon by the research community since 1985 (http://www.aau.edu/research/ITAR-NSDD189.html). These principles were reaffirmed by the current administration in November 2001 (http://www.aau.edu/research/Rice11.1.01.html). NIH feels that the proposed new regulatory restrictions on fundamental research involving foreign nationals contradict the principles set out by NSDD-189. NSDD-189 unequivocally states that "No restrictions may be placed upon the conduct ... of federally-funded fundamental research that has not received national security classification." NSDD-189 recognizes that our nation's leadership in science and technology is an essential element of our economic and physical security, and that the strength of American science requires a research environment conductive to creativity in which the free exchange of ideas is a vital component.

Country of birth

The BIS ANPR proposes a change to basing need for licensure on a foreign national's country of birth rather than country of current citizenship. NIH opposes this proposed change. The proposed change creates great potential for discrimination and presumes national allegiances that may have no basis whatsoever. Furthermore, it will add to the growing perception that this nation of immigrants, and its premier biomedical research institution, does not welcome foreign scientists – the very foreign scientists that have helped make the nation's scientific enterprise the most successful in the world.

The recent report "Policy Implications of international Graduate Students and Postdoctoral Scholars in the United States' issued by the Committee on Science, Engineering, and Public Policy (COSEPUP) of the National Academy of Sciences, documents the long-standing, continuing, and profoundly positive impact of international graduate students and post-docs on the advancement of U.S. science, education, economy

and national security. This report also cites the increase in international competition to recruit the best students and scholars. The U.S. will be severely limited in this critical competition if we implement requirements that are perceived as making training in the U.S. an "unwelcoming" environment. If the DOC IG's recommendations are implemented without considering these factors, our nation's ability to attract the best and the brightest will be seriously harmed, which in turn, will harm our ability to retain world leadership in the field of biomedical research.

While the security rationale for this change is evident in the ANPR, we understand that there are no documented examples of a violation that would have been addressed had this proposed change been in place. Since country of birth is considered in the approval of visas, we suggest this is the appropriate venue to address such security concerns. This would avoid placing NIH and other research institutions in the position of considering national origin as a condition of employment thereby potentially violating Federal anti-discrimination laws against such practices.

Burden of compliance

NIH believes that a change in the definition of fundamental research will impose a tremendous regulatory burden on NIH and on the institutions that receive awards from NIH. The EAR places responsibility for determining whether an export license is required on the institution conducting the research. To assure compliance with the EAR as recommended in the IG report, institutions are very likely to take a conservative approach because it would be safer to be over-inclusive and apply for a license that is ultimately not required than to fail to apply for a required license and incur the consequences.

As an example of potential impact of a change to the fundamental research exemption, one can look at the NIH's intramural research program – the scientists who perform research at NIH. In calendar year 2004, NIH's intramural research benefited from the services of almost 3,760 foreign nationals working under temporary visas – approximately 62% of the scientific staff who conduct research at NIH. Virtually all of this activity is covered by the fundamental research exemption, and therefore is currently exempt from export control regulations. The majority of NIH support for research however, goes to research institutions throughout the U.S. and around the world. In FY 2004, NIH made 45,312 domestic awards (less contracts, fellowships, research career awards) to 30,451 individuals[SR3]. Scientists and research personnel supported by NIH awards is estimated at 212,000 people nationwide, many of whom are foreign nationals. Extrapolation from the intramural program, even conservative, suggests that potentially thousands of foreign nationals will require licensing. Should the IG recommendations be implemented, significant additional controls and procedures will have to be instituted to ensure institutional compliance with these recommendations. For example, institutions would have to (a) implement processes and systems for determining and verifying the country of birth of their foreign research personnel; (b) identify controlled equipment and technology and subsequently devise and implement processes and systems to track which foreign nationals need access; (c) develop and implement an internal process for assisting

foreign nationals in applying for licenses, which is reported to be a labor intensive and time consuming process. The DOC would also have to develop processes and systems to handle the potentially thousands of applications that the definition change would elicit – orders of magnitude more applications than the DOC currently receives and processes.

From: "Angelika Villagrana" <AVillagrana@sdchamber.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 8:56 PM
Subject: FW: RIN 0694-AD29

We have just been advised that our comments should be sent to you.
Regards, Angelika
<<Deemed Export Rule letter.doc>>

Angelika Villagrana
Director, Public Policy Division
San Diego Regional Chamber of Commerce
(619) 544-1361 Phone
(619) 744-7461 Fax

> _____
> From: Angelika Villagrana
> Sent: Monday, June 27, 2005 2:02 PM
> To: 'scook@bis.doc.gov'
> Subject: RIN 0694-AD29
>
>
> Dear Bureau of Industry and Security:
> Attached please find our comments with regard to the Deemed Export
> Rule. RIN 0694-AD29.
> Thank you for your consideration.
>
> Sincerely,
>
>
>
> Angelika Villagrana
> Director, Public Policy Division
> San Diego Regional Chamber of Commerce
> (619) 544-1361 Phone
> (619) 744-7461 Fax
>
>
>

SAN DIEGO REGIONAL CHAMBER OF COMMERCE

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Attn: RIN 0694-AD29
14th & Pennsylvania Avenue N.W.
Room 2705
Washington, DC 20230

RE: Deemed Export Rule

The San Diego Regional Chamber of Commerce appreciates and supports the need for our nation's security. However, after reviewing the Office of Inspector General's (OIG) proposed changes to the Deemed Export Rule, our members have raised the following concerns:

- Compliance with the OIG's recommendations could become very difficult and time-consuming for Human Resources Departments of U.S. companies and universities. Under the proposed revisions, companies would have to screen their foreign employees, business partners, and independent contractors (this is especially difficult if outsourcing is involved) to ascertain their country of birth. In an employment or prospective employment setting, this could invoke concerns over possible national origin discrimination under applicable state and federal statutes and international privacy and data concerns.

- There are questions about whether a country of birth alone is a reliable indicator of national allegiance.

- The current policy has for many years protected concerns about the small portion of U.S. academic research that has the potential to pose a security risk for the nation. There has been no evidence that the current policy is **not** effective.

- Further, the visa process is intended to screen foreign nationals and to assess their threat to national security before approving their entry into the United States. Visa applications are reviewed by federal agencies, including the Department of State, Homeland Security, and other concerned agencies and include extensive background checks. Adding additional layers to the process is, in our opinion, not necessary.

- Participation of foreign nationals is essential to maintaining a competitive workforce and to ensuring the quality of university research. The new rule could create the perception that U.S. businesses and universities are less welcoming and less desirable for foreign workers, students and researchers, and could negatively affect the United States' relationship with other countries.

The Chamber is also very concerned about the severe penalties for non-compliance. Relatively common software, manufacturing equipment, or electronics may all fall under the new rule and could result in an illegal transfer of technology if foreign nationals are employed to work on them. Academic institutions and companies would need to significantly increase their deemed export review. To ensure that they do not run the risk of violating the regulations, many employers would have to resort to costly legal advice to interpret the complex new revisions correctly. Consequently, implementation of the revised rule would result in significant increased administrative burdens to both technology companies and universities. The new regulations would also add delays and expense to technology companies' and universities' work while potentially preventing them from retaining the best people.

On behalf of the Chamber, I ask that you take these concerns under consideration as you deliberate on the proposed changes.

Sincerely,

Mitch Mitchell

Eugene Mitchell
Vice President, Public Policy & Communications

EM:av

From: "Haynes Roberts" <hroberts@nftc.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 4:35 PM
Subject: RIN 0694-AD29

Please see the attached comment filed by the NFTC, CEE, and API. Thank you-

Haynes Roberts

USA*Engage/NFTC

Project Manager

(202) 887-0278

hroberts@nftc.org

CC: <alopes@bis.doc.gov>

NATIONAL FOREIGN TRADE COUNCIL, INC.

1625 K STREET, NW, WASHINGTON, DC 20006-1604

TEL: (202) 887-0278 FAX: (202) 452-8160

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th St. and Constitution Avenue, NW
Room 2705
Washington, DC 20230

Attention: RIN 0694-AD29

RE: **Proposed Rulemaking Concerning the Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, Mar. 28, 2005)**

Dear Sir or Madam,

We appreciate the opportunity to submit the following comment on behalf of the undersigned organizations in regard to the above referenced advance notice of proposed rulemaking. Our organizations represent hundreds of U.S. companies doing business throughout the world that will be adversely impacted were the Inspector General's proposal to be adopted.

The world economy has rapidly integrated since the inception of the deemed export rule. American companies' presence abroad has grown significantly, and with it the necessity to transfer employees within organizations around the globe. Companies recruit the best and brightest in foreign markets, both for the expertise they bring to the business and for their knowledge of foreign culture, politics, and economics. Talent, and not country of origin, is the determining factor in whether a candidate is selected for employment and whether that candidate excels once employed. Prospective managers must have the ability to learn the business from a variety of angles to best satisfy the dynamic challenges of the positions they will be occupying. Engineers and scientists must be able to go where their company's research centers and laboratories are located. Country of origin is an arbitrary label in this context, and the proposed licensing rule would inhibit companies from employing the most talented foreign nationals and transferring them as necessary.

Responsible companies carefully assess the qualifications and backgrounds of their candidates for employment and adhere to applicable law, especially when employees are privy to sensitive technology. Hiring criteria include personal attributes, skills of candidates and considerations as to their right to lawfully work in a given country, but not their country of origin. Foreign privacy laws, such as the European Union Directive on Data Protection (EU Directive), make this information problematic, if not illegal, to acquire. The EU Directive treats national origin information as sensitive data that is subject to high standards of protection. Consequently, the collection of information regarding national origin from current employees is particularly difficult in some EU member states, especially where action is taken pursuant to that information. Other countries outside of the EU, such as Japan, Canada (Human Rights Code Sections 9 & 14) and Australia (Anti-discrimination Act of 1977, Equal Opportunity Act of 1995

and the Racial discrimination Act of 1975) have anti-discrimination laws on the books that mandate privacy and data protection, which has led to their current consideration of measures that would limit U.S. government access to certain personal data. For these reasons, companies find other factors, such as country of last citizenship or permanent residence, much more valuable in performing background checks. In addition, it is unclear how country of origin identification would benefit enforcement. It does not provide any superior knowledge to agents for the purposes of conducting security screenings, and sanctioned nations would not likely cooperate with any investigation conducted by the U.S. concerning the identity of one of their nationals. In the context of U.S. employment laws, inquiries into an individual's national origin may impermissibly infringe upon both state and federal discrimination protections, including Title VII of the Civil Rights Act of 1964.

Aside from the legal impediments, the significant expansion of subjected individuals under the proposed rule would create a substantial and costly burden for both the U.S. government and American companies. Both parties would need to devote extensive staff to collecting and validating the new information, and the time taken to do so will delay ongoing research projects and the pursuit of business opportunities. It is also rumored that some in the Administration intend to expand the licensing requirement to encompass all green card holders. This would greatly enlarge the universe of affected individuals, even further complicating implementation and increasing expense to government and industry.

Even more important for the long term, a heightened deemed export licensing regime, paired with a more restrictive visa issuance policy, threatens the free flow of ideas and people that fuels innovation in the United States. Foreign-born scientists are integral to our research and development base. They help to make the U.S. the global leader in technological development. While the intent of the proposed rule is to keep American "knowledge" here, ironically, it will have the opposite effect. Companies have found that innovation is best cultivated when research and manufacturing facilities work collaboratively. If companies can no longer bring the brightest foreign minds to the U.S., then they will increasingly move research projects abroad, which in turn, will be followed by manufacturing capability. As a result, centers of excellence will move abroad as well. This shift will make it all the more difficult to monitor technology transfer as it occurs beyond our borders, and it will actually serve to enhance other countries innovative capabilities at our expense.

Any new regulation must be evaluated in light of its potential effectiveness weighed against its potential negative impact. The Department of Commerce should not adopt the proposed rule because neither the BIS Notice nor the OIG Report demonstrates a connection between the proposed changes to the current deemed export licensing procedure and the benefits that would allegedly arise from these changes. This failure is particularly significant in light of the recent annual report of the Office of National Counterintelligence Executive (NCIX) which found that none of the suspicious incidents investigated by the Defense Security Service in FY 2004 involved foreign employees of U.S. companies. It is clear from this report that while our companies are frequently the target of attempts to acquire their technology, those attempts come from sources other than their foreign employees, and it would be a far more effective use of our enforcement resources to focus on those other means. The lack of a clear correlation between the proposed changes and the anticipated benefits of these changes renders the proposed rule susceptible to legal challenges. Under the International Emergency Economic Powers Act (IEEPA), agency action is subject to the judicial review provisions of the Administrative Procedures Act. Courts have held previously that proposed rulemaking must be justified by evidence in order to survive judicial review.

In summary, the proposed expansion of deemed export licensing will create significant confusion and hurdles for companies that want to bring foreign workers to the U.S., ultimately reorienting projects abroad. Furthermore, it contributes to a growing perception that foreign workers are unwelcome in the United States, a notion that runs counter to the culture of openness that has empowered U.S. industry to its preeminent status in the world. Moreover, those seeking to steal sensitive technology would not likely do so through legitimate means and would attempt to end run the licensing process altogether.

We thank BIS and the Department of Commerce for the opportunity to provide these comments. Our members also have concerns with the definition of "use" in the proposed rule, but we have chosen to defer to other commenters on that matter. Finally, some of our member companies will be submitting comments that should illustrate the particular obstacles that this rule would have on their industry or company. We hope these comments will be helpful. Should you have questions, please feel free to contact us.

Sincerely,

William A. Reinsch, President
National Foreign Trade Council

Edmund B. Rice, President
Coalition for Employment through Exports

Denise McCourt
Director, General Membership Segment
American Petroleum Institute

From: "Levy, Jack" <Jack.Levy@wilmerhale.com>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 4:44 PM
Subject: FW: RIN 0694-AD29

-----Original Message-----
From: Levy, Jack
Sent: Monday, June 27, 2005 4:42 PM
To: 'alopes@bis.doc.gov'; 'scook@bis.doc.gov'
Cc: Levy, Jack
Subject: RIN 0694-AD29

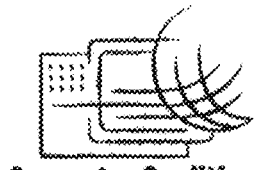
Attached please find comments from the Computer Coalition for Responsible Exports (CCRE) in connection with the above notice of proposed rulemaking.

Please contact the undersigned if you have any questions.

Regards,

Jack A. Levy
Wilmer Cutler Pickering Hale and Dorr LLP
1899 Pennsylvania Avenue, NW
Washington, DC 20006 USA
Tel. (202) 663 6787
Fax (202) 772 6787
jack.levy@wilmerhale.com

CC: "Levy, Jack" <Jack.Levy@wilmerhale.com>



June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th Street & Pennsylvania Avenue, NW
Washington, DC 20230
ATTN: RIN 0694-AD29

Re: Comments on Advance Notice of Proposed Rulemaking; Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam:

On behalf of the Computer Coalition for Responsible Exports ("CCRE"), we are submitting these comments in response to the above-referenced notice of proposed rulemaking. CCRE believes that the Administration needs to maintain effective export controls, but the proposal to use "country-of-birth" as a criterion for assessing deemed export licensing requirements represents a step in the wrong direction. As discussed below, we believe that implementation of this proposal would fail to effectively promote U.S. national security and would threaten to undermine America's technological competitiveness.

CCRE is an alliance of American computer companies and allied associations established to inform policymakers and the public about the nature of the computer industry—its products, technological advances, and global business realities. Our members include Dell Inc., Hewlett Packard Company, IBM Corporation, Intel Corporation, Sun Microsystems, Inc., Unisys Corporation, AeA, and the Information Technology Industry Council. Our industry has a long history of cooperation with the U.S. government on security-related technology issues, and we are committed to providing the Administration with the information it needs to develop effective export control policies.

Please do not hesitate to contact us if we can be of further assistance.

Sincerely,

Dan Hoydysh
Chairman, CCRE

Attachment

I. EXECUTIVE SUMMARY

The Commerce Department's Bureau of Industry and Security ("BIS") has requested comments on certain recommendations contained in the Office of Inspector General report, *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the United States*, Final Inspection Report No. IPE-16176 (March 2004) ("OIG Report"). Among those recommendations is a proposal to change BIS' deemed export policy—which currently focuses on a foreign national's most recent citizenship or permanent residency—and establish licensing requirements based on a foreign national's country-of-birth. We believe that implementation of this proposal would fail to advance the effectiveness of the U.S. export control system and would seriously undermine the ability of U.S. information technology ("IT") companies to compete and succeed in the global economy.

We understand that BIS does not propose to change the current regulation exempting U.S. permanent residents from deemed export controls. However, the "country-of-birth" proposal would still have a severe impact on the U.S. IT industry's business operations both in the United States and abroad. More fundamentally, the OIG Report fails to identify how this proposed change would enhance the effectiveness of U.S. export controls, particularly in light of the OIG's prior report that called into question the national security rationale for the deemed export rule generally.[1]

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[1] See *Improvements Are Needed to Meet the Export Licensing Requirements of the 21st Century*, OIG Final Inspection Report No. IPE-11488 at 37 (June 1999) (stating that the "export control policy concerning deemed exports itself appears to be ambiguous" and identifying the need to "determine what the United States' goal is with regard to requiring deemed export licenses").

As discussed below, the key problems associated with the "country-of-birth" proposal include:

- **Implementation Costs.** Implementation of the proposal would require U.S. IT companies to re-screen hundreds of thousands of employees working overseas for deemed reexport licenses. Similarly, for those foreign national employees working in the United States with a valid visa, U.S. companies would need to re-screen for deemed export licenses. In order to complete this re-screening process, companies would effectively need to place critical R&D and manufacturing activity on hold. In the meantime, our foreign competitors in China and elsewhere would gain valuable time to "catch up" in the race to develop and market cutting-edge commercial technologies.

- **More Stringent than ITAR Standard.** U.S. defense controls require an export license for technical data "disclosed to a national of another country." It makes no sense that dual-use technology transfers should be subject to a "country-of-birth" standard that is more stringent than the "nationality" standard under the International Traffic in Arms Regulations ("ITAR").

- **Poor Indicator of Ties to a Foreign Country.** Country-of-birth is not a reliable indicator of ties to a foreign country. More than 100 countries determine citizenship based on *jus sanguinis* (a parent's nationality), not *jus solis* (place of birth). In other words, a foreign national may be born in a country, but not be a citizen of that country or even have the right to live in that country.

- **Difficult to Verify.** Companies are ill-suited to verify country-of-birth. In contrast to criteria such as citizenship and permanent residency, which are evidenced through standardized government-issued documents, companies cannot effectively evaluate documentary evidence on country of birth. Further complicating the matter is that certain countries actually recognize an employee's "right to lie" if employers request such sensitive personal information.

- **Exposure to Liability Under Foreign Privacy Laws.** In order to comply with "country-of-birth" deemed reexport requirements, U.S. companies operating overseas may find themselves in violation of European privacy laws.

- **Exposure to Liability Under Foreign Anti-discrimination Laws.** U.S. companies operating overseas may similarly expose themselves to "indirect discrimination" lawsuits based on national origin or ethnicity when, in order to comply with "country-of-birth" deemed reexport requirements, they are forced to exclude certain foreign national employees from ongoing projects involving controlled technologies.

In light of these serious concerns, and the OIG's failure to articulate a coherent national security rationale for its recommendation, we respectfully submit that BIS should not adopt a deemed export policy based on the "country-of-birth" criterion. Moreover, BIS should refrain

from adopting related proposals, such as disregarding foreign permanent residency or looking to the "most restrictive country of citizenship," because they raise similar concerns regarding their effectiveness and their impact on the U.S. IT industry and American technological competitiveness. At a minimum, the Administration needs to further study any such proposals—and invite additional comment from industry—before implementing such changes to U.S. export control policy.

II. THE GREEN CARD EXCEPTION SHOULD REMAIN UNDISTURBED.

The OIG Report does not recommend disturbing the green card exception to the deemed export rule. Rather, it suggests that BIS review its current policy in light of State Department regulations under the ITAR. The ITAR, like the Export Administration Regulations ("EAR"), explicitly exempts U.S. permanent residents and asylees from the definition of "export."[2]

We understand that BIS takes the position that the green card exception should not be disturbed. CCRE agrees that this approach makes good legal and policy sense. Because green card holders are permanent residents of the United States, there is no reasonable basis to automatically assume that an actual "export" will occur. Moreover, green card applicants are subject to rigorous national security screening, including FBI fingerprinting and background checks. This rigorous clearance process provides a clear national security justification for the current green card exception under both the EAR and the ITAR.

III. THE "COUNTRY-OF-BIRTH" PROPOSAL IS FLAWED.

The proposal to establish deemed export licensing requirements based on a foreign national's country-of-birth is fundamentally flawed. As discussed below, implementation of the

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[2] See 22 C.F.R. §§ 120.16-120.17.

proposal would fail to advance the effectiveness of the U.S. export control system and inflict a severe cost on the U.S. IT industry.

A. Implementation of the Proposal Threatens to Undermine U.S. Technological Competitiveness.

If BIS were to adopt "country-of-birth" as a criterion for assessing deemed export licensing requirements, it would effectively force U.S. IT companies to suspend certain commercial R&D and manufacturing operations while they re-screen employees working with dual-use technologies in order to identify their country of birth. In other words, implementation of this proposal threatens to derail important R&D and manufacturing activities in the U.S. IT industry.

Under this proposal, the only employees that would be exempt from re-screening would be U.S. citizens, green card holders, and asylees. This sweeping requirement would otherwise affect: (1) foreign national employees working in the United States (for deemed exports); and (2) foreign national employees working for U.S. companies overseas (for deemed reexports). Since companies do not routinely collect information on their foreign national employees' country of birth, CCRE estimates that its member companies would need to re-screen hundreds of thousands of employees in order to implement a country-of-birth export control compliance policy.

In addition to the delays and loss of productivity that would inevitably result from the re-screening process itself, in the cases where new licensing requirements would be triggered (e.g., for a Canadian citizen born in India), the proposal would require that essential employees be pulled off their ongoing projects for even longer, potentially for months. Needless to say, the disruption caused by forcing foreign national employees to sit idle could substantially impact U.S. technological advancement. At a time when U.S. commercial and military technological

superiority increasingly depends on U.S. IT competitiveness, this proposal would have the effect of slowing down U.S. technological innovation and affording our competitors—including Chinese companies—the time they need to "catch up" in the race to develop and market cutting-edge commercial technologies.

B. The Country-of-Birth Proposal Is More Stringent Than Existing Criteria Under the ITAR.

Adoption of the country-of-birth proposal would have the perverse result of applying more stringent technology transfer rules to dual-use technology than munitions technology. Under the ITAR, an export license is required for technical data "disclosed to a national of another country."[3] The ITAR standard focuses on "nationality."[4] From a policy perspective, it simply makes no sense that dual-use technology transfers would be subject to a "country-of-birth" standard that is more stringent than the ITAR's "nationality" standard.

C. Country-of-Birth Is a Poor Indicator of Ties to a Foreign Country.

We believe that the OIG's recommendation is premised on a misunderstanding of the relationship between country of birth and country of citizenship. Country of birth has no uniform legal significance and is a poor indicator of ties to a foreign country. As such, it is an ineffective criterion for the administration of deemed export controls.

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[3] 22 C.F.R. § 125.1(c).

[4] See, e.g., id. § 126.5(b) (exempting "Canadian nationals" from certain licensing requirements).

By way of background, we note that citizenship may be determined by country of birth (*jus solis*), by descent (*jus sanguinis*), or both.[5] Although the United States, Canada, and many Latin American countries confer citizenship to all persons born within their borders, this is not the approach followed by the majority of the world's countries. Instead, most countries—including Russia, Vietnam, China, Pakistan, Israel, Iran, Libya, the United Kingdom, Spain, and Germany—confer citizenship at birth according to *jus sanguinis*.[6]

Taking China as an example, being born in that country would not automatically establish legal ties to the Chinese state. However, an individual born outside of the country to at least one parent currently holding Chinese citizenship would be recognized as a Chinese citizen, regardless of whether or not that individual ever set foot in China. Given the realities of the international legal landscape, country of birth does not function as an effective criterion for the administration of deemed export control policy.

D. Companies Cannot Reliably Verify Country-of-Birth.

In contrast to criteria such as citizenship and permanent residency, which are evidenced through standardized government-issued documents, companies cannot effectively evaluate documentary evidence of country of birth. Companies are ill-equipped to verify the validity of unfamiliar documents such as baptism and/or birth certificates that are often written in foreign languages and issued by sub-state institutions, such as clinics or churches. More doubtful still is how companies could ever be certain of an employee's birthplace when, as may often be the case, an individual has no original documentation supporting his claimed birthplace.

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5 See generally *Citizenship Laws of the World*, United States Office of Personnel Management Investigations Service (2001), *available at* <<http://www.opm.gov>>.

6 See id.

Moreover, for U.S. companies with employees based in Europe, the problems are further compounded. A number of countries—including Germany, France, and Belgium—actually recognize an employee's "right to lie" to an employer seeking certain kinds of sensitive, personal information.[7] As discussed below, country-of-birth information likely qualifies as protected information under European privacy laws. With no legal obligation for foreign national employees to be truthful in response to such company requests, the ability of companies to obtain reliable country-of-birth information is uncertain.

E. Adoption of the Proposal Could Expose U.S. Companies to Liability Under Foreign Privacy Laws

The "country-of-birth" proposal also raises concerns that U.S. companies operating overseas could find themselves in violation of European Union ("EU") privacy laws for complying with U.S. export control law. The EU Data Privacy Directive strictly regulates: (1) what kind of information employers may seek from employees; (2) the conditions under which employers can collect such information; and (3) the ability of employers to transmit such data.[8] If a foreign national employee refuses to provide country-of-birth information to an

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[7] See generally Spiros Simitis, *From the General Rules on Data Protection to a Specific Regulation of the Use of Employee Data: Policies and Constraints of the European Union*, 19 COMP. LAB. L. & POL'Y J. 351, 358-59 (1998) (stating that the "right to lie" may surprise, even bewilder, but the meaning is nonetheless clear: Employers are entitled to seek information, but they must limit themselves to the data relevant for the particular employment relationship; and when they transcend the proper limit on their power, the employee (or applicant) is not required to be truthful in response."); Frank Hendrickx, *Legal Regulation of Disclosure of Information About Employees or Prospective Employees to Employers of Prospective Employers in Belgium*, 21 COMP. LAB. L. & POL'Y J. 651, 659-60 (2000) (stating that the "right to lie may not be overestimated. It must be regarded as a shield, not a sword. It may only be exercised in order to avoid a violation of the right to privacy...").

[8] See generally Parliament and Council Directive 95/46/EC of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data, 1995 O.J. (L 281) 1 ("EU Data Privacy Directive").

employer, and the U.S. company operating in Europe is forced to respond by walling-off the employee from business responsibilities involving controlled technology, the company could find itself in violation of European privacy laws.

EU privacy laws generally provide that employers may not collect "sensitive" information—including information "revealing racial or ethnic origin"—without employee consent.[9] As a practical matter, the EU authorities may reasonably conclude that a request for "country-of-birth" information is effectively a request for "sensitive" information. Moreover, regardless of whether such information is "sensitive," it is certainly protected under EU privacy law if the employer intends to transmit the information back to the United States for data processing on a central computer server and/or export control screening.[10] Notably, there is no clear "national security" exception relating to the transfer of an employee's personal data.[11] If an EU-based employee refuses to consent to the disclosure or transfer of personal information, EU law provides that the choice may not be used to restrict employment opportunities.[12]

Thus, if foreign national employees refuse to provide country-of-birth data, U.S. companies operating in Europe may need to re-assign such employees to non-controlled activities,

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9 See id. at art. 7.

10 See id. at art. 8. Under applicable EU law and the joint agreement between the United States and the European Union, U.S. companies may not expatriate European employee data without first registering with the Commerce Department and certifying compliance with the relevant "safe harbor" principles.

11 Although "safe harbor" status contemplates a vague "national security" exception for U.S. companies, the relevant EU member state—not the Commerce Department—would be the judge of whether the exception might apply in a particular case. See FAQ 9—Human Resources, *available at* <<http://www.export.gov/safeharbor>>. In other words, "safe harbor" registration and certification do not automatically relieve U.S. companies of their privacy law obligations in Europe.

12 See id.

and the EU authorities could hold such companies liable if they determine that the reassignment "restricted employment opportunities" within the company. The Data Protection Commission in the applicable EU member country would have the authority to impose civil penalties and/or order the reinstatement of the employee to the previous position, and an ongoing failure to comply with such an order could also result in criminal penalties.[13] In sum, adoption of the "country-of-birth" standard threatens to subject U.S. companies operating in Europe to conflicting international legal obligations.

F. Adoption of the Proposal Could Expose U.S. Companies to Liability Under Foreign Anti-discrimination Laws

The "country-of-birth" proposal also raises concerns that U.S. companies operating overseas would be exposed to lawsuits under foreign anti-discrimination laws. If the proposal were adopted, U.S. companies would likely need to re-assign (or discharge) hundreds of foreign national employees subject to new licensing requirements, and such action could conceivably have a disproportionate effect on employees of a particular race, ethnicity, and/or nationality, because such characteristics tend to correlate with "country-of-birth." To the extent U.S. companies are forced to take such action overseas, there is concern that they may be sued for "indirect discrimination" based on race, ethnicity, and/or nationality.

In Canada, for example, the law prohibits discrimination based on national origin,[14] and unlike the United States,[15] it does not provide an explicit safe harbor for company compliance

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[13] See, e.g., id.; U.K. Codes of Practice: The Employment Practice Data Protection Code Part 1, at 7-8 (August 2002), *available at* <<www.dpr.gov.uk>>.

[14] See generally Canadian Human Rights Act, ch. H-6, art. 2, 3.1 (2004), *available at* <<http://laws.justice.gc.ca/en/h-6/31435.html>>. See also Kathleen E. Mahoney, *The Constitutional Law of Equality in Canada*, 44 ME. L REV. 229, 239-40 & n.45 (1992).

with deemed export regulations.[16] Under Canadian law, a complaining employee does not have to prove intentional discrimination. Rather, the law provides for "indirect discrimination" claims using an "effects-based" test.[17] If a complainant can show disparate treatment of a class of employees in the form of project reassignments and/or discharge, such statistical evidence may be enough to state a claim for discrimination based on race, ethnicity, and/or nationality.

Similarly, in Europe, U.S. companies could also be exposed to anti-discrimination lawsuits for complying with the proposed policy. The EU Racial Equality Directive broadly prohibits discrimination on the basis of "racial or ethnic origin,"[18] and instructs member states to take action against "indirect discrimination" which "arises where an apparently neutral provision, criterion or practice, whether intentionally or not, puts people of a particular racial or ethnic origin . . . at a particular disadvantage when compared with others."[19] In order to state a claim for

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15 See U.S. EQUAL OPPORTUNITY COMMISSION, COMPLIANCE MANUAL: NATIONAL ORIGIN DISCRIMINATION fn. 30 (2002) (stating that "[e]mployer actions taken pursuant to requirements under U.S. export laws do not violate Title VII").

16 Canadian law does, however, contemplate an exception for actions established consistent with a "*bona fide* occupational requirement." Canadian Human Rights Act, at 15.1.a. More generally, we note that anti-discrimination law in Canada enjoys quasi-constitutional status and is presumed to trump conflicting legal requirements. See, e.g., Ontario Human Rights Comm'n v. Simpson-Sears, [1985] 2 S.C.R. 536, 547; Mahoney, *supra* note 14, at 240. As such, it is unclear whether the Canadian Human Rights Commission would prioritize compliance with regulatory obligations imposed by a foreign state over its own human rights policy.

17 See generally MINISTER OF JUSTICE & THE ATTORNEY GENERAL OF CANADA, CANADIAN HUMAN RIGHTS ACT REVIEW 7-8 (2000), *available at* <<http://canada.justice.gc.ca/chra/en/chrareview_report_2000.pdf>>.

18 See Council Directive 2000/43/EC of 29 June 2000 ("EU Racial Equality Directive").

19 EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR EMPLOYMENT AND SOCIAL AFFAIRS, EQUALITY AND NON-DISCRIMINATION: THE ANNUAL REPORT 8 (2004), *available at* <<http://www.stop-discrimination.info/fileadmin/pdfs/Reports/Annual_Reports_2004/annualrep2004_en.pdf>>.

discrimination, all the employee has to do is make out a plausible complaint of disadvantage; after that has occurred, the legal burden of proof shifts to the employer who must prove that its actions did not have a discriminatory effect.[20] Because ethnic origin is often closely correlated with country of birth, the proposed requirement could mean legal trouble for U.S. companies with operations in Europe. Such concerns are heightened in member countries such as Hungary that go so far as to explicitly prohibit discrimination based on nationality.[21] In sum, U.S. companies operating overseas would run the risk of foreign anti-discrimination lawsuits based not on discriminatory animus, but simply due to compliance with U.S. law.

IV. RELATED PROPOSALS ARE SIMILARLY FLAWED.

Although not discussed in the Federal Register notice, we understand that BIS may also be considering alternative criteria for administering the deemed export rule, such as disregarding foreign permanent residency (i.e., focusing only on the most recent country of citizenship), or requiring companies to identify the "most restrictive country of citizenship" for foreign national employees with multiple nationalities. These proposals raise many of the same issues described in detail above, including: (1) interference with U.S. technological competitiveness, particularly during transition to the new policy; (2) difficulty in verifying the applicable information; (3) relevance of the criteria to an effective export control policy; and (4) exposure under foreign privacy or anti-discrimination laws. Notably, the OIG did not recommend adoption of any of these alternate criteria and the BIS should not afford them serious consideration. At a minimum,

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[20] See id.

[21] See, e.g., id. at 11 (describing Hungary's Equal Treatment and Promotion of Equal Opportunities Act, which prohibits discrimination based on nationality).

we would urge BIS to invite additional comment from industry before implementing such sweeping changes to U.S. export control policy.

V. CONCLUSION

CCRE believes that the proposal to adopt "country-of-birth" as a new criterion for regulating deemed exports is fundamentally flawed. The OIG has failed to articulate how its recommendation would effectively advance U.S. national security and, as discussed above, the proposal threatens to seriously undermine U.S. technological competitiveness.

The U.S. IT industry's preeminence depends heavily on our ability to recruit and retain the "best and the brightest" scientists and engineers from around the world. In this regard, we note that our foreign competitors do not face the same administrative barriers to hiring the best talent, and there is concern that U.S. export control policy is having the unintended effect of driving high-technology jobs overseas. In light of these important issues, CCRE has engaged the Administration in a dialogue to review the current knowledge control system and develop more effective policies to safeguard U.S. national security and promote America's technological preeminence. We look forward to continuing that dialogue, but we respectfully submit that the "country-of-birth" proposal represents a step in the wrong direction.

From: "Stuck, Jerry" <JStuck@nas.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 3:27 PM
Subject: Response to Advanced Notice of Proposed Rulemaking - Revision and Clarification of Deemed Export Related Regulatory Requirements

On behalf of the member institution faculty of the Federal Demonstration Partnership, we are pleased to provide the attached comments to the proposed rulemaking on revision and clarificaiton of deemed export related regulatory requirements.

<<fdp_deemed_export_response.doc>>

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FEDERAL DEMONSTRATION PARTNERSHIP
500 Fifth Street, N.W. (Keck 509)
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June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW
Room 2705
Washington, DC 20230

On behalf of the Federal Demonstration Partnership Faculty Standing Committee, we are pleased to provide comments on the March 28, 2005 Proposed Rule in the Federal Register on the "Revision and Clarification of Deemed Export Related Regulatory Requirements." We welcome the opportunity to assist the federal agencies in clarifying these important regulations and improving the understanding between the regulators and the regulated community. The FDP represents a diverse group of major research universities whose faculty members and administrators need to work with these regulations. Thus, we are very committed to contributing to the evaluation process.

In the announcement in the March 28th Federal Register, you ask for "specific information regarding the impact of the regulations, e.g., data on the number of foreign nationals in the United States who will face licensing requirements if the OIG's recommendations were adopted, and impact of compliance with the new licensing requirements--cost, resources, procedures." Having been party to numerous discussions since the release of the March 2004 Inspector General's report, we can definitively say that no clear understanding exists among the regulated community as to how to interpret the existing regulations with regards to scientific research, and therefore most quantitative estimates would be wildly inaccurate. Nevertheless, we can assign some relative values to the administrative burdens, and the ease of compliance, based on our own assumption of specific interpretations.

First, it is impossible for the universities to verify the birth country of a foreign national by means other than the verbal assurance of that national. Since this method does not have an accepted standard such as a passport for verification, collecting that data is not seen as having sufficient value to protecting the national security as to be warranted.

Secondly, the definition of "use" technology is already problematic to most academics in its current definition, so changing the word "and" to "or" is not seen as the major issue. In an academic research setting, the definitions of "operate," "installation," especially for portable equipment and "maintenance" are uncertain in the regulatory sense. It is our understanding that the intent of the definition of "use" technology is that the regulation is to prevent access to foreign nationals, who are citizens or permanent residents of countries of concern, that would be sufficient to reverse engineer or otherwise duplicate sensitive technologies in their home country. A definition based upon this criterion is more meaningful to the research community than the current definition, and would increase the community's ability to comply.

In the FAQ section, we suggest adding a clarification to the definition of publicly-available technology, using examples common in the university environment. The research community cannot easily interpret this exemption with regard to some of the activities it commonly undertakes (e.g., information released in conferences where there is no nationality restriction among attendees, but only leaders in the field are invited to participate). We also suggest the clarification be sufficient to remove the US as the unilateral enforcer of those technologies that are readily available in a global economy – e.g., operating instructions for equipment whose manuals are on the Internet.

"Intent to publish" is another area that needs to be more clearly defined, if not in regulatory language, then at least in FAQ's. Ideally, the operative definition should presume that "intent to publish" exists until or unless the nationality of those conducting the research, or the dissemination of research-relevant information, is explicitly restricted by the sponsoring agency or company. It should be further clarified that "intent to publish" would include all material intended for thesis publication, even if that information is never officially published in the journals of the field. This covers situations where student work is not of high enough quality to be published professionally, or occasions when the student leaves the university before his work is complete.

Although not explicitly called for in the Federal Register announcement, we wish to offer the following long-term suggestions to make the control of deemed exports more efficient and understandable to the regulated community. Prior to the Inspector General's report, the research community – particularly the universities – assumed they were largely exempt according to the "fundamental research" clause. Exceptions were handled on a case-by-case basis whenever there were clear counter-indications (e.g., publication restrictions in a contract, exchange of information explicitly marked classified, proprietary, do not disseminate; military contracts with restrictions on research performance by foreign nationals). The functional interpretation, as practiced, allowed universities to carve out a large "safe harbor" of activities that did not need further scrutiny, and for them to focus on those that did. The IG's report muddies the research community's understanding of the "safe harbor" to the point where institutions no longer understand what may be covered and what is not. The result is a range of "impact estimates" from everyone and everything being covered, to nothing and no one being covered. This situation needs to be remedied.

We therefore offer the following suggestions as concrete implementation steps in line with the recommendations expressed by Dan Mote at the May 6 meeting at the National Academies:

1. Greatly narrow the list scope of controlled technologies requiring deemed export licenses and ensure the list remains narrow going forward.
    a. Request FY06 budget authority to convene a major study of the existing list, empanelling experts from the defense and research communities, to conduct a thorough one-time vetting. We are concerned not only that many items on the list are out of date, but that the newest technologies do not make it onto the list in time for their global dissemination to be prevented. We are further concerned that the human resources available within the Commerce Department are not adequate to perform the task of a major overhaul of the

CCL. And, finally, we are concerned that the organization and phrasing of the current list makes it nearly impossible for bench researchers to interpret. A special effort is required to overcome these obstacles.

b. The study panel should also be empowered to make recommendations regarding the current processes used to update and maintain the CCL, with a directive to arrive at an ongoing process that can efficiently maintain the CCL in an up-to-date fashion with minimum of additional resources. Many digital and information tools now exist that could be used for this purpose.
c. The study panel should be asked to integrate the perspectives of the State and Defense departments into their report, and specifically outline opportunities where the three control authorities could be more harmoniously integrated.
d. The study panel should also be asked to reorganize the CCL to make it more easily comprehended by the regulated community.
e. Delete all equipment from the list that is available for purchase on the open market overseas , and all those technologies whose "use" is already known in the public domain, from manuals in libraries, information on the Internet; etc.

2. Clear international students and postdoctoral fellows for access to controlled equipment when their visas are issued or shortly thereafter so that their admission to a university academic program is coupled with their access to use of export controlled equipment.
    a. For graduate students and postdoctoral fellows, their research advisor and project is often known before they arrive. Thus, an export license application could be sent to the Commerce Department by the institution prior to the student's arrival on campus.. If the turnaround time for these individuals can be reduced from 45 days to 15 days, it may be possible for the export license and visa clearance processes to occur in step.
3. Do not change the current system of license requirements for use of export controlled equipment in university basic research until the above recommendations have been implemented.
    a. Through its outreach to the science and engineering community, the Commerce Department has begun a collaborative process that will ultimately serve to make the research community more aware of how to secure our most advanced technologies from hostile entities. We applaud the Department's consistent efforts to establish trust and cooperation, when this issue could so easily have been divisive as to be explosive. At the same time, that trust is fragile, and in the interests of longer term cooperation and security, we recommend the Department embark on responses to the communites'concerns before implementing regulations that may heighten the sense of trepidation within the community.
    b. In order to make the research community a more proactive partner in advancing the nation's security, we recommend that a description of actual threats relevant to research activities be broadly released and broadcast in non-classified form.

In summary, we believe that there are steps the Commerce Department can take itself to clarify the impact of the regulations on the research community, and we would be pleased to assist in any of the endeavors described above.

Sincerely,

Joseph A. Konstan
Vice Chair and Faculty Representative
Federal Demonstration Partnership

From: "Joe Tasker" <jtasker@itaa.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 5:10 PM
Subject: FW: comments in RIN 0694-AD29

The notice on Shannon Cook's email redirected me to this address. Thanks very much. Joe Tasker

-----Original Message-----
From: Joe Tasker
Sent: Monday, June 27, 2005 4:50 PM
To: 'scook@bis.doc.gov'
Subject: comments in RIN 0694-AD29

As instructed in the BIS federal register notice of March 28, 2005, please accept these comments on behalf of the Information Technology Association of America. Any questions or comments are welcome to the individual listed below.

Thanks very much.

Joe Tasker

Sr. Vice President, Government Affairs, & General Counsel
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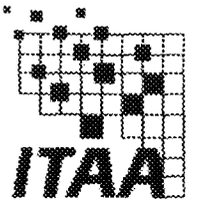

June 27, 2005

Alex Lopes, Director
Deemed Exports and Electronics Division
Bureau of Industry and Security
Regulatory Policy Division
United States Department of Commerce
14th Street and Pennsylvania Avenue, N.W.
Room 2705
Washington, D.C. 20230

VIA email to: scook@bis.doc.gov

ATTN: RIN 0694-AD29

Dear Mr. Lopes:

Please accept these comments on behalf of the Information Technology Association of America in response to the request by the Bureau of Industry and Security for comments published recently in the Federal Register, 70 Fed. Reg. 15607 (March 28, 2005), entitled "Revision and Clarification of Deemed Export Related Regulatory Requirements." Under the terms of last month's Federal Register notice extending the comment period (70 Fed. Reg. 30655 (Mary 27, 2005)), those comments are due today.

The Information Technology Association of America (ITAA) provides global public policy, business networking, and national leadership to promote the continued rapid growth of the IT industry. ITAA consists of over 380 corporate members throughout the U.S. The Association plays the leading role in issues of IT industry concern including information security, taxes and finance policy, digital intellectual property protection, telecommunications competition, workforce and education, immigration, online privacy and consumer protection, government IT procurement, human resources and e-commerce policy. ITAA members range from the smallest IT start-ups to industry leaders in the Internet, software, IT services, ASP, digital content, systems integration, telecommunications, and enterprise solution fields. For more information visit www.itaa.org. ITAA is secretariat of the World Information Technology and Services Alliance, consisting of 67 IT trade associations around the world. As such, I believe we bring an important perspective to the discussion of the changes your agency is proposing in the deemed export rules.

Our comments address one of the three recommendations by the Office of the Inspector General (OIG), as follows: "that BIS amend its policy to require U.S. organizations to apply for a deemed export license for employees or visitors who are foreign nationals and have access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency." 70 Fed. Reg. 15608.

This recommendation apparently responds to the OIG's concern that "this policy allows foreign nationals originally from countries of concern to obtain access to controlled dual-use technology without scrutiny if they maintain current citizenship or permanent resident status in a country to which the export of the technology would not require a license." 70 Fed. Reg. 15608.

For the reasons explained in this letter, the proposed change to current BIS policy is unnecessary, and would result in significant disruption to U.S. companies and their foreign customers, business partners and subsidiaries located in allied countries.

Information Technology Association of America
1401 Wilson Blvd. - Suite 1100, Arlington, Virginia 22209-2318 ■ Phone: (703) 522-5055 Fax: (703) 525-2279

I. Current BIS Policy Protects U.S. National Security and Foreign Policy Interests, and Does Not Need to be Changed

The proposed change is unnecessary. Current BIS policy under the EAR works well to control commercial technology while permitting legitimate business activities to proceed properly between U.S. companies and their employees, as well as their foreign customers, business partners, and subsidiaries. These global, commercial business activities take place correctly under existing laws and regulations: in the case of U.S. employees, under the EAR; in the case of employees of businesses located in an allied country, under the export laws of that country as well as under the EAR.

The country of birth of citizens and permanent residents of our allies, like the country of birth of U.S. citizens and U.S. permanent residents, does not determine whether or not they will comply with U.S. or foreign export laws. The determining factors continue to be company policies and procedures to train employees and ensure export compliance, coupled with governmental enforcement in any case of non-compliance.

Current regulations and related sanctions - under the export laws and regulations of both the United States and our allies - adequately control the possibility that a foreign person might improperly transfer technology to that person's country of birth. This is true for the employees of U.S. companies as well as the employees of foreign customers, business partners, and subsidiaries. Under the export laws and regulations of both the United States and our allies, in the event a U.S. company - or its foreign customer, business partner, or subsidiary - knows or has reason to know that the release of technology to a person will result in an unauthorized transfer of that technology to a third country, the U.S. or foreign entity must halt all access to the controlled technology by the individual. Failure to comply with that requirement results in civil and criminal sanctions – including fines and a denial of the ability to participate in export activity – for a U.S. company and its employees, as well as for a U.S. company's foreign customers, business partners, and subsidiaries. Further, any non-complying employee faces significant individual sanctions under the export laws of the United States and the allied country involved.

Given this adequate compliance and enforcement system, any effort to discriminate solely on the basis of country of birth is misplaced. The strength of this country resides in its talented and diversified workforce, including the millions of individuals who simply have come to the United States to live, work, and raise their families. It is entirely arbitrary, and would extend to many who have fled the conditions of their country of birth, including repressive regimes. An engineer, for example, who fled Iran in 1979 and found refuge in the United Kingdom, with decades of UK citizenship or permanent residency, would become an immediate suspect under the proposed policy change. He would be unable to find work in his field in this country unless he was somehow able to convince a potential employer, and a licensing officer, that his place of birth should not deny him the job.

It is important to recognize also that such normal, commercial business activity does not involve defense articles, technical data, or services on the U.S. Munitions List, and it does not involve classified information, each of which is controlled under a separate export control regime appropriate for the sensitive nature of the technology subject to those regimes. Instead, the current BIS policy is limited to civil, EAR-controlled technology exchanged in normal commercial business activities between a U.S. company and its employees, as well as between a U.S. company and its foreign customers, business partners, and subsidiaries located in allied countries.

As explained in the BIS notice, the current BIS deemed export license requirements are based on a foreign national's most recent country of citizenship or permanent residency, rather than country of birth. The current BIS policy recognizes the validity of our allies' citizenship and permanent residency laws, and is consistent with the EAR definition of "U.S. person," which likewise is based on the current citizenship or permanent residency of a person, in this case of the United States, regardless of country of birth. This recognition of the citizenship and permanent residency laws of the United States and its allies has been successful. BIS and U.S. industry have followed the current policy for years without problem. The current system works well to protect U.S. national security and foreign policy interests, and does not require change.

Finally, in recognizing the success of the current policy regarding "foreign persons" as defined in the EAR, we note that the BIS request for comments should have stated explicitly that the proposed change would have no effect on "U.S. persons" who were born in a foreign country and who have become U.S. citizens or U.S. permanent residents. Any attempted extension of the proposed policy change to individuals who are foreign born but have become "U.S. persons" as defined under the EAR would of course run counter to U.S. immigration, employment and discrimination laws. Further BIS notices regarding the proposed change should make it clear that all U.S. citizens and all U.S. permanent residents, regardless of their place of birth, remain "U.S. persons" under the EAR.

II. The Proposed Change Would Cause Significant Disruption to U.S. Companies and Their Foreign Customers, Business Partners, and Subsidiaries Located in Allied Countries, and Likely Would Be Rejected by Our Allies

The proposed change would cause significant disruption to U.S. companies' employment practices in the United States, and to the employment practices of U.S. companies' foreign customers, business partners, and subsidiaries located in allied countries.

It will impose on U.S. companies the significant task of requiring every foreign national employee to provide additional nationality documentation and proof regarding place of birth, regardless of the current -- and previously reported -- citizenship or permanent residency of the employee. As you know, U.S. companies employ many foreign nationals, and to date the current export compliance procedures in hiring and supervising those employees have worked well to ensure full EAR compliance. The imposition of this new requirement for additional review of both current employees and prospective employees will result in enormous disruption. Current employees, who have performed their work in full compliance for years, will have to be removed unless and until their citizenship is reconfirmed under this new, proposed standard. Projects will be halted and employees will sit idle. New employees, who are talented and are drawn to the legitimate opportunities provided by technical needs of U.S. companies, will be discouraged from seeking those positions, ultimately resulting in a weakened U.S. industrial base and stronger foreign competition.

Discrimination cases also will multiply, particularly given that foreign-born employees with U.S. citizenship or permanent resident status will be exempt, but foreign-born employees with citizenship or permanent resident status of an allied country will be forced to respond and obtain and submit additional documentation. In addition, in cases in which no license currently is required, or when a license exception is available - License Exception TSR, 15 C.F.R. § 740.6, for example - based on the employee's current citizenship or permanent residency, the employee may be pulled from the work unless and until an export license is approved.

Further, our allies in general do not share the U.S. concern over deemed exports or reexports, even under the current policy. Recognizing the strength and validity of their existing export compliance laws and related enforcement mechanisms, they do not impose such restrictions on their own companies and individuals. Any attempt to expand this uniquely U.S. concept beyond its current scope will only invite some form of unnecessary, reciprocal restriction on the many U.S. citizens working in those countries.

In sum, such a proposed change to the current, working BIS policy would require dramatic changes in the employment practices and human resource procedures for companies throughout the United States, and equally dramatic changes in the employment practices and human resource procedures of their customers, business partners, and subsidiaries located in allied countries, in ways that likely would require violation of their own employment and anti-discrimination laws. It would require foreign companies to go back to employees of many years, and request information regarding country of birth, a practice that would be at odds with their own employment, immigration, and related anti-discrimination laws, just as a similar inquiry would violate U.S. employment, immigration, and anti-discrimination laws.

IV. Conclusion

The proposed policy change is unnecessary and unworkable. It would take a system that currently operates well, and would cause tremendous disruption and damage to U.S. industry. The proposal reflects an equally unnecessary and unacceptable discriminatory approach to "solve" a problem that has not even been demonstrated.

As noted above, commercial business activity involving technology controlled by BIS does not involve defense articles, technical data, or services on the U.S. Munitions List, and it does not involve classified information, each of which is controlled under a separate export control regime appropriate for the sensitive nature of the technology subject to those regimes. Instead, the current BIS policy regarding deemed exports and deemed reexports is limited to normal commercial business activity - involving civil, EAR-controlled technology - between a U.S. company and its employees, as well as between a U.S. company and its foreign customers, business partners, and subsidiaries located in allied countries.

In regulating those activities, the current BIS system has worked properly and successfully for years to protect U.S. national foreign policy and national security interests, and does not require the proposed change.

Thank you for your attention to these comments. If you have any questions please feel free to contact me or Joe Tasker, the General Counsel of ITAA.

Sincerely,

Harris N. Miller
President

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From: "Griffiths, Ben" <BGRIFFITHS@vc.wisc.edu>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 5:11 PM
Subject: RIN 0694-AD29 (duplicate submission)

Dear Sir/Madam: enclosed please find an unsigned copy of the comments by the University of Wisconsin-Madison to the above-referenced advanced notice of proposed rule-making. A signed copy of our comments was submitted today by FAX, is being placed in the US Mail. Since I had some trouble FAXing the comments, I just wanted to make doubly sure that Commerce received our comments today.

Thank you,

Ben Griffiths
UW-Madison

June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports & Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Re: Comments of the University of Wisconsin-Madison to Department of Commerce, Bureau of Industry and Security, Advance Notice of Proposed Rulemaking (ANPR) RIN 0694-AD29 Published in the Federal Register on March 28, 2005

Dear Mr. Lopes:

Please accept the following comments to the above-referenced ANPR, submitted by the University of Wisconsin-Madison ("UW-Madison"). We appreciate that the Bureau of Industry and Security ("BIS") is seeking the input of the academic community with respect to the recommendations made in the recent report issued by the Department of Commerce Inspector General ("IG").

In general, UW-Madison fully endorses the comments submitted by the Council on Governmental Relations (COGR) and the Association of American Universities (AAU) with respect to this ANPR. Like our peers, UW-Madison is very concerned that the proposed modifications to the Export Administration Regulations (EAR), as detailed in the above-referenced ANPR, would be extremely difficult and costly to implement in an open university setting, and the steps required to ensure compliance with the revised rules would lead to a fundamentally unwelcoming environment at U.S. colleges and universities for foreign students and scholars. We believe the proposed rule changes, if adopted, would actually harm the economic competitiveness, and thus, the national security of the United States by leading the most capable foreign students and scholars to spurn institutions of higher education in the U.S. in favor of those in Europe, Asia and elsewhere, thereby reducing the quality of the research coming out of colleges and universities in the U.S., and ultimately diminishing the U.S.'s leadership position in advanced fields of science and technology.

In terms of the specific proposed rule changes set forth in the ANPR, our comments are as follows.

I. Application of "deemed export" rule to use of controlled equipment in the course of fundamental research and academic instruction.

The ANPR recommends adjusting the definition of "use" of controlled equipment at sec. 15 CFR sec. 772.1, such that the simple operation of a piece of controlled equipment could constitute a "deemed export." The ANPR further recommends revising the answer to Q&A D(1) in Supplement 1 to 15 CFR Part 734 to specifically state that use of equipment must be analyzed for application of export controls even if it is used in a fundamental research activity. There are a number of serious problems with the proposed rule changes regarding the "use" of equipment.

First, these proposed rule changes reflect the inaccurate perspective that instructional and research activities, and the use of advanced research equipment, are distinct and separable. In fact, many fundamental research activities and academic programs are dependent upon the use of and experimentation with equipment. For example, UW-Madison offers a degree program in Materials Science. The course catalog description of this program states that "Graduate students select their thesis research topics based on materials and interfaces that involve polymers, superconductors, semiconductors, advanced metals, composites, biomaterials, or ceramics. … The Materials Science Center has state-of-the-art electron microscopes, X-ray diffractometers, and surface analysis equipment available for hands-on use by materials science students." In academic disciplines such as this, it is simply impossible to separate the use of advanced equipment from academic instruction and the performance of fundamental research. An in-depth understanding of the properties and functions of advanced research equipment, including the ability to alter existing equipment and fabricate new equipment as the need arises is an essential part of these and many other research programs in fields of science and engineering.

Second, the proposed rule changes do not differentiate between the use of equipment in a manner that does not convey any controlled technology, such as manipulating the "on-off" switch on a centrifuge, from the use of equipment in a manner that conveys controlled technology, such as assembling a proprietary industry prototype. Similarly, the proposed rule changes do not differentiate between use of equipment that can be purchased on the open market and the operation manuals for which are readily available to the interested public from the use of customized or proprietary equipment that is not generally offered for sale in the open market and the technology for its operation is considered proprietary information of the manufacturer. To the extent that Commerce is not able to reaffirm the traditional interpretation that the use of controlled equipment in fundamental research and academic instruction is inherently exempt from the "deemed export" rules, we strongly urge that Commerce adopt a sensible approach that limits the situations under which the use of equipment in a fundamental research activity or academic instruction constitutes a "deemed export" to those circumstances that involve the use of proprietary equipment that is not generally available to the research community and is subject to confidentiality obligations.

Third, the proposed rule changes would impact not only fundamental research activities, but related classroom instruction as well. Under the EAR, fundamental research is but one of the categories of "publicly-available technology and software" that are, by definition, not subject to the EAR. Another category of "publicly-available technology and software" is "educational information" that is released by "instruction in catalog courses and associated teaching

laboratories" at colleges and universities. As the excerpt from UW-Madison's course catalog, above, indicates, catalog courses and associated teaching laboratories have the potential to involve discussion of the functionality of, or instruction in the use of, controlled equipment. Thus, if the proposed changes to the "deemed export" rules are adopted, it follows that the "deemed export" rules similarly apply to the use or discussion of controlled equipment in the catalog course and teaching laboratory contexts. Since as noted previously, use of research equipment is inseparable from research and academic instruction, the proposed change would eviscerate both the fundamental research exemption as well as the exemption for information released in catalog courses and associated teaching laboratories.

Fourth, as the COGR letter correctly states, the threshold task of determining the presence and location of all controlled equipment on a university campus, and then determining which students and staff would need a license to access such equipment, is a formidable task, the cost of which is extremely difficult to quantify with any accuracy. This is especially true for large public research institutions, such as UW-Madison, which has both a focus on advanced science and technology and a large international population.

Consider our situation. UW-Madison is a public educational institution, with a main campus that covers 933 acres. UW-Madison facilities include over 1.6 million square feet of research laboratory space and 628,163 square feet of instructional laboratory space. Unlike commercial firms and defense contractors, most of these laboratory spaces are located in multi-purpose instructional and research facilities, and are not access-controlled. The alphabetical index of items controlled by the EAR consists of 47 pages of single-spaced entries, and is specifically identified as "not an exhaustive list of controlled items." UW-Madison maintains a central inventory of property valued at over $5,000, but the information in the inventory system is not detailed enough to separate controlled from non-controlled equipment. Other controlled equipment might be fabricated in laboratories, and is unlikely to be entered into the property control system. Some controlled equipment, such as equipment for use in handling controlled biological materials (ECCN #2B352) and related technology (ECCN #2E301), encompasses the same equipment and technology used in handling garden-variety biological materials. Even if all laboratories and other facilities containing controlled equipment were identified, that would not help ascertain the extent to which the use or operation of controlled equipment is discussed in catalog courses, instructional laboratories, project meetings, or academic symposia that relate to fundamental research activities.

Of course, determining the nature and location of controlled equipment on a university or college campus is only part of the equation. Many items of equipment subject to the EAR require a license to export to some, but not all, countries. At UW-Madison, as of fall 2004, there were 3,627 foreign students, accounting for approximately 8.6 percent of the 41,000+ students on campus. These students hail from over 100 different countries, and are enrolled in over 300 different academic programs, including significant populations in Electrical Engineering, Computer Science, Physics, Nuclear Engineering, Materials Science, Genetics, Biomedical Engineering, Food Science, Chemistry and Chemical Engineering. In addition, UW-Madison employs approximately 80 international faculty members, and approximately 155 international academic staff, who do not possess permanent resident status and who are similarly concentrated in advanced fields of science and technology.

So, in order to assure compliance if the proposed rule changes are adopted, UW-Madison would have to conduct a comprehensive inventory of the research facilities on campus. If a facility houses controlled equipment, physical security mechanisms would need to be implemented. Each time a research activity in which a foreign student or scholar was involved needed access to the equipment, the citizenship (or perhaps birthplace) of the student or scholar would have to be reviewed in order to determine if the equipment is controlled with respect to the student's or scholar's country of citizenship (or perhaps birth). If a student or scholar was from a country to which the equipment at issue cannot be exported without a license, then a "deemed export" license application would have to be prepared, and access to the equipment could not be granted until such a license is obtained. The review and, if necessary, license application process would inevitably delay the research project in which the equipment is to be used. The predictable response is that faculty who use controlled equipment in their research will simply refuse to involve foreign students or scholars in the research in order to prevent delays.

Unfortunately, taking inventory of equipment, establishing physical controls, and conducting an analysis of the export control implications and perhaps obtaining an export license prior to granting access to that equipment would not address the potential for controlled use technology to be released to foreign students or scholars in classrooms and associated teaching laboratories. If the proposed rule changes are adopted, the content of courses would need to be screened to identify those that might involve discussion of controlled use technology. Each time the identified courses were offered, the citizenship of those enrolled would need to be screened, and an export control analysis performed. If the planned discussion involved technology that would require a "deemed export" license for one or more students, either the discussion would have to be suspended until a license could be obtained, the discussion would have to be removed from the curriculum, or the student would not be permitted to attend the class. Academic programs such as Materials Science, Medicine and Engineering would have to consider whether to offer admittance to foreign students, in light of the potential difficulty their presence could cause for the ability of domestic students to receive training in the most advanced equipment and technology. Comparable assessment and monitoring would be required for the activities of foreign post-doctorate researchers.

It bears mention that all these foreign students and researchers will all have successfully passed the new, enhanced visa screening requirements that include face-to-face interviews. An even greater level of scrutiny is placed on visa applicants intending to study in one of the subject matters covered by the "Critical Fields List" that includes a wide range of basic academic disciplines, from biochemistry to landscape architecture. In addition, the activities of foreign students are also monitored by the SEVIS program. The impact of the proposed changes to the "deemed export" rules on the ability of U.S. universities to recruit the most qualified foreign students and scholars must be considered in light of these existing requirements placed on foreign students and scholars, which are widely considered to be contributing to the decline in qualified foreign applicants seeking admission to U.S. colleges and universities.

In terms of the potential cost of implementing the necessary controls as discussed above, it is not possible to quantify with any accuracy. However, the costs and administrative burdens of establishing a program to enable research with the several dozen biological materials classified

as "select agents" does provide some basis for comparison. For just the seven campus laboratories that conduct research with select agents, the cost of new physical security measures to control access was in the range of $120,000, without considering the significant infrastructure upgrades, such as servers, required to support the access control system. The administrative costs were far greater. A task force was convened to determine how to comply with the new restrictions on select agent research, which included 14 high-level administrators who met one to two hours per week for three years. Countless other employees are involved in some aspect of administering the regulatory and licensing aspects of the select agent program. When one considers that the number of campus colleges and departments, facilities, laboratories and personnel that could potentially involve equipment covered by the EAR is much greater than the modest numbers involved in select agent research, it is evident that the cost of identifying and restricting access to all controlled equipment used in research and teaching is very significant.

In light of the foregoing, we can state with certainty that export control laws have only, to date, been somewhat manageable in a college and university context because of the traditional interpretation that the use of, or release of technology related to, controlled equipment in the course of fundamental research and in catalog courses and teaching laboratories is not subject to the EAR "deemed export" licensing requirements. We strongly urge Commerce to re-affirm this traditional interpretation.

II. Use of foreign national's country of birth as criteria for deemed export license requirement.

We echo COGR's concerns regarding the recommendation of the I.G. that country of birth should be used in addition to country of citizenship to determine whether a "deemed export" license is needed for an individual. Information on country of birth is not collected as part of the student application or employment verification process, so this proposal would add yet another un-funded record-keeping requirement to colleges and universities that are already struggling to manage existing requirements. Furthermore, information such as country of birth is presumably reviewed by the Department of State and/or Homeland Security during the visa application process. UW-Madison believes the threshold decision of whether an individual should be denied access to sensitive technology is a decision that needs to be made as part of the visa application process, and if there is some aspect of an individual's background that renders him or her an unacceptable risk to society, that individual should not be admitted entry to the United States. Once admitted to the United States, however, foreign students and scholars should be granted full participation in the unclassified research activities at colleges and universities.

III. Conclusion.

UW-Madison urges Commerce to reconsider the rule changes proposed in the ANPR. As outlined above, these rule changes would pose tremendous compliance challenges and impose significant financial burdens, and, if anything, would harm the economic competitiveness and national security of the United States by reducing the quality of the science and technology arising from university research, and by reinforcing negative impressions of the United States as an unwelcoming destination for foreign students and scholars. However, we must emphasize that the cost and administrative burden of compliance is not the most concerning aspect of these proposed rule changes. What concerns us most are the dramatic and fundamental changes to the

open, collaborative research environment at UW-Madison that would be required to segregate the use of controlled equipment from the teaching and research activities in which the equipment is used. Citizenship (or birthplace) of a student or scholar will become the primary litmus test in determining the context of classroom discussions, assigning class projects or accepting an individual into a research team, rather than ability and interest. Collaborations between research groups in advanced fields will not proceed until such time as each participant's citizenship or birthplace can be determined, and perhaps licenses obtained. Research facilities that are currently open to all students and staff in a particular discipline will become closed facilities, open only to those who can prove they are from the "right" countries or have obtained a government license. The level of oversight and control of the activities of foreign students and scholars that would be needed to prevent their access to controlled equipment would render them less than equal partners in the academic and research enterprise. We believe it would be a terrible mistake for our nation to sacrifice the open and free character of its universities, and its position of international leadership in science and technology, for the sake of the vague and unsubstantiated concerns expressed in the IG report.

Thank you for your consideration of our comments.

Sincerely,

John D. Wiley
Chancellor

Martin T. Cadwallader
Dean, Graduate School
Vice Chancellor for Research

William S. Mellon
Interim Associate Dean for Research Policy

From: "Daisy Carter" <dcarter@aamc.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 3:54 PM
Subject: RIN 0694-AD29

Please see the attached comment letter, in reference to RIN 0694-AD29, from Dr. Jordan J. Cohen, president of the Association of American Medical Colleges.

Thank you.

Daisy C. Carter
Biomedical & Health Sciences Research
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June 27, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W.
Room 2705
Washington, D. C. 20230

By Electronic Mail to scook@bis.doc.gov

Reference: Revision and Clarification of Deemed Export Related Regulatory Requirements, RIN 0694-AD29

Dear Mr. Lopes:

I write on behalf of the Association of American Medical Colleges (AAMC) in response to the request for comments on the Advance notice of proposed rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements, appearing in the Federal Register on March 28,2005 (70 FR 15607) [hereinafter ANPR]. The AAMC is a non-profit organization representing all 125 U.S. accredited allopathic medical schools, some 400 major teaching hospitals, and 94 academic and professional societies representing 109,000 faculty members. The APNR invites comments on the impact on the academic community, industry, and government agencies involved in research of certain recommendations that are contained in the March 2004 Department of Commerce Office of Inspector General Report entitled: "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S."

Introduction

These recommendations, if adopted, will significantly damage the health of the academic research community in the U.S. and, in so doing, damage the economic and scientific vitality of the country as well as its national security. Accordingly, our comments are focused especially on those recommendations of the Department of Commerce Inspector General Report [hereinafter Inspector General], with respect to "deemed exports" and fundamental university research, that would have the most immediate and dramatic effect on the manner in which science is conducted both in academic medical centers and their parent universities and on the talent pool available to academic (and, likely, industry) research. These recommendations should be rejected.

In addition to our own comments, we support and endorse the comments on the Inspector General's recommendations that have been submitted by the Association of American Universities and the Council on Governmental Relations. In particular, we join them in (1) urging that the Inspector General's recommendations be rejected, (2) seeking clarification of ambiguities in existing regulations regarding use technology, and (3) urging that the Bureau of Industry and Security [hereinafter BIS] foster a continuing, high level dialogue among all stakeholders on deemed exports in the context of fundamental research. Such a dialogue might foster a reasoned approach to legitimate security concerns that does not sacrifice key aspects of the community on which much of the nation's scientific and economic success has been based.

The AAMC and its member institutions are committed to continuing to do their part to preserve national security. The AAMC intends these comments to assist BIS in addressing legitimate national security concerns without unnecessarily and seriously compromising scientific research at academic medical centers and research universities. However, the necessity for the recommended significant expansion of the deemed export provisions with correlative contraction of the fundamental research exception is nowhere justified. The burden of the changes recommended by the Inspector General would fall most heavily and adversely on fundamental research in research universities and academic medical centers. These higher education institutions have been key partners in creating the scientific and technological advances that have played vital roles in national security. Moreover, the proposed changes would substantially restrict the already limited ability of international students and scholars to study and train in the U.S. and thereby impoverish U.S. higher education and academic science.

In short, the recommendations of the Inspector General, if adopted, would lead to a significant expansion of the deemed export program without documentation of the asserted risk addressed by the recommendations, without adaptive calibration of possible regulatory responses to identified risk, and, because of the ambiguities in the current regulations, without precise definitions of what activities are proscribed. Fundamentally, the nation's scientific and economic vitality and security are dependent on its universities and the knowledge and innovation they generate. Restriction of the fundamental research environment should be accomplished only through the highly limited classification process based on clear, precise, and substantial considerations.

As a prelude to our comments, it is important, by way of identifying the community on which the impact of the Inspector General's recommendations would fall, to reference the comprehensive data cited in the comments of the Association of American Universities and those of the Council on Governmental Relations. Because the impact of the recommendations will affect the entire academic scientific community, and not just academic medicine, we have elected not to focus simply on the census count of foreign medical students and foreign scholars in medical schools, although those numbers represent a significant population of scholars, but rather upon the entire academic research community.

1. The Fundamental Research Provisions Must Include the Use by Foreign Persons of Equipment Controlled for Use Technology.

Academic medical centers and universities have assumed for years that the use in fundamental research of equipment controlled for use technology is exempt under the fundamental research provisions of the Export Administration Regulations [hereinafter EAR]. Universities and medical schools have also understood the fundamental research provisions to extend to the right for foreign students and researchers, as full members of research teams, not only to participate in fundamental research, but also to use, alter and create, and to receive information on how to use, alter and create equipment controlled for use technology while conducting fundamental research on U.S. university campuses. Academic fundamental research and the use of equipment required to conduct it are inseparable. Yet the Inspector General now takes the position that "technology relating to controlled equipment – regardless of how use is defined – is subject to the deemed export provisions (and the requirement to license foreign nationals having access to that equipment), even if the research being conducted with that equipment is fundamental."

Even if implementation of the Inspector General's recommendations would mean "only" a delay in a foreign scientist or student's participation and visitation rights, and not a complete bar, the effect may be the same. Because research will proceed while the international scholar awaits licensure [note that he or she has already been admitted to study in the United States after an earlier protracted visa process], the scholar will lose the opportunity for learning and participating in aspects of the research that cannot be held in suspension pending receipt of the foreign scholar's license under EAR. The best international talent will likely prefer to study and contribute to research in other countries where they will not be similarly isolated and constrained. Evidence already shows a decline in the competitiveness of U.S. universities against major universities in other countries for the best foreign graduate and postdoctoral students in the sciences. This in itself is a serious threat to the nation's security, because the scientific vitality of the country is dependent on the health of its academic research community. History is clear about the enormous contributions to science and technology that have been made by foreign students and scientists training and working in the U.S.

Control of university fundamental research should be accomplished only through the classification process, as expressed in the NSDD 189, which was explicitly affirmed by the current administration late in 2001. It should most assuredly not be accomplished through an artificial and unrealistic disarticulation of research from the equipment by which research is carried out and through access restrictions to fundamental research. We urge that the existing U.S. visa program be used as the mechanism by which to control access to academic research settings by those who may threaten national security. If, after screening a foreign student or researcher at point of entry, our government approves the individual's entry into our country under a visa that permits study and research at a U.S. university or medical school, that permission should imply and provide full and unrestricted participation in the academic research community. Most foreign students and scholars participating in scientific or engineering research also undergo personal interviews in the visa process and Visa Mantis clearance. Universities and medical schools should not be required by adoption of the recommendations, nor are they equipped to take up the role of supplemental "screeners" for their

foreign students and scholars, then to isolate them, and to restrict non-licensed access to research or equipment used in non-classified research.

If the U.S. visa policy needs to be improved; it should be the focus of attention, as it has been in recent years, both to improve its effectiveness in enhancing national security and in improving its efficiency without corresponding burdens on higher education and academic science. The deemed export licensing regime should not be used to attempt to solve the problem. Doing so will change in fundamentally destructive ways the open, international, collaborative and spontaneous academic research environment that is the very foundation of its success.

2. The Inspector General's Recommendations Would Irreparably Damage the Academic Research Environment, Without Corresponding Benefit on National Security.

Fundamental research relies for its success on an open, international, collaborative, and spontaneous research environment where members of research teams and their colleagues from elsewhere in the university community freely visit each other's laboratories, participate at the spur of the moment in work with equipment, and convey ideas and information without constraint. Fundamental research requires using equipment and conveying information on how to use that research equipment. Implementation of the Inspector General's recommendations regarding access to equipment controlled for use technology will fundamentally alter the environment and culture for academic research, and will stall or suspend research while academic institutions seek licenses for the foreign members of university research teams.

Under the Inspector General's recommendations, many, if not all, foreign nationals may need to be licensed by the government before participating in university research because of the possibility of encountering, in an open, university setting, use technology-controlled equipment. Conveying information on how to use such equipment cannot be predicted, controlled, or separated from the use itself in the spontaneous and collaborative university research environment. And the use itself of equipment is an integral part of fundamental research, long recognized in EAR as an exception from its reach.

Although a vast amount of technology is "subject to EAR", according to BIS it may or may not be controlled under EAR. Further, BIS indicates that not all uses of controlled equipment involve transfers of restricted use technology. But the regulations appear to require otherwise, equating operation with proscribed use, for example. As a consequence of the lack of clarity regarding use technology, proper compliance with the Inspector General's recommendations regarding equipment controlled for use technology would demand item by item categorization according to EAR of thousands and thousands of pieces of equipment at each individual medical school and university. Worse, because of the highly fluid, unpredictable, and dynamic nature of university and medical school research, the equipment inventory changes frequently, as well as the identity of those who have access to the equipment.

Simply to characterize university equipment according to the demands of the regulations will require a huge investment of resources on the part of the academic community, and will necessitate not only technology experts and auditors but specialized legal counsel and advisors. Concurrently, potential as well as actual authorized users of equipment controlled for use technology will have to be identified both as to status as a foreign person, as well as to potential access to equipment controlled for use technology, which is difficult if not impossible to predict accurately in advance. That essentially means every foreign student and scholar.

The administrative burdens and costs for universities and academic medical centers are substantial in making determinations of whether or not equipment that will be used in fundamental research is controlled for use technology. In addition to the necessity to develop comprehensive, centrally controlled and accurate inventories of equipment (which is often currently a function distributed to operating units instead), the person-hours required to complete an assessment in a single laboratory of equipment controlled for use technology and the potential exposure of foreign students and scholars to it are themselves significant. The only way universities could pay these costs would be through a significant reallocation of existing research dollars from the conduct of research to this administrative undertaking, and this would be required at a time when the outlook for university research budgets in the next several years indicates little or no appreciable growth. We believe the nation's leadership must weigh the benefits and costs of compelling such limited resources to be devoted to this undertaking, when there has been no evidence presented of any inadequacy in the current approach of relying on the visa process combined with classification when warranted.

Moreover, these lab-by-lab equipment assessments that would be necessitated by the recommendations must be considered in the context of the number of foreign students and researchers at our universities who potentially might be subject to deemed export licensing requirements. In this regard, we submit that while it is impossible to quantify precisely the number of deemed export licenses that would be required under the Inspector General's interpretation, given the large number of foreign students and scholars at our campuses as well as the breadth of the existing definitions and the proposed expansion of the deemed export category, the result would likely be a substantial increase in license applications as well as huge and often irreparable impediments to exempt fundamental university research.

3. Ambiguities in the Existing Regulations Compound the Over-Restriction of Technology and Equipment Resulting from the Recommended Expansion of the Deemed Export Provisions.

The EAR does not clearly define "use" technology. It defines use in terms of specific functions performed on equipment [EAR 772]. However, deemed exports involve transfers of information. The Inspector General appears to confuse mere operation of equipment with access to technical information covered by the deemed export regulations. Even though BIS takes the position that mere operation without access to proprietary information is not a deemed export, the regulations appear to contradict that position. At a minimum, the confusion should be explicitly resolved in favor of the BIS stated position, provided that the BIS position includes observation and instruction

on how to operate equipment. If it does *not*, then this interpretation is also unworkable. Moreover, the overly broad current definition of equipment controlled for use technology further compounds the problems that would inevitably be created by the Inspector General's recommendations regarding use by foreign nationals of controlled equipment in fundamental research. The result is the restriction of equipment that is publicly available in other U.S. settings.

If the Inspector General's recommendations are adopted in this context of the already-extensive CCL and ambiguities in current regulations, defining the reach of the deemed export provisions into fundamental research will require the most conservative interpretations by specialized counsel, technical experts, and equipment auditors. The fundamental research provisions will be gutted. Substantial over-categorization of equipment and over-restriction of access to it will be the only way to assure compliance with these provisions. *Rejection of the Inspector General's recommendations regarding deemed exports and clarification of the existing definition of use technology are urgently necessary to establish clear compliance standards.* Ambiguities make reliable compliance difficult, which itself may raise national security concerns. Changing "and" to "and/or" in the EAR Part 772 definition of "use" does not address the confusion and ambiguity between use of equipment and transfer of information. Leaving ambiguous the definition of controlled use technology means that overly broad categorization is inevitably required.

BIS should also officially confirm that if a foreign national in the course of research modifies an item of controlled equipment for his/her specific research purposes, or fabricates a new apparatus that otherwise would be subject to export controls, no licensable event has occurred so long as the foreign national has no access beforehand to controlled proprietary technology, and the research results are ordinarily published.

AAMC endorses and urges adoption of the alternative approach offered by the Association of American Universities and the Council on Government Relations that controlled use technology in the context of university fundamental research should be defined to encompass only proprietary or classified information that is not generally available to the public in the U.S. without significant restriction. Technology (including information in user manuals) that is generally available to anyone in the U.S without such restrictions should be considered publicly available for purposes of being excluded from deemed export licensing requirements. Publicly available information, by any realistic definition, should not be swept into the scope of export regulations.

The recommended expansion of the deemed export provisions together with the ambiguities in current definitions defy logic from a security standpoint while standing as serious impediments to the process – and progress – of science in U.S. research institutions. Although we concede that there may be a subset of technology that needs to be controlled, even when used in fundamental research, this limited subset is nowhere identified. Unless "publicly available" is defined as information that is neither proprietary nor classified and is available on the open U.S. market, an overly broad range of information is swept into the regulatory net, beyond the underlying rationale of the EAR, that only non-publicly available information is that which is intended to be within its ambit.

Further, we believe there are compelling reasons why the burden of identifying controlled technology should not fall on universities and academic medical centers. Point of purchase is the appropriate locus for identifying whether equipment is controlled for use technology. To hold academic institutions accountable for making such after the fact identifications based on the national origin of the user will result in thousands of person hours being spent in virtually all institutions, many of them in classifying the same, commonly used research equipment. There is no demonstrated justification, whether based in national security or other federal policy objective, to impose such a costly and inefficient burden on the academic community.

4. Country of Birth is an Illogical and Burdensome Standard.

Another very troubling provision in the Inspector General's report is the recommendation that deemed export licensing should be based on national origin rather than current residence. The AAMC has serious legal reservations about such classifications, and believes the legal implications of such a regulatory move should demand careful analysis. National origin classifications are generally subject to strict judicial scrutiny, require a compelling government interest as justification, and, even so justified on the basis of national security (widely acknowledged to be a compelling governmental interest), require narrow tailoring of the classification. Gross determinations, such as all persons born in country X are automatically suspect regardless of circumstances, appear to us to be anything but narrowly tailored.

Even if such a position were found not to violate existing U.S. law, the administrative burden on medical schools and their universities would be huge. The institutions have no such information now, and indeed, they have carefully avoided collecting such information because of legal concerns. Moreover, the SEVIS system does not include fields for such information. It would be necessary to isolate and then determine for all foreign students and scholars – and indeed visitors to academic labs and facilities – their country of birth so as to assure that the academic community not run afoul of the Inspector General's recommendations. This is an enormous undertaking with potentially serious side effects. And for those who have current citizenship in a country different from that of their birth, it would double the effort required of universities and medical schools, as such foreign persons would have to be evaluated with respect to both current citizenship and country of birth to make licensing determinations.

5. The recommended substantial expansion of the deemed export program would place the scientific vitality and primacy of the United States and its security in jeopardy.

The collaborative, open, international research environment that has been the hallmark of U.S. based science will be irrevocably altered. Foreign scientists and those studying to be scientists in the U.S. who have contributed so very significantly to this nation's scientific prowess and security since before WWII will be prevented from ready access to equipment controlled for use technology or at the least seriously delayed and potentially unalterably disadvantaged, because of country of birth or other arbitrary reasons that have not been demonstrated to pose a threat to national security. Not only will these expansions affect the substance of the experience of foreign students and scholars in

the U.S., it will especially send a message of restriction and lack of welcome to the great disadvantage of higher education and the nation at large, without compensating gain.

Recent reports (President's Council of Advisors on Science and Technology Report "Sustaining the Nation's Innovation Ecosystem: Maintaining the Strength of Our Science Engineering Capabilities", 2004, and the National Academies of Science COSEPUP Report "Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States", 2005) indicate that, despite the fact that the presence of the best of foreign students and scholars is critical to the continued success of U.S. higher education and the nation's economy and security, the international competitiveness of U.S. universities has declined. Implementation of the Inspector General recommendations would only accelerate this worrisome trend by reinforcing the already growing international perception of increased U.S. inhospitality to foreign students and scientists. The PCAST report states emphatically "The openness of our campuses to students, scholars, and faculty from all over the world is one of our greatest strengths, and is at the heart of the phenomenal success of the American research university..."

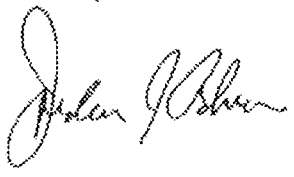
Simply put, the more barriers we put into place for foreign students and scholars, the more likely it becomes, as evidence is clearly demonstrating, that this boundlessly rich source of talent will go to other countries, to learn and to enrich those environments instead of our own. We cannot let undifferentiated fear interdict the progress of science and the future health, prosperity, and indeed, security of the American public. The vitality of society is based on the dynamism of our science and economy. As we seek rational security solutions, we must not let them suppress that dynamism. Controls via deemed export expansions and classification must be limited to instances where national security concerns are clearly identified and documented and justified.

Conclusion

For the five reasons stated, the recommendations of the Inspector General, substantially expanding the deemed export program in the context of university fundamental research without credible, let alone compelling justification, must not be implemented. Moreover, there must be clarification achieved in existing regulations regarding use technology.

Thank you for your consideration.

Sincerely,



Jordan J. Cohen, M.D.
President

From: Ken Montgomery <ken_montgomery@aeanet.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 4:27 PM
Subject: RIN 0694-AD29

Re: Comment Letter for RIN 0694-AD29

Please see the attached comment letter from AeA.

(See attached file: DeemedExportANPRMComments06_27_05final.pdf)

Best regards,

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AeA
Advancing the Business of Technology

June 27, 2005

Sent via email and posted to Federal eRulemaking Portal

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Ave., N.W.
Room 2705
Washington, D.C. 20230

Attn: RIN 0694-AD29

Re: Comments of AeA to Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam,

AeA welcomes the opportunity to comment on the Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of Deemed Export Related Regulatory Requirements ("ANPR") of March 28, 2005[1]. The Notice seeks industry comment on certain recommendations arising from the March 2004 Department of Commerce, Office of the Inspector General report ("OIG Report") entitled, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S."[2].

AeA represents more than 2500 American high technology companies that routinely employ, host, collaborate or otherwise engage with thousands of foreign nationals in the course of their daily business activities. In many cases AeA member companies have been industry leaders in the development and implementation of innovative deemed export compliance programs, as well as principal "consumers" of deemed export licenses.

The ability to attract and retain the world's brightest and most highly skilled workforce has long been key to the United States' position as a global economic power. Foreign nationals bring needed diversity, innovation and vitality to our nation's universities, research institutions and corporate environments. While we continue to be a favored destination for those seeking academic and career opportunities, other countries are increasingly developing programs and incentives that draw on the same talent pool. In this competitive environment, U.S. government policies placing restrictions on the hiring,

[1] 70 Fed. Reg. 15607(2005).
[2] Final Inspection Report No. IPE-16176, March 2004.

deployment and utilization of foreign nationals, if predicated on national security considerations, should be narrowly crafted to clearly and effectively address specific policy objectives without unduly burdening legitimate business activity or academic inquiry.

As correctly stated in the OIG Report, the deemed export regulations are ambiguous and based on an ill-defined set of policies. Companies find it difficult to identify issues and monitor compliance. Many struggle to reconcile their deemed export obligations with potentially conflicting employment, discrimination and privacy considerations. The high rate of deemed export license approvals coupled with the paucity in number of applications suggest that the deemed export rule is, in most instances, an ineffective procedural formality that is neither clearly understood nor followed by the majority of U.S. companies. As it stands, such a requirement is an impediment to attracting and deploying highly skilled and talented foreign nationals and is of negligible benefit to the security and foreign policy interests of the United States. Any changes, short of its elimination, should seek to conform the deemed export rule to the realities of the global marketplace, limit its application and scope and bring clarity to interpretative meaning while ensuring that compliant companies are not placed at risk of violating other domestic and international legal requirements.

The OIG Report and ANPR provide a much-needed opportunity for industry/agency dialogue on the deemed export rule. The acknowledged need for clarity in interpretation and the prospect for more extensive Q&As in Supplement 1 to Part 734 are welcomed first steps. However, as will be discussed below, AeA and other informed commentators are troubled by serious shortcomings in the OIG Report including, most notably, the failure to properly analyze international citizenship and nationality laws or to consider privacy, data protection and discrimination laws as a potential barrier to implementation of the recommendations.

Definition of "Use" Technology

The OIG Report recommends amending the definition of use technology in Part 772.1 of the Export Administration Regulations ("EAR"), to replace the word "and" with "or". This would make clear that the term "use" would encompass any one, and not necessarily all, of the activities described in Section 772.1[3].

Comments:

Many companies already interpret the current language consistent with the proposed regulatory change. Accordingly, we would support the OIG recommendation as bringing needed clarity.

AeA's issues are focused not on the definition of "use" but rather on the resulting challenges to understand and comply with the use technology requirements.

[3] Activities encompassing "use" include, "operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing".

Compliance requires companies to conduct an extensive inventory of equipment to determine the relevant ECCNs. Where controlled use technologies are present, companies need to monitor and restrict foreign national access, and, where appropriate, seek licenses. For larger companies and academic institutions this may mean having to survey hundreds if not thousands of pieces of equipment, and monitoring countless foreign nationals.

Informed commentators would question whether this effort and the accompanying burden are justified given the rare instances where such controls are relevant. A review of the Commodity Control List ("CCL") reveals only very limited circumstances where use technology controls are present. Many of those are subject to the General Technology Note[4], which further limits controls to that "portion of 'technology'... peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or function ...". As a practical matter, most use technologies, especially those related to an item's operation, would be an unlikely source of technology "peculiarly responsible" for achieving or exceeding a control parameter.

Moreover, much of what might otherwise constitute use technology is arguably publicly available and thus exempt from the EAR. AeA strongly encourages promulgation of new and expanded Q&As in Supplement 1, Part 734, to provide practical guidance, including examples, regarding publicly available use technology. AeA welcomes the Bureau of Industry and Security's ("BIS") recent posting to their website of an advisory opinion discussing public availability of technology transferred through a visual inspection at a public sale. Examples such as this will help companies narrow the scope of inquiry and focus only on those use technologies subject to the regulations. This will reduce the burden by allowing companies to dispense with additional analysis and oversight once the technology in question is determined to be publicly available.

AeA urges an interpretation of fundamental research consistent with the Corson study[5] and the policy established by the National Security Decision Directive 189. We support academic institutions in their efforts to uphold an expansive reading of the fundamental research exemption and we defer to our colleagues in academia for more specific comments on that important issue.[6] It should be noted, however, that a broad interpretation of the publicly available exemption for use technology would be a non-controversial way to limit the burden on academia notwithstanding the outcome of the fundamental research debate.

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[4] 15 CFR 774, Supp. No. 2

[5] Scientific Communication and National Security (1982)

[6] The OIG Report also elicits comments concerning clarification of the answer to Question A (4) of Supplement No.1 to part 734. AEA defers to commentators from academia in this regard.

Country of Birth as Home Country

The OIG Report recommends BIS amend its policy to adopt a "country of birth" standard for determining deemed export licensing requirements regardless of a foreign national's most recent citizenship or permanent residency. The recommendation appears to suggest that a determination based exclusively on country of birth or country of "origin", rather than on last acquired citizenship or place of permanent residency, would prevent situations like the one illustrated in the OIG Report, where "nationals of state sponsors of terrorism may travel on European passports or have multiple nationalities"

Comments

It is evident that the OIG's recommendations are based, in part, on flawed reasoning and a lack of understanding of relevant concepts, especially as to global citizenship and nationality laws[7] and their implications for "home country" determinations[8]. The current BIS standard[9], one based on last acquired citizenship or permanent residency, reflects the mobility of today's global population and, most importantly, is grounded in the individual's current allegiance and legitimate legal status under the laws of sovereign states, many of which are principal allies and trading partners of the United States.

The vast majority of the world's countries surveyed[10] confer citizenship at birth based on descent ("jus sanguinis"), not on the transitory fact of one's country of birth ("jus soli"). For example, under the Iranian rule of jus sanguinis, a child born in transit through Iran to non-Iranian parents would not obtain Iranian citizenship at birth. If the OIG recommendation were to prevail the child would be "Iranian" even though he or she would not be entitled to any of the attendant rights and privileges associated with Iranian citizenship or nationality. The protections and legal status conferred on the citizens and nationals of a sovereign state create the basis for the individual's allegiance to that state. Absent the rights or status of citizenship or nationality, there is no reason to believe an individual would owe allegiance to a state simply because of the coincidence of having been born within its borders.

A further anomaly would arise where the individual was born in a less restrictive country than the place of original or current citizenship or permanent residency. Case in point is the child born in Germany to Russian parents. Birth in Germany to non-German parents prior to January 1, 2000 would not result in German citizenship. The OIG position would consider the child "German" although he or she is a Russian citizen, with no claim to German citizenship or nationality, and may have returned to Russia.

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[7] In English usage, there is a distinction between "citizenship" and "nationality". A non-citizen "national" is someone who owes allegiance to a state, and who, in turn, is entitled to certain special protections and privileges, albeit not those of full citizenship. A "citizen" is also a "national" but with additional rights incident to citizenship.

[8] "Home country" is the country of chargeability for deemed export purposes.

[9] See BIS Website FAQs http://www.bxa.doc.gov/DeemedExports/DeemedExportsFAQs.html (last visited June 15, 2005).

[10] Based on review on the laws of 184 countries. See Citizenship Laws of the World, United States Office of Personnel Management, Investigations Service (2001).

The licensing policy of the Department of State's Directorate of Defense Trade Controls ("DDTC") looks to all current nationalities of the subject foreign national when making a licensing determination under the International Traffic in Arms Regulations ("ITAR"). While commenting favorably on the logic of DDTC position, OIG recommendation nevertheless advocates an inflexible approach that precludes the type of analysis potentially present in a DDTC evaluation. Consider, for example, the child born in China to Chinese parents, and therefore a Chinese citizen at birth, who immigrates to Australia at age 3 and subsequently becomes an Australian citizen, never to return to China. For ITAR purposes birth in China would be a factor in the licensing determination. However, there is at least one reported example of the DDTC considering formal renunciation of Chinese citizenship or nationality as a mitigating consideration. Yet under the OIG position the individual would forever be treated as "Chinese" notwithstanding formal renunciation or loss of citizenship or nationality. The same would be true of the Chinese-born dissident, who renounces Chinese citizenship and nationality and subsequently acquires refugee status (and eventually citizenship) in a European country based on a well-founded fear of persecution if forced to return to China. Thus, while the DDTC views place of birth as a factor for consideration, the OIG position would make it controlling regardless of wisdom or logic when applied to the underlying facts or to the relevant citizenship and nationality laws of the country or countries in question.

It should be evident from the above examples that a "county of birth" formula suggested by the OIG Report is an illogical and unreliable gauge of one's allegiance or legal status, and, as a result is a far less meaningful and appropriate standard for determining home country than the exiting BIS criterion.

Inherent in the OIG position is the suggestion that under the existing formulation someone could create a new home country through the manipulation of lenient legal residency and naturalization processes of unsuspecting third countries. In fact, an examination of the requirements for permanent residency and naturalization, including security and background reviews in such key countries such as Germany and Canada compare favorably, and in some respects are more stringent, than those of the United States.

It is also apparent that the OIG did not fully consider relevant discrimination, privacy and data protection concerns that would potentially impair compliance with the recommendations. Most companies currently have no legitimate need or legal justification to know the country of origin of foreign nationals with whom they interact. There are several problems with a change in this protocol. First, compliance with the OIG recommendation would require companies go to every employee, prospective employee, contractor and other third party with access or potential access to controlled technology, determine whether or not they are a protected individual[11], and if not, then inquire as to their place of birth. Second, questions of this nature, if posed in an

[11] See 8 USC 1324(b) which defines the class of "protected individuals " as including citizens and nationals of the U.S., lawful permanent residents of the U.S., persons granted asylum and refugee status in the U.S., and temporary residents (those granted amnesty or Special Agricultural Worker status in the 1980's)

employment context, may invoke issues of national origin discrimination under applicable state and federal laws, including Title VII of the Civil Rights Act of 1964. These laws are broadly interpreted in favor of the potentially aggrieved party and often result in lengthy and costly litigation.

The collection of national origin information abroad to satisfy export control requirements must also be reconciled with international privacy and data protection concerns. There is no indication that the OIG has considered such implications. National origin information is treated as sensitive data under the European Union ("EU") Directive on Data Protection ("EU Directive"), and as such is held to high standards of protection. Within the EU the rules governing the collection, dissemination and storage of personal data vary by country resulting in the selective imposition of even more stringent requirements than under the EU Directive. For example, member companies surveyed report that collecting and taking action based on information regarding place of birth, especially from current employees, would be particularly problematic in certain EU jurisdictions. Moreover, privacy and data protection concerns are not limited to the EU and are becoming an increasing focus of other foreign governments including, most recently, Japan.

The OIG recommendations also come at a time when even our closest allies have expressed concern over U.S government treatment of personal data especially in response to the potential for access to personal data under the USA Patriot Act. Both the Canadian and Australian governments are currently considering measures designed to limit or prevent U.S. government access to certain personal data. It is unclear whether and to what extent adoption of the OIG Report recommendations would trigger a comparable reaction. What is clear is that any changes that could lead to international repercussions, or that raise impediments to industry compliance due to conflicting statutory or regulatory standards, should be vetted and reconciled in advance with the appropriate stakeholders including the Equal Employment Opportunity Commission, the relevant EU governmental authorities, and other impacted countries' regulatory agencies. Clear guidelines should be negotiated, with industry participation and input, to reduce barriers to compliance. Where appropriate this could include creation of "safe harbor" standards comparable to what the Department of Commerce negotiated with the EU authorities in the 1990's allowing U.S. companies to satisfy adequacy standards under the EU Directive.

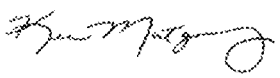
Based on information from member companies, it is evident that a "country of birth" standard will result in a substantial and immediate increase in number of deemed export license applications. The most significant impact would appear to be on persons born in China who subsequently obtain Canadian citizenship or landed immigrant status. Some companies report the change could impact up to a hundred or more current employees including key participants involved with critical and time-sensitive company projects. Companies report the resulting inability to timely perform contractual obligations would, in turn, lead to potential litigation and an attendant loss of customers and profits. Accordingly, a change in deemed export licensing requiring the suspension activities pending license submission and approval would be highly disruptive and problematic for

many companies. Such a change will also have a chilling effect on future recruitment and hiring of foreign nationals. The burdens and delays attendant to licensing will tend to dissuade U.S. companies from even considering the employment or utilization of persons born in certain countries notwithstanding their current citizenship or permanent residency. Aside from the backlash from countries, including our major allies, over the United States government's disparate treatment of their citizens and legal residents, any process that fosters the denial of employment opportunities based exclusively on national origin would be offensive to long established public policies and legal protections in the United States and abroad.

U.S government policy initiatives are of little value if they fail to consider impediments to implementation. For the reasons stated, the OIG recommendation is ill conceived, insufficiently researched and, if adopted, would create significant barriers to compliance. The current BIS standard is generally acceptable to industry and has proven to be a workable and logical means for determining home country. There is no reason or justification for change at this time.

AeA appreciates this opportunity to provide comments on the Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of the Deemed Export Related Regulatory Requirements. We believe that ongoing industry involvement is critical to developing a rational policy to what is an extremely challenging and important issue for U.S. industry.

Sincerely,



Ken Montgomery
Director, International Trade Regulation

From: "Carnegie, Les" <lcarnegie@cov.com>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 3:28 PM
Subject: ATTN: RIN 0694-AD29

Please see attached comments. The signed original was hand-delivered to your Office today. Please call with any questions.

Best regards.

Les Carnegie

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June 27, 2005

BY HAND DELIVERY
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U.S. Department of Commerce
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14th Street & Pennsylvania Avenue, N.W.
Room 2705
Washington, D.C. 20230
ATTN: RIN 0694-AD29

Re: **Comments on Advance Notice of Proposed Rulemaking Regarding Revision and Clarification of Deemed Export Related Regulatory Requirements**

Dear Sir or Madam:

Covington & Burling is responding to the Bureau of Industry and Security's ("BIS") request for comments on proposed changes to the Export Administration Regulations, 15 C.F.R. Parts 730-774 (the "EAR"), that would affect existing requirements and policies for deemed export licenses.[1]

For decades Covington & Burling has advised multinational companies, in this country and abroad, concerning their compliance with U.S. export control requirements, and we have drawn on this experience with their "deemed export" issues in preparing these comments. Additionally, we have had specific discussions with several of our clients about the suggested changes to the deemed export rule, and we are aware of their concerns about this sweeping proposal and its likely impact on the scope of their export-related compliance burdens both in the United States and abroad.

The comments that follow are confined to the portion of the Advance Notice of Proposed Rulemaking ("ANPR") that proposes to amend current BIS policy to

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[1] BIS solicited comments on the proposal on March 28, 2005, with a deadline for public comment on May 27, 2005. *See* 70 Fed. Reg. 15607. On May 27, 2005, BIS extended the public comment period until June 27, 2005. *See* 70 Fed. Reg. 30655. These comments, therefore, are timely submitted.

require U.S. organizations to seek deemed export licensing for foreign national employees (including U.S. lawful permanent residents) and visitors who have access to export-controlled technology if they were born in a country where the technology transfer in question would require an export license. Currently, under the EAR, the deemed export rule does not reach U.S. lawful permanent residents (*i.e.*, "green card" holders) and persons who are identified as protected individuals under the Immigration and Naturalization Act, such as asylees and refugees. *See* 15 C.F.R. § 734.2 (b)(ii). In addition, under current BIS policy, the controlling factor in determining whether deemed export licensing is required is the foreign national's most recent citizenship or permanent residency. *See* "Deemed Export" Questions and Answers, available at http://www.bis.doc.gov/DeemedExports/DeemedExportsFAQs.html.

According to the ANPR, BIS is responding to concerns raised by the U.S. Department of Commerce Office of Inspector General ("OIG"). The OIG's concerns are set out in its report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." *See* Final Inspection Report No. IPE-16176-March 2004 (available at http://www.oig.doc.gov/oig/reports/2004/BIS-IPE-16176-03-2004.pdf) (hereinafter the "OIG Report"). Among the OIG's chief concerns is that "foreign nationals who originate from countries of concern and have access to controlled dual-use technology are able to bypass the extensive screening process required of a deemed license [sic] application." OIG Report at p. 16. The OIG report also explains that because "there are no travel restrictions placed on [U.S.] permanent residents, these individuals could travel back and forth to their home country with controlled technology without any monitoring by the U.S. government." OIG Report at p. 13.

For the reasons that follow, we believe a change in current BIS policy is unnecessary, would not materially advance U.S. national security objectives, and would raise a number of operational challenges that would make it very difficult for U.S. organizations to implement compliance procedures in response to such a dramatic shift in policy.

1. **Based on the Information Available to U.S. Companies Under the Current U.S. Employment Verification System, It Is Virtually Impossible to Assess the Impact of the OIG's Country-of-Birth Proposal.**

In the ANPR, your Office explains that it is interested "in receiving specific information regarding the impact of the regulations" if the country-of-birth criterion proposed by the OIG were adopted by BIS. *See* 70 Fed. Reg. 15609. In

particular, your Office requests that U.S. organizations providing comments include "data on the number of foreign nationals in the United States who will face licensing requirements" and the "impact of compliance with the new licensing requirements" in terms of "cost, resources, procedures" if the OIG's country-of-birth recommendation becomes the new standard under BIS deemed export licensing policy. *See id.* These requests in the ANPR, however, incorrectly assume that U.S. organizations today have access to the country-of-birth information of their current employees.

The Immigration Reform and Control Act of 1986 ("IRCA")[2] establishes an extensive employment verification system for U.S. employers to (a) verify and re-verify that new and current employees are eligible to work in the United States and (b) to substantiate that their identities match the information on their employment authorization documents. The form used to comply with the IRCA is Form I-9, the "Employment Eligibility Verification Form," which is available at http://uscis.gov/graphics/formsfee/forms/files/i-9.pdf. It is especially important to note that the I-9 Form has been carefully developed by the U.S. government to ensure that U.S. employers ask employees to provide only the minimum necessary information to confirm employment eligibility in order to prevent discrimination based on national origin or citizenship status. Because the I-9 Form does not elicit country-of-birth information, it is very unlikely that U.S. companies or U.S. government research facilities are in a position to provide a measured response to BIS's request for impact data. To be in a position to respond to the request in the ANPR in a meaningful way, a U.S. company would have to solicit country-of-birth information from all current employees who are not United States citizens and who have access to controlled technology. It is unlikely that many employers will take this step or even have the resources to process this information.[3]

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[2] The IRCA makes it unlawful for U.S. employers knowingly to hire or continue to employ any person who is unauthorized to work in the United States. The IRCA also strictly proscribes discrimination based on national origin or citizenship status, and it establishes civil and criminal penalties for employers who violate the law.

[3] It is also less than clear whether soliciting country-of-birth information from U.S. lawful permanent residents and non-immigrant workers would be consistent with the anti-discrimination provisions of the IRCA. Indeed, if BIS adopts the OIG country-of-birth proposal, BIS should confirm with the Office of Special Counsel for Immigration-Related Unfair Employment Practices ("OSC") that the IRCA would permit such an inquiry, and BIS should clearly state that no IRCA-related violations can be derived from asking job applicants and employees for their country of birth if the question is asked to comply with the deemed export rule. In this respect, your Office should note that the Department of Agriculture's website summary of the IRCA warns employers that "[a]pplicants should not be asked where they were born or whether they are legally entitled to work in the United States." *See* http://www.usda.gov/oce/oce/labor-affairs/ircadisc.htm. Moreover, BIS should also consider the long line of U.S. Supreme Court rulings that hold that classifications based on alienage,

Nevertheless, in the absence of concrete impact data, U.S. companies are generally aware of the number of U.S. lawful permanent resident employees working for them and recognize the international diversity of their workforce. On the basis of this information, we have been advised by our clients that the OIG proposal, if adopted by BIS, would inevitably have a dramatic impact on their deemed export and deemed re-export compliance burden.

2. The Compliance Burden Raised by the OIG's Country-of-Birth Proposal Would be Enormous and Difficult to Manage.

Literally tens of thousand of foreign nationals who have been working in the United States possibly for decades would become subject to the deemed export rule if a country-of-birth criterion replaced current BIS deemed export policy. Moreover, the proposal would appear to make all U.S. lawful permanent residents, asylees, and refugees subject to the deemed export rule, although the EAR today exempt U.S. lawful permanent residents and protected individuals – as defined in the Immigration and Nationality Act, 8 U.S.C. 1324b(a)(3) – from the reach of the deemed export rule. (Although the ANPR is not entirely clear on this point, the OIG report suggests that U.S. lawful permanent residents should be subject to the deemed export rule.)

The contemplated expansion in the deemed export licensing test would inevitably result in a dramatic increase in the need to obtain deemed export licensing from your Office. The OIG proposal would also almost certainly introduce new licensing delays and uncertainties for the large number of employment situations that become newly subject to deemed export restrictions. Wholly apart from the impact for the individual employees, which could be significant, the delays and new uncertainties would create operational disruptions for the many affected U.S. employers (in both their domestic and international operations). For instance, current employees who today work with controlled technology but who are not subject to a deemed export licensing requirement could have to be sidelined for up to several months while licensing is obtained. Inevitably, a change to the deemed export rule in step with the OIG proposal would result in many employees being reassigned to positions not involving controlled technology, in employees no longer being able to perform the job for which they were hired, and in employees not being considered for promotions or other opportunities. Indeed, companies might even elect not to go through the time and expense of licensing large numbers of their employees and elect instead to terminate their employment.

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like those based on nationality or race, are inherently suspect and, as a result, must be subjected to the "most rigid scrutiny." *See Korematsu v. United States*, 323 U.S. 214, 216 (1944).

Moreover, the compliance burden on U.S. organizations of a deemed export rule premised on a non-U.S. citizen's country of birth would be enormous. To comply with a country-of-birth deemed export test, U.S. companies would be required to ask every prospective and current employee for their place of birth if they potentially could have access to technology specifically controlled under the EAR. As noted above, country-of-birth information is generally not revealed as part of the I-9 Form completion process. At a minimum, compliance-minded companies would be compelled to require that prospective and current employees that have or will have access to controlled technology submit a copy of their birth certificate, which in many cases is not only difficult to obtain but also generally difficult to verify (unlike, for instance, establishing whether an Employment Authorization Document or Social Security card appears to be genuine).

3. A Country-of-Birth Test for Deemed Export and Deemed Re-Export Licensing Is Unreasonably Broad and Would Make U.S. Companies Less Competitive Globally.

As discussed above, the OIG proposal would subject tens of thousands of non-U.S. citizens who were born in a third country to a deemed export licensing requirement, even though the foreign national may have no other ties to his or her country of birth (*i.e.*, no nationality or permanent residency). Such a rule, in effect, would penalize individuals for an accident of birth and ignores the reality that many individuals leave countries permanently looking for better opportunities or to escape a governing regime. For these reasons, BIS's current deemed export licensing policy is sensible: It recognizes that an individual who takes affirmative steps to associate himself or herself on permanent basis with another country, and is accepted by that country, should be given the export control status of the new country, not the status of the country where the individual happened to be born. It is also worth noting that the United States is one of few countries that grants automatic citizenship to persons born on U.S. soil. In this respect, the OIG report appears to incorrectly assume that "foreign nationals who originate from countries of concern" are citizens or permanent residents of such countries or maintain any ties to such countries.

Moreover, at a time when there are many reports of declining U.S. preeminence in the fields of math and science, a change in BIS deemed export policy towards the OIG's proposal would likely result in U.S. companies not hiring the best technical talent and thus becoming less competitive and capable in the global economy.

4. Neither the OIG nor BIS Seems to Have Considered the Impact of the Country-of-Birth Proposal on Deemed Re-exports.

Neither the OIG report nor BIS's ANPR seems to have considered the impact of the country-of-birth proposal on deemed reexports. Indeed, the ANPR solicits information from U.S. organizations on the "number of foreign nationals *in the United States* who will face licensing requirements" if the OIG proposal is adopted. *See* 70 Fed. Reg. 15609 (emphasis added). The ANPR thus appears to ignore the impact of the proposed shift in deemed export/reexport policy on foreign nationals working outside of the United States.

Under the OIG's country-of-birth proposal, U.S. companies would be required to vet the countries of birth of all foreign nationals and U.S. permanent residents working abroad in order to comply with the proposal. Anti-discrimination laws in some foreign countries may prevent U.S. companies from asking foreign workers or prospective applicants in such countries for their country-of-birth information. Indeed, affected companies would have to analyze the employment rules on a country-by-country basis if this proposal were to be approved.

5. Neither the OIG nor BIS Has Demonstrated that the Country-of-Birth Proposal Would Enhance National Security.

Neither the OIG nor BIS has demonstrated that a deemed export country-of-birth rule would enhance U.S. national security, and neither has provided any evidence that current controls on deemed exports are deficient and that radical and significantly more burdensome controls are necessary. In this respect, it is significant to note that the OIG concedes in its report that the Central Intelligence Agency ("CIA") – which was at one time involved in reviewing certain deemed export license requests "that potentially involve missile, nuclear, chemical, or biological proliferation" – ultimately declined to take part in the deemed export license review process "because of the lack of derogatory 'hits' [the CIA has] obtained from this exercise in the past." OIG Report, p. 3. The OIG report goes on to explain that:

> In an attempt to conduct some type of intelligence review for these applications, however, BIS has made other arrangements with the agency. Specifically, the CIA sends BIS an updated CDROM of end-user reports on a monthly basis. BIS licensing officers from the Deemed Export Division query the database for information on

> any foreign national associated with the license application and/or any affiliated entities the foreign national has listed on his résumé (*e.g.*, previous employers or universities attended). However, according to BIS officials, they have not received any derogatory hits against this database since they began this exercise.

Id. The OIG Report also appears to ignore the fact that the U.S. visa application process is intended to screen out individuals who may pose a national security risk to the United States. In short, with the exception of conclusory statements about unspecified threats to U.S. national security, the OIG Report does not provide any evidence that the existing deemed export control system is not effective.

6. Alternative Suggestions to the OIG's Country-of-Birth Proposal for Deemed Export Purposes.

In the ANPR, your Office also invites comment on "alternative suggestions regarding the concerns raised by the OIG." In this respect, it first bears noting that responsible U.S. companies exercise care in selecting candidates for employment, based on their qualifications and background, who will have access to the company's controlled technology. Moreover, as the "owners" of the technology, industry and not the government is arguably in a better position to develop and implement compliance controls to prevent proscribed technology transfers. In addition, the concerns raised by the OIG appear in large measure to be addressed in the EAR under Prohibition Ten. *See* EAR § 736.2(b)(10). Indeed, the deemed export provisions of the EAR already provide that "the release of any item to any party with knowledge a violation is about to occur is prohibited by §736.2(b)(10) of the EAR." EAR § 734.2 (b)(ii). In other words, if a party knows that "any party" (including a U.S. citizen, U.S. lawful permanent resident, or foreign national) will transfer controlled technology to a country of concern (including in connection with travel to a country of concern with EAR-controlled technology), the transfer of the controlled technology is already proscribed under the EAR. As discussed above, because eliciting country-of-birth information from prospective and current employees both in and outside the United States raises a myriad of legal and administrative/compliance issues, the concerns raised by OIG are best addressed under the current EAR through Prohibition Ten.[4]

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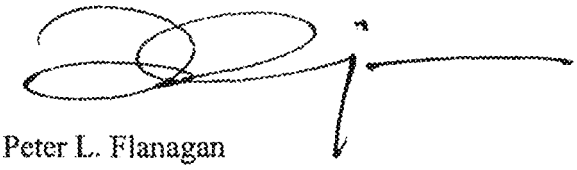
[4] In the event your Office determines that a shift in policy towards a country-of-birth criterion is warranted, your Office should continue to consider all of the information available to it during the license review process and not make a licensing judgment solely on the basis of a U.S. permanent resident's or foreign national's country of birth. Put differently, your Office should continue to evaluate the nature of the controlled technology, the last permanent resident status or citizenship of

* * * * *

Covington & Burling appreciates the opportunity to submit these comments. We urge BIS to consider these comments in drafting the notice of proposed rulemaking that may change BIS policy as it relates to the deemed export rule. If the authors of these comments can be of further assistance in this effort, Peter Flanagan can be reached at (202) 662-5163 (pflanagan@cov.com) and Les Carnegie can be reached at (202) 662-5243 (lcarnegie@cov.com).

Respectfully submitted,



Peter L. Flanagan
Les P. Carnegie

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the foreign national, the length of such permanent resident status or citizenship, and the foreign national's ties -- if any -- to his or her country of birth.

From: "MARK SMITH" <marksmith@aaup.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 2:46 PM
Subject: Comments on Proposed Rulemaking - (RIN 0694-AD29)

I am attaching AAUP's comments on Revision and Clarification of Deemed Export Related Regulatory Requirements Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 (RIN 0694-AD29)

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June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Re: Revision and Clarification of Deemed Export Related Regulatory Requirements
Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772
(RIN 0694-AD29)

The following are comments on behalf of the American Association of University Professors ("AAUP"), on Advance Notice of Proposed Rulemaking for "Revision and Clarification of Deemed Export Control Regulatory Requirements." In addition, AAUP specifically endorses the comments of the Association of American Universities ("AAU") on the proposed rule and the recommendations made by the Commerce Department's Office of the Inspector General (OIG) in its report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technologies to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004).

The American Association of University Professors is the national organization serving the academic profession and college and university faculty members. Founded in 1915, the Association has some 45,000 faculty members at colleges and universities throughout the country and has long been viewed as the authoritative voice of the academic profession.

Since its founding, the main work of the Association has been defending the principles of academic freedom and mechanisms to ensure those principles such as tenure, shared governance, and due process. Our 1940 *Statement of Principles on Academic Freedom and Tenure,* a joint enterprise with the Association of American Colleges, has been endorsed by more than 180 learned societies and educational organizations. Its normative value is attested to by the substantial number of endorsing bodies and by the fact that hundreds of colleges and universities have invoked the *Statement* in their regulations or handbooks.

The purpose of the 1940 *Statement* is:

> to promote public understanding and support of academic freedom and tenure and agreement upon procedures to assure them in colleges and universities. Institutions of higher education are conducted for the common good and not to further the interest of either the individual teacher or the institution as a whole. The common good depends upon the free search for truth and its free exposition.

The *Statement* goes on to elaborate:

> Academic freedom is essential to these purposes and applies to both teaching and research. Freedom in research is fundamental to the advancement of truth. Academic freedom in its teaching aspect is fundamental for the protection of the rights of the teacher in teaching and of the student to freedom in learning. It carries with it duties correlative with rights.

In the 2003 report ***Academic Freedom and National Security in a Time of Crisis***, AAUP discussed the impact of export controls on academic freedom. We specifically examined the impact of International Traffic in Arms Regulations (ITAR), administered by the Department of State, and the Export Administration Regulations (EAR), administered by the Department of Commerce. At that time we emphasized that the implementation of "these regulatory systems" with regard to "foreign scholars and students when the relevant research is nonproprietary... have the perhaps unintended consequence of reinforcing the importance of openness in the free exchange of scientific information." Our report noted that the "potential is present, however, for the rules to be redrafted. The academic community must remain vigilant and insist upon rigorous adherence to the guiding principle ... that any curtailment of free inquiry or limitation on the free circulation of research would have to be justified not by speculation but by the demonstrable failure or inadequacy of the existing rules."

In our view, the recommendations of the OIG report have the effect of redrafting these rules, and in ways that impair academic freedom and the conduct of fundamental university research.

The imposition of these requirements may seriously disrupt ongoing research projects, and will have an adverse effect on the willingness and ability of foreign nationals to come to this country to study and engage in scholarly research. The fact is that the individuals who will be affected by these regulations have already gone through stringent reviews such as VISA MANTIS and the addition of new regulatory burdens seems unwarranted. The recommendations will force institutions to establish yet another layer of security regulations with the resulting chill on the open environment essential for the progress of scholarly and fundamental research.

In our 2003 report, the Association identified three essential criteria the government must satisfy when it "invokes claims of security to justify an infringement of our civil or academic liberties."

> 1. The government must demonstrate the particular threat to which the measure is intended to respond, not as a matter of fear, conjecture, or supposition, but as a matter of fact.
>
> 2. The government must demonstrate how any proposed measure will effectively deal with a particular threat.
>
> 3. The government must show why the desired result could not be reached by means having a less significant impact on the exercise of our civil or academic liberties.

At this point, the suggested changes in the implementation of the deemed export rule have not met these "essential criteria." We cannot support these changes without a clear explanation from the government meeting these points.

We join in the recommendation of several groups that the government undertake a major study on the impact of export controls on scientific research under the auspices of the National Academies of Sciences. The review should include potential impacts of export control policies, both positive and negative, on the conduct of science

and technology research. Such a review should include such considerations as the context of globalization and current national and homeland security threats. It should examine whether or not the national security benefits of strict export controls on fundamental scientific research outweigh the costs of lost international students, scholars, and research programs. A study also should take into account whether or not efforts to limit access to fundamental U.S. technical and scientific knowledge in turn limits our ability to gain access to key scientific advances being made in other countries.

Sincerely yours,

Mark F. Smith
Director of Government Relations

From: "Martin, Steven A" <stemarti@indiana.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 10:51 AM
Subject: RIN 0694-AD29

Please find below comments submitted by Dr. Michael A. McRobbie, Vice President for Research, on behalf of Indiana University in response to the Advanced Notice of Proposed Rulemaking by The Bureau of Industry and Security posted in the March 28, 2005 Federal Register. Our comments are both appended below as text and attached as a Word document. We greatly appreciate the opportunity to provide input on the impact of these proposed changes and to suggest changes.

Thanks,
Steve
<<Comments to Commerce 6-27-05.doc>>

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June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230

Re: Comments of Indiana University on Advanced Notice of Proposed Rulemaking, March 28, 2005 (RIN 0694-AD29)

Dear Mr. Lopes:

I am writing in response to the Advanced Notice of Proposed Rulemaking published in the Federal Register on March 28, 2005, to provide comments on the impact that the changes to the "deemed export" rules proposed by the Commerce Department's Inspector General (IG) likely would have on Indiana University, one of the nation's leading research universities.

IU appreciates the need for all institutions, including universities, to help preserve national security and protect against threats to that security. Likewise, we are committed to complying with the export control laws and to ensuring that members of the University community understand and fulfill their obligations under such laws. We are concerned, however, that the proposed changes to the Export Administration Regulations would yield little if any

security benefit, but would have a profound and negative impact on the university research enterprise and, correspondingly, the national economy.

Proposed change in the definition of "use" of equipment

According to the IG's report and recommendations, the proposed change to the definition of "use" of equipment under Part 772.1 of the Export Administration Regulations, coupled with the IG's apparent conclusion that the fundamental research exemption does not apply to the "use" of controlled equipment, essentially would mean that a deemed export license would be required whenever a foreign researcher from a relevant country operates equipment on the Commerce Control List, or is given information relevant to the operation of that equipment - even when the research being conducted constitutes "fundamental research" that is otherwise excluded from the scope of the EAR. The IG's report appears to suggest that all items on the CCL are controlled for "use technology," while our reading suggests that controls on "use technology," or "technology for the use of" controlled equipment, do not apply across the board. Nonetheless, a substantial number of items appear to be controlled for "use technology," so the IG's recommendation that deemed export licenses are needed in such cases for operation of controlled equipment in university fundamental research, raises grave concerns. The IG's proposed changes essentially would eliminate the fundamental research exemption.

We have not yet evaluated against the Commerce Control List all the technologies that are used or available within specific academic programs or research projects at IU, but I can provide you with current data on the numbers of foreign students, faculty and other employees, postdoctoral fellows, and visitors participating in those academic departments which currently involve, and are likely to involve in the future, the use of controlled technology. This should give you a broad sense of the impact the proposed change to the deemed export rules would have on research and teaching at IU.

Currently IU has a total of 1,564 foreign students and employees in science and technology disciplines on our two main campuses in Bloomington and Indianapolis, including but not limited to a variety of programs in the biological sciences, chemistry, medical sciences and genetics, immunology, engineering, computer sciences and informatics, and physics. These foreign nationals contribute substantially to research, learning, and scholarship within the University, and come from a wide variety of countries, including 172 from China and Hong Kong, 125 from India and Bangladesh, 133 from South Korea, 115 from Burma (Myanmar), 63 from Malaysia, 56 from various Middle Eastern countries and Turkey, 23 from Indonesia, 15 from Russia and former Soviet Republics, and 2 from Pakistan.

IU has witnessed a marked decline this past year in applications from foreign students and scholars; for example, the number of Chinese, Indian, Indonesian, and Russian nationals at our Bloomington and Indianapolis campuses has decreased by 50-60 percent, and the number of Pakistani nationals has dropped 90 percent. Our International Programs personnel report growing perceptions among potential applicants that American universities are less welcoming environments, and so are applying to programs in other countries (the UK, Australia, Canada, and so on) instead. Given that our foreign students and scholars are consistently among our highest-achieving and most motivated academics, this means that we risk losing many of the best and brightest minds to other countries. If the proposed changes to the deemed export rules are adopted, the resulting restrictions on foreign nationals who wish to pursue research in the United States will further dissuade promising scholars from coming here and lending their considerable talents to research and innovation in America.

Because IU is committed to scholarly exchange and protects vigorously the right to publish and disseminate the results of University research, research at IU thus far has constituted "fundamental research" that is excluded from deemed export licensing requirements under the

Export Administration Regulations. We have also relied on other available exclusions, such as the "educational information" exclusion concerning the use of technology in classrooms and teaching laboratories. Accordingly, we have not had to undertake individualized inquiries for every foreign faculty member, staff member, student, or visitor to determine what technology they will encounter or use on campus; to pursue deemed export licenses for them to have access to that technology; or take measures to secure against access to that technology by foreign nationals. If the proposed changes to the deemed licensing rules for the "use" of controlled equipment were adopted, we would have to:

* conduct a widespread inventory of equipment on our campuses;
* classify each piece of equipment against the CCL to determine whether it is controlled;
* determine whether the controlled equipment is controlled for "use technology";
* attempt to identify every foreign national on campus who may at some point operate equipment controlled for "use technology," and make individualized determinations as to whether such persons require a license to use the equipment (if the proposal to consider country of birth is adopted, this task will become even more difficult);
* apply for licenses for all such persons, or deny access them access to the equipment and to information concerning its operation. To be effective, the latter may require alteration of labs, computer networks, other facilities, and certainly would require alterations in the environment of open exchange and spontaneous collaboration that currently characterizes academic research.

We would have to conduct such efforts continually in the face of constant new research and academic activities, new students, new faculty, and so on. Realistically, because it is difficult to anticipate when any foreign student or researcher may encounter controlled technology, and because the penalties for violating the law are so stringent, the pressure to err on the side of caution would be considerable - which in the licensing context could mean submitting many more applications for licenses than may be necessary. This would result in misspent time by both IU and Commerce.

The administrative costs involved in the efforts I have described above, and the delays to research and scholarship involving foreign nationals, would be staggering in my view. They are difficult to calculate, but certainly would entail extensive personnel time, daunting expert counsel fees (based on the fees we recently paid for outside counsel analysis and assistance with the physical export of a single item, I would expect to pay hundreds of thousands of dollars for just current inventory and classification of all equipment on campus that foreign nationals may use), and substantial opportunity costs associated with projects delayed or foregone. As noted above, in some cases we would need to consider building new facilities or making widespread changes to existing facilities, in order to ensure compliance.

We have begun conversations with those academic units that we believe are most likely to have controlled equipment, and their initial response supports the conclusion that the concerns I have outlined above are realistic. The Indiana University Cyclotron Facility (IUCF), a premier research institute built in the 1970s with National Science Foundation support to conduct fundamental research in nuclear physics using beams of light ions, has twice been named one of the top four places in America for obtaining a Ph.D. in nuclear physics. As such, the IUCF regularly attracts numerous foreign scholars and researchers from around the world. Indeed, 15% of the graduate students and post-doctoral researchers currently at IUCF are foreign nationals, with significant representation from the former Soviet Union and China. Personnel at IUCF frequently build their own experimental research equipment and tools, or adapt commercially available equipment and software. Their initial review of the CCL suggested that many components they use, and which they acquire on the open market, fall within general categories listed in the CCL, and that while they anticipate very few components ultimately meeting the specifications for controlled equipment, "an enormous task lies ahead" for researchers (with help from legal counsel) to evaluate each piece of equipment against the performance specifications of

the CCL, in order to properly classify the equipment. They expressed concern that ambiguity in the classifications, coupled with misperceptions of nuclear physics and its relationship to nuclear weapons development, may result in a very conservative approach by the University and the government on licensing, one that would stifle international collaboration and knowledge generation concerning the origins of the universe.

IU is deeply concerned that the IG's recommendations and the proposed changes to the deemed export rules do not reflect an understanding of how university research is conducted, or the value of open and spontaneous exchange, collaboration, and innovation that are the hallmarks of that research. Fundamental research, particularly in the science and technology fields that are so critical to the continued growth of the US economy, involves the use of equipment and the continual exploration of new ways to use, adapt, and apply that equipment. The very nature of fundamental research is to explore the possibilities of research tools in the pursuit of new knowledge. If such activities will in future require deemed export licenses regardless of the fact that the knowledge generated will be fully shared with the scholarly community, then participation in fundamental research by foreign nationals frequently will be delayed or denied. How could a university predict when a foreign national might be involved in, or present at, the development of a new or different application of a piece of equipment?

In order to avoid inadvertent violations of the law, prudence would suggest applying in advance for deemed export licenses for all foreign nationals on campus who are likely to see or interact with equipment on the CCL. Given the numbers of foreign nationals from countries to which controls frequently apply, in programs likely to utilize controlled equipment, this would be a vast undertaking for IU and Commerce alike. It is hard to see - and the IG's report failed to identify - why such a burden is needed to address security concerns, particularly given the extensive and thorough visa review the federal government conducts with all foreign nationals who come here to study and perform research. While Commerce has emphasized that it anticipates few licenses needing to be issued, with respect this misses the main point, which is the crushing burden of having to perform such a continual, comprehensive, complex review. The fact that the agency only expects a handful of licenses will actually be needed at the end of all that time and expense, only underscores how inefficient and wide of the mark the IG's proposed rule changes are as a security measure.

"Country of Birth" as criterion for deemed export license requirement

The proposal to take country of birth into account in issuing deemed export licenses is deeply troubling for several reasons. First, it is unclear why the extensive visa process and accompanying background checks conducted by the federal government - including the Departments of State and Homeland Security - with respect to persons applying to study or work in the US, is not sufficient to identify those individuals who may pose security concerns. Second, neither IU nor, to my knowledge, our sister institutions, track the country of birth of naturalized citizens or permanent residents. To do so - particularly if we would be required to independently confirm information on country of birth provided by the researcher - would involve universities in background checks that we are ill equipped to conduct. Third, this proposal appears to be based on the presumption that someone who gains permanent residence or citizenship in a country, and who may have done so years or decades before coming to the US, will nonetheless always maintain a primary allegiance to his or her country of birth. This presumption does not appear to be grounded in data or logic. One can as readily surmise that people who left Iran and naturalized in Canada would be less likely, not more likely, to export sensitive technology to Iran against US and Western interests.

Clarification of Supplemental Questions and Answers

BIS has asked for comments on two proposed clarifications to the Q&A provided in Supplement No. 1 to Part 734 of the EAR. With respect to Q/A A(4), IU agrees with BIS's proposed clarification of the answer, but believes that BIS should clarify that (a) no deemed export license is needed for disclosure if the grantee complies with all specific national security controls in the grant agreement, and (b) once the granting agency approves publication, the information in the publication is considered publicly available and exempt from deemed export license requirements.

With respect to Q/A D(1), IU believes that this answer should be clarified to indicate that a deemed export license would be needed only if the student needed access to substantially restricted use technology for controlled equipment, i.e. use technology that is not publicly available in the common sense understanding discussed above.

* * *

I hope this information is helpful. IU greatly appreciates BIS's request for public comment and desire to engage in thoughtful discussion concerning these issues, which are critical to the continued success of the research enterprise within the United States. If I may provide further information that may be of use, please do not hesitate to contact me.

Very truly yours,

Michael A. McRobbie
Vice President for Research

MAM:

CC: "Cate, Beth Ellen" <becate@indiana.edu>, "Wasitis, Douglas A" <dwasitis@indiana.edu>, "Gellis, Ann J." <gellis@indiana.edu>, "Brenner, Mark L" <mbrenner@iupui.edu>, "Adams, Karen H" <kadams@indiana.edu>, "Michael A. McRobbie" <mcrobbie@ovpit.indiana.edu>

June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry & Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230

Re: Comments of Indiana University on Advanced Notice of Proposed Rulemaking, March 28, 2005 (RIN 0694-AD29)

Dear Mr. Lopes:

I am writing in response to the Advanced Notice of Proposed Rulemaking published in the Federal Register on March 28, 2005, to provide comments on the impact that the changes to the "deemed export" rules proposed by the Commerce Department's Inspector General (IG) likely would have on Indiana University, one of the nation's leading research universities.

IU appreciates the need for all institutions, including universities, to help preserve national security and protect against threats to that security. Likewise, we are committed to complying with the export control laws and to ensuring that members of the University community understand and fulfill their obligations under such laws. We are concerned, however, that the proposed changes to the Export Administration Regulations would yield little if any security benefit, but would have a profound and negative impact on the university research enterprise and, correspondingly, the national economy.

Proposed change in the definition of "use" of equipment

According to the IG's report and recommendations, the proposed change to the definition of "use" of equipment under Part 772.1 of the Export Administration Regulations, coupled with the IG's apparent conclusion that the fundamental research exemption does not apply to the "use" of controlled equipment, essentially would mean that a deemed export license would be required whenever a foreign researcher from a relevant country operates equipment on the Commerce Control List, or is given information relevant to the operation of that equipment – even when the research being conducted constitutes "fundamental research" that is otherwise excluded from the scope of the EAR. The IG's report appears to suggest that all items on the CCL are controlled for "use technology," while our reading suggests that controls on "use technology," or "technology for the use of" controlled equipment, do not apply across the board.[1] Nonetheless, a substantial number of items appear to be controlled for "use technology," so the IG's recommendation that deemed export licenses are needed in such cases for operation of controlled equipment in university fundamental research, raises grave

[1] Clarification by Commerce as to what constitutes "use technology" and what items are controlled for "use technology" would be extremely helpful.

concerns. The IG's proposed changes essentially would eliminate the fundamental research exemption.

We have not yet evaluated against the Commerce Control List all the technologies that are used or available within specific academic programs or research projects at IU, but I can provide you with current data on the numbers of foreign students, faculty and other employees, postdoctoral fellows, and visitors participating in those academic departments which currently involve, and are likely to involve in the future, the use of controlled technology. This should give you a broad sense of the impact the proposed change to the deemed export rules would have on research and teaching at IU.

Currently IU has a total of 1,564 foreign students and employees in science and technology disciplines on our two main campuses in Bloomington and Indianapolis, including but not limited to a variety of programs in the biological sciences, chemistry, medical sciences and genetics, immunology, engineering, computer sciences and informatics, and physics. These foreign nationals contribute substantially to research, learning, and scholarship within the University, and come from a wide variety of countries, including 172 from China and Hong Kong, 125 from India and Bangladesh, 133 from South Korea, 115 from Burma (Myanmar), 63 from Malaysia, 56 from various Middle Eastern countries and Turkey, 23 from Indonesia, 15 from Russia and former Soviet Republics, and 2 from Pakistan.

IU has witnessed a marked decline this past year in applications from foreign students and scholars; for example, the number of Chinese, Indian, Indonesian, and Russian nationals at our Bloomington and Indianapolis campuses has decreased by 50-60 percent, and the number of Pakistani nationals has dropped 90 percent. Our International Programs personnel report growing perceptions among potential applicants that American universities are less welcoming environments, and so are applying to programs in other countries (the UK, Australia, Canada, and so on) instead. Given that our foreign students and scholars are consistently among our highest-achieving and most motivated academics, this means that we risk losing many of the best and brightest minds to other countries. If the proposed changes to the deemed export rules are adopted, the resulting restrictions on foreign nationals who wish to pursue research in the United States will further dissuade promising scholars from coming here and lending their considerable talents to research and innovation in America.

Because IU is committed to scholarly exchange and protects vigorously the right to publish and disseminate the results of University research, research at IU thus far has constituted "fundamental research" that is excluded from deemed export licensing requirements under the Export Administration Regulations. We have also relied on other available exclusions, such as the "educational information" exclusion concerning the use of technology in classrooms and teaching laboratories. Accordingly, we have not had to undertake individualized inquiries for every foreign faculty member, staff member, student, or visitor to determine what technology they will encounter or use on campus; to pursue deemed export licenses for them to have access to that technology; or take measures to secure against access to that technology by foreign nationals. If the proposed changes to the deemed licensing rules for the "use" of controlled equipment were adopted, we would have to:

- conduct a widespread inventory of equipment on our campuses;
- classify each piece of equipment against the CCL to determine whether it is controlled;
- determine whether the controlled equipment is controlled for "use technology";
- attempt to identify every foreign national on campus who may at some point operate equipment controlled for "use technology," and make individualized determinations as to whether such persons require a license to use the equipment (if the proposal to consider country of birth is adopted, this task will become even more difficult);
- apply for licenses for all such persons, or deny access them access to the equipment and to information concerning its operation. To be effective, the latter may require alteration of labs, computer networks, other facilities, and certainly would require alterations in the environment of open exchange and spontaneous collaboration that currently characterizes academic research.

We would have to conduct such efforts continually in the face of constant new research and academic activities, new students, new faculty, and so on. Realistically, because it is difficult to anticipate when any foreign student or researcher may encounter controlled technology, and because the penalties for violating the law are so stringent, the pressure to err on the side of caution would be considerable – which in the licensing context could mean submitting many more applications for licenses than may be necessary. This would result in misspent time by both IU and Commerce.

The administrative costs involved in the efforts I have described above, and the delays to research and scholarship involving foreign nationals, would be staggering in my view. They are difficult to calculate, but certainly would entail extensive personnel time, daunting expert counsel fees (based on the fees we recently paid for outside counsel analysis and assistance with the physical export of a single item, I would expect to pay hundreds of thousands of dollars for just current inventory and classification of all equipment on campus that foreign nationals may use), and substantial opportunity costs associated with projects delayed or foregone. As noted above, in some cases we would need to consider building new facilities or making widespread changes to existing facilities, in order to ensure compliance.

We have begun conversations with those academic units that we believe are most likely to have controlled equipment, and their initial response supports the conclusion that the concerns I have outlined above are realistic. The Indiana University Cyclotron Facility (IUCF), a premier research institute built in the 1970s with National Science Foundation support to conduct fundamental research in nuclear physics using beams of light ions, has twice been named one of the top four places in America for obtaining a Ph.D. in nuclear physics. As such, the IUCF regularly attracts numerous foreign scholars and researchers from around the world. Indeed, 15% of the graduate students and post-doctoral researchers currently at IUCF are foreign nationals, with significant representation from the former Soviet Union and China. Personnel at IUCF frequently build their own experimental research equipment and tools, or adapt commercially available equipment and software. Their initial review of the CCL suggested that many components they use, and which they acquire on the open market, fall within general categories listed in the CCL, and that while they anticipate very few components ultimately meeting the specifications for controlled equipment, "an enormous task lies

ahead" for researchers (with help from legal counsel) to evaluate each piece of equipment against the performance specifications of the CCL, in order to properly classify the equipment. They expressed concern that ambiguity in the classifications, coupled with misperceptions of nuclear physics and its relationship to nuclear weapons development, may result in a very conservative approach by the University and the government on licensing, one that would stifle international collaboration and knowledge generation concerning the origins of the universe.

IU is deeply concerned that the IG's recommendations and the proposed changes to the deemed export rules do not reflect an understanding of how university research is conducted, or the value of open and spontaneous exchange, collaboration, and innovation that are the hallmarks of that research. Fundamental research, particularly in the science and technology fields that are so critical to the continued growth of the US economy, involves the use of equipment and the continual exploration of new ways to use, adapt, and apply that equipment. The very nature of fundamental research is to explore the possibilities of research tools in the pursuit of new knowledge. If such activities will in future require deemed export licenses regardless of the fact that the knowledge generated will be fully shared with the scholarly community, then participation in fundamental research by foreign nationals frequently will be delayed or denied. How could a university predict when a foreign national might be involved in, or present at, the development of a new or different application of a piece of equipment?

In order to avoid inadvertent violations of the law, prudence would suggest applying in advance for deemed export licenses for all foreign nationals on campus who are likely to see or interact with equipment on the CCL. Given the numbers of foreign nationals from countries to which controls frequently apply, in programs likely to utilize controlled equipment, this would be a vast undertaking for IU and Commerce alike. It is hard to see – and the IG's report failed to identify – why such a burden is needed to address security concerns, particularly given the extensive and thorough visa review the federal government conducts with all foreign nationals who come here to study and perform research. While Commerce has emphasized that it anticipates few licenses needing to be issued, with respect this misses the main point, which is the crushing burden of having to perform such a continual, comprehensive, complex review. The fact that the agency only expects a handful of licenses will actually be needed at the end of all that time and expense, only underscores how inefficient and wide of the mark the IG's proposed rule changes are as a security measure.

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checks that we are ill equipped to conduct. Third, this proposal appears to be based on the presumption that someone who gains permanent residence or citizenship in a country, and who may have done so years or decades before coming to the US, will nonetheless always maintain a primary allegiance to his or her country of birth. This presumption does not appear to be grounded in data or logic. One can as readily surmise that people who left Iran and naturalized in Canada would be less likely, not more likely, to export sensitive technology to Iran against US and Western interests.

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* * *

I hope this information is helpful. IU greatly appreciates BIS's request for public comment and desire to engage in thoughtful discussion concerning these issues, which are critical to the continued success of the research enterprise within the United States. If I may provide further information that may be of use, please do not hesitate to contact me.

Very truly yours,

Michael A. McRobbie
Vice President for Research

MAM:

From: "Smith, Toby" <toby_smith@aau.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 6:20 PM
Subject: AAU Comment Letter in Response to RIN 0694-AD29

Enclosed please find AAU's comment letter in response to BIS's Advance Notice of Proposed Rulemaking for "Revision and Clarification of Deemed Export Control Regulatory Requirements" (RIN 0694-AD29).

Thank you for the opportunity to comment.

Tobin L. Smith

Senior Federal Relations Officer

Association of American Universities

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ASSOCIATION OF AMERICAN UNIVERSITIES

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Fax: (202) 482-3355
E-mail: scook@bis.doc.gov

Re: Revision and Clarification of Deemed Export Related Regulatory Requirements Bureau of Industry and Security, Commerce, 15 CFR Parts 734 and 772 (RIN 0694-AD29)

The Association of American Universities (AAU), which represents 60 leading U.S. research universities, appreciates the opportunity to comment on the Advance Notice of Proposed Rulemaking for "Revision and Clarification of Deemed Export Control Regulatory Requirements" and, specifically, the recommendations made by the Commerce Department's Office of the Inspector General (OIG) in its report entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technologies to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004).

In addition to AAU's comments, we are aware that several of our member institutions have submitted their own individual comments in response to the advance notice of proposed rulemaking, as have other higher education associations and scientific societies. These include the Council on Governmental Relations, The National Association of State Universities and Land Grant Colleges, the American Council on Education, the American Association of Medical Colleges, and the National Academies. We share their concerns and associate ourselves with their statements.

The global events of recent years and the evolving threats to the United States present new security challenges and requires a careful reassessment of our nation's vulnerabilities. AAU universities share a special responsibility to ensure that research conducted under their auspices contributes to U.S. national security. However, American national security also includes our economic vitality, capacity for cutting-edge technological innovation, industrial competitiveness, and the global leadership in research and education that underpin the entire enterprise. Security also requires that the United States government not place well-intentioned but ill-conceived and unworkable restrictions

on university fundamental research and education that may damage our national security and economy far more than the risks they seek to mitigate.

As described in the sections below, the adoption and implementation of the OIG's recommendations may seriously undermine the vitality of American research. American human capital alone, while extraordinary, has never been sufficient to meet compelling national needs for research, innovation, and competitiveness. This remains the case across the increasing range of disciplines and applications critical to American security and leadership today and will in the future. Yet the OIG's recommendations would compromise the unique institutional culture of openness and competitiveness that makes our leading public and private universities the destinations of choice for many of the world's leading intellects. The adverse consequences of these recommendations, however unintended, would occur at exactly the historical juncture when all experts agree that we are dependent on our continuing ability to attract to our laboratories and classrooms the best minds from around the globe. [1]

The OIG's recommendations would also impose significant new costs and administrative burdens at a time of severe budgetary constraints for both the government and universities. The intensity, pace, and productivity of university research and education programs would be compromised in the very fields of science and engineering that are essential to our global leadership and technological superiority. **Indeed, it is likely that any security benefits derived would be very limited at best and would be achieved at an unacceptably high cost to broader national security and economic interests.**

AAU is committed to ensuring compliance with export control laws and to preserving national security. Its Export Control Task Force, led by presidents and chancellors of its member institutions, welcomes the opportunity to continue working constructively and cooperatively with the Commerce Department's Bureau of Industry and Security (BIS) to protect legitimate national security interests associated with university research.

AAU member institutions understand and accept the important national security imperatives that form the basis for export controls as a component of national security policy. They are committed to complying with applicable export control rules and regulations; indeed they have enhanced their compliance efforts in recent years. Earlier this year an informal survey of AAU senior research officers revealed that over the last two years, nearly all AAU institutions have taken additional steps to ensure their compliance with existing export control regulations. Steps already taken include: (1) issuing policy statements from the university administration concerning compliance with the export control laws; (2) incorporating training on export controls into standard educational materials provided to campus research administrators and sponsored research

[1] The importance of international talent to the U.S. leadership in science and engineering research is highlighted by the National Academy of Science's Committee on Science, Engineering and Public Policy (COSEPUP) in its report *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, May 10, 2005. For a further discussion of the potential adverse impact of export controls on innovation and national security, see: David R. Oliver, Jr., "Current Export Policies: Trick or Treat?" *Defense Horizons*, December 2001. See; http://www.ndu.edu/inss/DefHor/DH6/DH06.htm.

directors; (3) undertaking a wide range of outreach activities on campus to ensure that faculty and key researchers understand the nature of export controls and are more aware of their responsibilities; (4) sending university staff to export control seminars and panel discussions; (5) designating specific research administrative staff responsible for export control compliance; and (6) hiring outside legal counsel to ensure compliance. These steps and others are intended to create a culture of compliance across university campuses.

In accordance with the BIS request, our comments in the next section provide the specific effects that the OIG proposal will have on academic institutions and university research if instituted without change. The first part of the next section summarizes some key contextual facts that are essential for understanding the adverse impact of the OIG's recommendations. The second part of this section sets forth the specific consequences that the "deemed export" recommendations would have on AAU member institutions and their research. The second section suggests a series of alternative actions that would address the concerns raised by the OIG in ways that protect both legitimate national security interests and the vitality of university-based research.

1. Implementation of the OIG's Recommendations Would Endanger the Vital Missions and Contributions of America's Research Universities to National/ Homeland Security and to the Overall National Welfare.

A. Understanding the Context – Background and Data

To assess the adverse impact of the recommendations on AAU research universities, it is critical to provide the context in which they would be implemented. This section highlights five important realities.

1. American research universities provide an essential foundation for American security and contribute in multiple ways to promoting and protecting vital U.S. national security interests, including economic competitiveness and global leadership.

The fundamental goal of the American research university—both AAU and non-AAU—is to create new knowledge and educate the next generation of domestic and international leaders. Together, AAU's research universities constitute an exceptional national resource, conducting nearly 60 percent of all federally sponsored university-based research and awarding approximately 17 percent of all bachelors degrees, 20 percent of masters degrees and over 50 percent of all doctoral and postdoctoral degrees, many of which are in key science and engineering fields. Taken together, our nation's research universities contribute uniquely to the protection and advancement of American national security and economic interests while also enabling freedom and progress around the globe:

- America's research universities are at the forefront of innovation; they perform over one-half of the nation's basic research.

- The expert knowledge generated in AAU research universities is renowned worldwide; this expertise is being applied to advance and protect real-world American national security and economic interests every day.

- The scientific knowledge and technological innovation spawned by America's leading research universities directly enhance U.S. economic competitiveness and U.S. national security.

- By combining cutting-edge research with graduate and undergraduate education, American research universities also are training the new generations of leaders in all fields that are vital to our national interests.

- American universities have long had the unique ability to attract the greatest minds from around the world, contributing to both our international leadership in innovation and our national security.

Past Presidential Administrations recognized the need to support fundamental research even in the face of serious threats to our national security. At the height of the Cold War, President Ronald Reagan placed a strong emphasis on U.S. national security – but his administration wisely determined that U.S. policies should ensure that, "to the maximum extent possible, the products of fundamental research remain unrestricted."[2] In the face of unprecedented global competition and unprecedented threats to our security and our leadership, we simply had to out-think, outwork, and outrun our competitors and adversaries. In promulgating National Security Decision Directive (NSDD) 189, President Reagan recognized that national security was best served by making the classification process the sole means of imposing limitations on research. Many of the most dramatic contributions to American economic competitiveness, technological development and scientific leadership that, in turn, advanced national security, occurred in the years following the promulgation of NSDD 189, when a strong, bipartisan consensus existed for supporting fundamental research as an essential prerequisite for U.S. national security.

The proposed reinterpretations and the expansive scope of covered and controlled "use" technologies in the context of fundamental research would seriously undermine American research efforts to enhance our national defense and protect our national security. These proposals would have a chilling effect on areas of rapidly emerging U.S. research leadership critical to national security such as biotechnology, robotics, advanced processing technologies, materials science, nanotechnology, and laser research and

[2] National Security Decision Directive 189, September 21, 1985, defined fundamental research and noted that "It is the policy of this Administration that, to the maximum extent possible, the products of fundamental research remain unrestricted. It is also the policy of this Administration that, where national security requires control, the mechanism for control of information generated during federally funded fundamental research in science, technology and engineering at colleges, universities and laboratories is classification…." President Reagan found that while there was a significant transfer of U.S. technology to the Soviet Union, "universities and open scientific communication of fundamental research" made only "minor" contributions to such technology transfers.

applied physics. Each is increasingly global in scope. The best way for the United States to retain its leadership role and advance broader American security interests is to encourage dynamic, cutting-edge research at American research universities, reserving security controls only for those specific instances where clear and specific national security threats have been identified and where classification is appropriate.

2. Research equipment, tools, and materials – and the use of controlled "use" technology – increasingly are an integral part of fundamental research and cannot be considered as distinct and severable elements in that process.

Fundamental research in science and engineering today results from teams of individuals coming together from different scientific backgrounds and knowledge bases, a fusion of philosophical or conceptual ideas, and the integration of new and improved research tools and equipment. Put simply, at the core of the nation's academic research and education enterprise are "people, ideas and tools."[3]

Increasingly, the most important fundamental research, in areas such as biotechnology, electrical engineering and applied physics and nanotechnology, relies on the development, use, operation and understanding of new research equipment and tools. As science extends its reach, new tools and instruments become increasingly important components of fundamental research.

The OIG's report and recommendations do not reflect the changing nature of fundamental research today, including the growing trend toward multidisciplinary approaches and research strategies that rely on new equipment, tools, measurements, processes, and the technologies that enable them. The report adopts a false starting point in assuming that fundamental research primarily involves conceptual "Eureka" moments at the blackboard or on the computer, and that "use" technologies related to the equipment and other platforms or tools used in fundamental research can be separated from the rest of the inquiry without seriously affecting the entire fundamental research process.

The OIG report also fails to recognize the degree to which equipment is actually modified, enhanced, and even fabricated from scratch in university laboratories to advance fundamental research. Indeed, these equipment adaptations occur daily on our campuses as a part of the research process itself. This equipment is an essential component of, and inseparable from, fundamental research.

3. Foreign students and scholars are integral to what makes university research so dynamic. They represent more than a desirable supplement to American research; they are a core element that drives the dynamism and excellence of the American research enterprise.

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[3] The integral role that research tools and equipment play in the research process is illustrated by the National Science Foundation (NSF), which has at the heart its mission the support of fundamental scientific research and science education. NSF uses "people, ideas and tools" to guide and define its long-term strategic goals for the purpose of the Government Performance and Results Act (GPRA).

At one large public AAU university, 50 percent of the engineering faculty and the dean of engineering are foreign-born, 52 percent of the engineering graduate students are foreign nationals, and 45 percent of the science graduate students are foreign nationals. This example – which echoes the experience at most research institutions around the country – begins to suggest the potential impact of tightened restrictions on technology transfers related to controlled "use" equipment by foreign-born students and scholars at American universities.

The National Science Foundation reports that for fall 2002, about one-third of the 455,355 graduate students enrolled in science and engineering fields in the United States – 145,112 students – were temporary visa holders.[4] More recent 2004 data provided by the Institute of International Education (IIE) suggests that in 2004, there were 95,183 foreign students (undergraduate and graduate) enrolled in engineering, 67,736 enrolled in mathematics and computer sciences, and 44,605 enrolled in the physical and life sciences. Only business and management exceeded engineering, mathematics, and computer sciences in the number of foreign student enrollments.[5]

Most international scholars and researchers in the United States also work in scientific and engineering fields. IIE found that during the 2003/04 academic year, more than 70 percent of the foreign scholars in the United States specialized in life, biological and health sciences, or in the physical sciences, engineering and computer and information sciences.[6] More than 75 percent of foreign scholars overall, in both scientific and non-scientific fields, listed research as their primary function.[7]

Over the years, the global talent pool of the best and brightest students and researchers in science and engineering has shifted. Today, 57 percent of all international students at American universities are from Asia. India is the leading country of origin for international students in the U.S (79,736) followed by China (61,765).[8] The reality is that the largest fraction of the best and brightest students that America's research universities attract comes from what the Department refers to as "countries of concern," especially China, India, Russia, Pakistan and Israel.

According to the recently released National Academy of Sciences Committee on Science, Engineering and Public Policy (COSEPUP) report, *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, from

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[4] *InfoBrief: Graduate Enrollment in Science and Engineering Fields Reaches a New Peak: First-Time Enrollment of Foreign Students Declines*, National Science Foundation (NSF 04-326), June 2004. See http://www.nsf.gov/statistics/infbrief/nsf04326/nsf04326.pdf.

[5] *Open Doors 2004: International Students in the U.S.*, Report on International Educational Exchanges, Institute of International Education, Fields of Study, International Students, 2003/04. Data available at http://opendoors.iienetwork.org/?p=49936.

[6] *Ibid.* Major Field of Specialization of International Scholars, 1993/94 – 2003/04. Data available at http://opendoors.iienetwork.org/?p=49956.

[7] *Ibid.* Visa Status, Sex, and Primary Function of International Scholars, 1993/94 – 2003/04. Data available at http://opendoors.iienetwork.org/?p=49960.

[8] *Ibid.* See http://opendoors.iienetwork.org/?p=50137.

1985-2001, students from such nations as China, India and Pakistan earned more than half of the 148,000 U.S. science and engineering doctoral degrees awarded – four times the number granted to students from Europe. In 2003, over 2,500 Chinese foreign nationals received a science or engineering PhD from a U.S. university. More than 800 scholars who were Indian foreign nationals received a PhD degree in science or engineering from a U.S. university.[9] The COSEPUP report cites data from the 2003 National Science Foundation (NSF) *Survey of Earned Doctorates*, which presents and analyzes the most recent trends in the awarding of doctorates in the science and engineering fields. According to the NSF survey, of the 10,585 total doctoral degrees awarded to non-U.S. citizens with temporary visas in 2003, 8,388 were awarded in science and engineering. Among those awarded doctoral degrees in all fields, 2,241 were from China and 1,484 were from such West Asian countries as Iran, Israel, and Lebanon.[10]

As a result, a large fraction of the students and scholarly researchers most likely to need access to controlled "use" technology on the Commerce Control List at an AAU research university are not U.S. citizens and are not eligible to become U.S. "green card" holders. And many, perhaps a majority, of them come from countries that would require licenses. However, many, if not most, of these international students and scholars will end up staying in the U.S., where they will enhance our economic and national security. This reality significantly exceeds what is a slight risk of a "deemed export" transferring seriously important technology to another country. Adoption of the OIG recommendations may lead to the undesirable situation in which export control concerns, not scientific and engineering expertise and excellence, increasingly drive decisions to assign researchers to specific projects, to accept or reject new research proposals (including many that are critical to U.S. national security), or to participate in leadership roles in international science or technology collaborations.

4. The essential nature of fundamental research on AAU university campuses differs significantly from fundamental research at corporations or national laboratories. These differences are important in understanding the breadth and depth of the adverse impacts that the OIG's recommendations would have on cutting-edge university research.

In many respects, it is the very openness of university campuses, the wide range of research facilities and equipment, the cross-fertilization of bright minds and analytical strategies, and the novel approaches to questions and problems without boundaries that make possible the exceptional contributions of academic research to national security and other national priorities. Unlike a corporation or a federal laboratory that can and does segregate facilities, require badges, or restrict the participation of foreign nationals,

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[9] National Academy of Science, Committee on Science, Engineering and Public Policy, *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, May 10, 2005. See http://www.nap.edu/books/0309096138/html/.

[10] National Science Foundation, Division of Science Resources Statistics, *Science and Engineering Doctorate Awards: 2003*, Arlington, VA (NSF 05-300) December 2004. See: http://www.nsf.gov/statistics/nsf05300/dst.htm.

research universities traditionally have gone to great lengths to avoid such measures for unclassified information and research because they would fundamentally change the nature and character of universities. The close coupling of research and education at universities, and the need to pursue unimpeded the new ideas that flow from scholarly discourse, require that access to laboratories and classrooms be unimpeded. Unlike the corporate or national laboratory environment, students play a vital role in the conduct of university based research. In many instances, their tenure working in a particular laboratory is directly tied to the school term or semester. The constant rotation of students and visiting scholars into and out of university laboratories ensures a fresh flow of new ideas and talent which helps to foster creative, cutting edge research results. This marriage between research and education is the key to our successful creation of new knowledge and innovation.

The diversity of conceptual approaches and new ideas at universities is matched by the diversity in the physical research facilities at AAU member institutions. Most have hundreds -- in some cases, thousands – of decentralized laboratories spread across their campuses. Many of them would require new security plans, access procedures, and tracking requirements to prevent students and researchers who are not U.S. citizens or who do not have valid export licenses from having access to certain laboratories because of controlled "use" equipment. As research increasingly spans disciplinary boundaries, students and researchers unexpectedly find themselves needing to use different facilities or pieces of equipment in unanticipated ways. These developments occur during the process of discovery, problem definition, testing, and problem solving. To stop this process and seek a license would greatly undermine the great benefits of interdisciplinary research. It would also impede the education mission of our nation's top research universities.

As fundamental research becomes increasingly global in scope, the U.S. risks isolating itself from scholarly discourse and undermining its academic leadership if the OIG's recommendations are adopted and implemented. Many AAU institutions, for example, abide by strict prohibitions established by their boards or corporations or, in a few cases, by state law, against discriminating on campus among students or researchers based on national origins or restricting the openness of their on-campus facilities for unclassified fundamental research. Some AAU universities already have decided to decline important research or federal funding because of export control restrictions or other controls that would require them to contravene long-standing core values and policies. The OIG's recommendations likely would multiply those occurrences.

5. The OIG's recommendation for requiring separate licensing controls on equipment "use" technology involved with fundamental research in universities would likely result in significant new administrative burdens, increased costs, liability risks, regulatory uncertainty and unintended consequences that would retard or interfere with university research and education and undermine broader national security objectives

a. Controlled "Use" Equipment

The AAU Task Force has consulted extensively with a broad range of leading scientific and engineering faculty in a number of the fields that appear most likely to be affected by the OIG's recommendations. We also have reviewed the Commerce Control List (CCL) to identify specific groups of equipment for which "use" controls currently exist and for which licenses likely would be required. This process has been very time-consuming; due to the complexities and imprecise definitions involved, and the lack of clarity surrounding controlled "use" technology, solid data has been very difficult to collect from our institutions. Many have, however, estimated the costs of conducting a complete campus-wide inventory of research equipment to run in the ***millions*** of dollars (estimates range from $1.5 million to $5 million, depending upon the number of pieces of equipment that exist on a campus and whether the work is done in-house or contracted to outside firms).

While licenses might not, in fact, be required for a majority of these pieces of equipment (depending on both the manner in which they are being used and who is using them), it is understood that comprehensive inventories of research equipment would be required at all universities to ensure compliance, should the OIG interpretation of existing regulations be accepted. Our institutions have not conducted such extensive inventories in the past because interpretations of the regulations and accompanying Q&A's as they are currently written have never suggested that research equipment and its use are not covered by the existing fundamental research exception as provided for in the Export Administration Regulations. We believe strongly that a change in this interpretation would be detrimental to our ability to conduct fundamental research on our campuses.

To try to fulfill the DOC's request for data, AAU has identified a range of equipment and tools widely used in fundamental research on many university campuses that clearly do involve "use" technologies subject to controls. Several examples, by field of research, illustrate how onerous the "deemed export" licensing requirements would be if the OIG recommendations were adopted and implemented and how these delays and burdens would likely adversely affect research essential to a number of national priorities. Indeed, whole fields of science – such as nanotechnology – have the potential to be affected by the OIG requirements. And finally, there are likely to be significant other costs and unintended consequences if the OIG recommendations are accepted.

Examples

While far from being all-inclusive, a list of examples of other equipment often used in university laboratories for which use technology controls may exist include materials processing equipment (2E002); biological equipment (2B352); applied physics/ee equipment (1E101); and sensors and high-end oscilloscopes (1E101). Again, this list serves as only a small sampling of the equipment to which international students currently have access in university labs. However, it does illustrate the enormity of the task that Commerce is asking universities to undertake. Universities will not only be forced to conduct a complete inventory of all equipment in their laboratories for which controls might exist but also have to study carefully how it is being used and the

citizenship and birthplace of students and scholars with access to this equipment. This presents a major and almost insurmountable burden. Moreover, it raises questions concerning the ability of new students to be brought into laboratories to conduct research without incurring significant delays before they can actually utilize equipment.

In addition to the examples above, hundreds of other pieces of widely used equipment on university campuses are subject to technology "use" controls under "Anti-Terrorism" (AT) controls (e.g. ECCN 3A992 controls "General purpose electronic equipment not controlled by 3A002" including "a. electronic test equipment n.e.s. [not elsewhere specified]"). This controlled "use" technology would require licenses for students and researchers from a much more limited number of countries; therefore, the number affected on each campus likely would be relatively small. Nevertheless, the compliance burden for this equipment would be very high because universities still would need to undertake the full range of due diligence for every research project on campus and evaluate every technology, item and piece of software on campus to determine if it is subject to "use" controls. This would require: classifying all these items for export control purposes; implementing new security plans and precautions to ensure that foreign nationals from countries subject to AT controls cannot have access to any controlled "use" technology without a license; and developing the extensive range of technical and background licenses required if a "deemed export" license application is required.

Nanotechnology

The National Nanotechnology Initiative (NNI) is a multi-agency U.S. government program aimed at accelerating the discovery, development, and deployment of nanoscale science, engineering, and technology. It is based on a vision that our ability to understand and control matter at the nanoscale level can lead to a revolution in technology and industry – and provide numerous societal benefits. The President's NNI Strategic Plan establishes an interrelated set of goals that include the maintenance of world-class research and development in the United States and the facilitation of technology transfers related to nanotechnology. The President's Council of Advisors on Science and Technology (PCAST) recently evaluated the NNI for the President. Its assessment emphasized the central role that fundamental research at American universities plays in achieving these national objectives and in promoting American competitiveness for the future.

CCL Category 1E controls technology associated with products classified under 1C of the Commerce Control List. An area of growing research interest is fundamental research related to carbon nanotubes. Transfers of technology related to equipment and tools used in fundamental research related to carbon nanotubes subject to ECCN 1C010.b are restricted under ECCN 1E001. This technology is controlled under National Security controls (NS1), Nonproliferation controls (NP1), and Anti-Terrorism controls (AT). As a result, if the OIG recommendations were adopted, students or researchers from countries such as China, India, Russia, and Israel would require a license before they could use any equipment where controlled technology might be transferred to them, even though the "use" technology constitutes an integral part of the fundamental research on carbon nanotubes that otherwise is outside the scope of the Export Administration's Regulations. The burgeoning field of carbon nanotubes alone would require a significant number of

deemed export license applications for current and future fundamental research to move forward. Other important research areas in nanotechnology—such as fundamental research involving equipment and technology related to "Carbon fibers and filamentary materials; composite structures; platinized catalysts" (ECCN 1E201)—also would be affected.

Other Costs and Unintended Consequences

Because the CCL is so extensive, the regulations pertaining to "use" technology are so unclear, and the penalties for non-compliance are so severe, it is likely that universities will be forced to over-classify equipment on their campuses or seek licenses for all their international science and engineering students and scholars. Indeed, even if the total number of licenses required on campuses proves to be limited, the process of classifying equipment to determine when and if export licenses are required is daunting. Such an outcome would prove burdensome not only to universities but also to BIS staff.

Given that in many instances researchers themselves will have to make determinations about such equipment if in fact licenses are required, there is an additional concern that the imposition of the OIG recommendations will adversely change faculty behavior. For example, in response to increasing restrictions on university-based space-related research imposed by the International Traffic in Arms Regulations (ITAR), one university faculty member has said that he has made a conscious decision to stop accepting foreign students on his research projects, no matter how bright or talented they might be. The researcher stated, "I just don't have the time required to go through the cumbersome process of making sure that I understand the regulations and applying for licenses for these students." Indeed similar behavior will result if the OIG recommendations are imposed, but the impact will be greater because they will be much more broadly applied, given the breadth of the CCL and the uncertainties surrounding what constitutes "use" technology.

In the biological disciplines, stricter security controls have recently been applied, and some researchers have abandoned these fields entirely to avoid the added burdens and costs of ensuring that they are in compliance with the myriad of complex regulations.[11] In several instances, universities are being forced to consider building separate "off campus" facilities for such research in order to ensure that individuals without proper background checks and clearances do not have access to biological agents. Indeed, there is concern that some universities may be locked out of such research entirely due to the costs of compliance.[12] If the OIG recommendations are adopted, it seems certain that researchers and institutions will be forced to make similar choices in other fields, even if the chances of a transfer of controlled "use" technology are relatively small. Establishing security controls and segregating specific laboratories

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[11] Dana Wilkie, "Scientists Turn from Bioterror Research", *The San Diego Union-Tribune*, June 1, 2004. See: http://tinyurl.com/5yyqn.

[12] Several sources illustrate how the added costs, compliance, and regulatory burdens associated with new requirements for select agent research are changing the behavior of researchers. See Jennifer Gaudioso and Reynolds M. Salerno, "Biosecurity and Research: Minimizing Adverse Impacts", *Science*, Vol. 304, 30 April 2004; Anne Marie Borrego, "Regulatory Overkill?", *The Chronicle of Higher Education*, January 31, 2003; and, David Malakoff, "Tighter Security Reshapes Research", *Science 2002* (297), pp. 1630-1633.

or portions of laboratories would result in soaring costs. Moreover, apart from the fiscal costs involved in such decisions, the segregation of certain sciences would prevent the cross-disciplinary collaborations that frequently result in the most exciting/worthwhile discoveries.

b. National Origin

The Inspector General's report recommends using a foreign national's country of birth as a criterion for deemed export license requirements in addition to country of most recent citizenship. As a way to collect and maintain information such as "country of birth" for students and scholars attending U.S. universities on F and J visas, the Department of Homeland Security uses the Student Exchange Visitors Information System (SEVIS) database. It is important to note that the information contained in the SEVIS database is accessible only to DHS-certified "designated school officials," or "DSOs." It is not readily accessible to other research administrators and laboratory directors – the vary individuals most likely to be responsible for ensuring compliance with export control requirements. And for some non-immigrant visa categories not tracked by SEVIS (e.g. H-1B visas), information concerning country of birth is not maintained at all on our campuses.

AAU strongly believes it is the responsibility of the Departments of State and Homeland Security to perform the necessary background checks before providing a non-immigrant visa to a student or scholar. Given that all students and scholars participating in scientific or engineering research undergo personal interviews and many, especially those likely to have access to controlled "use" technology, undergo in-depth Visas Mantis clearances, we believe that it is not only unnecessary and duplicative but also unworkable for universities to be required to act as secondary "gatekeepers" by further scrutinizing a student's intent or by imposing limitations on which non-classified research foreign nationals may participate in during their course of study in the U.S.

The decision about an individual's intent must be made by government officials before the student or scholar is allowed to enter the country. Once a student or scholar is granted a visa to study in the U.S., he/she should be allowed to participate fully in the intended and cleared research program. This includes using required equipment to carry out such research. We note that a recommendation made by the Department of Homeland Security (DHS) OIG to superimpose deemed export controls upon the SEVIS system was rejected by DHS because of the complexity of making such a system work. The same complexities are guaranteed if the criterion for export license requirements becomes the country of birth. Moreover, the cost of implementation would be excessively high.

It should be noted that this proposed change in the evaluation of citizenship would, in cases in which the student's country of birth is different from the current country of citizenship, greatly exacerbate the amount of work required by universities to determine which students need licenses for which uses involving which pieces of equipment. *A priori*, universities would have to assume that all international students

could require licenses until they were able to verify their place of birth. For a student born in one country and now a citizen of another country, universities would be required to evaluate both citizenships against the Commerce Control List and the Country Chart to make licensing determinations.

Beyond the serious questions about privacy and civil liberties that arise when the federal government makes a distinction based on national origin, strict judicial scrutiny applies because "national origin [is] so seldom relevant to achievement of any legitimate state interest that laws grounded in such considerations are deemed to reflect prejudice and antipathy." Such laws must be aimed at achieving a compelling government interest and must be narrowly tailored, not overbroad, to achieve that interest (*City of Cleburne v. Cleburne Living Center*, 473 U.S. 432, 440 [1985]). While national security is certainly a compelling interest, any blanket policy premised on the assumption that all individuals who were born in a particular foreign country but who are no longer citizens of that country still hold some allegiance to that country is overly broad.

II. Proposed Solutions

AAU has appreciated the ability to work productively with BIS to explore the implications of the recommendations. We wish to continue working with BIS to provide strong national security protections while ensuring that America's research universities maintain their global leadership and thus contribute to the vitality of American security – defense/homeland technological, and economic. AAU members urge consideration of the following recommendations and alternative solutions, which are designed to address national security concerns while avoiding the adverse impacts associated with the adoption of the OIG's recommendations:

A. General Recommendations

1. Reject the OIG interpretation that use of certain controlled equipment used in the conduct of fundamental research is not covered by the fundamental research exception and, therefore, may require deemed export licenses.

Given the impossibility of distinguishing between "fundamental research" and the equipment, tools, materials, and technologies essential to and unseverable from its conduct—as discussed in section I.A.2. above—AAU urges rejection of the interpretation advanced by the OIG that technology relating to the use of controlled equipment—regardless of how "use" is defined—is subject to the deemed export control provision.

AAU fundamentally disagrees with the OIG's interpretation and believes that it runs contrary to the intent of the fundamental research exception and to the intent of NSDD 189. AAU would urge that changes be made to existing regulations and interpretations as needed to make clear that the scope and conduct of fundamental research includes non-exclusive, non-proprietary access to the equipment, materials, technology and information necessary to conduct that research. If this recommendation

by AAU is accepted—and AAU urges that BIS give it serious consideration—all other recommendations below are moot and need not be considered.

2. ***Students and scholars should be cleared to conduct research and use the equipment required for such research through the visa process.***

Over the past few years, AAU and other organizations have worked closely with federal agencies, including the U.S. Department of State and the Department of Homeland Security to improve the Visas Mantis system that screens foreign visitors planning to study or conduct research in certain areas before they are allowed to enter the U.S. Our discussions with these agencies have been very productive and have resulted, generally, in manageable systems with reduced delays. Such screening at the front end of the process – before foreign visitors enter the country – is an efficient and effective way to ensure national security.

AAU recommends that once cleared to enter through the Visas Mantis process, foreign visitors should be free to use equipment required for the conduct of fundamental, unclassified research without additional barriers, background checks, and/or licenses. AAU encourages the federal government to further improve visa and clearance processes to enable the full clearance of foreign students and scholars to conduct fundamental research at the time of visa issuance. If additional review is determined to be essential at the time a visa is granted to certain foreign students and scholars, a special license could be granted to enable them to conduct research involving specific export controlled equipment they are likely to need in pursuit of their fundamental research. Individuals who change their focus to a sensitive field of study could be addressed through the SEVIS reporting system and subsequently reviewed by the Department of Homeland Security.

3. ***Additional clarification and a narrow definition of "use" technology are essential to ensure national security and enable effective compliance.***

BIS officials have repeatedly stated in their conversations with the AAU task force that the mere "use" of equipment in campus-based research laboratories is not an issue of concern to them. Their concern is the transfer of "use" technology. However, current regulations seem to contradict that position, suggesting that the "operation" of equipment is not only a concern but is, in fact, a defining characteristic of "use." This makes it very difficult to determine the point at which someone is merely "using" equipment versus "operating" it in a way that use technology may be transferred.

On behalf of the people best positioned to ensure compliance, the laboratory directors and leading research faculty and experts, we would urge that definitions be made clear, concise, and workable. Faculty and campus-based researchers need to be provided with a level of clarity and detail that enables them to comply with "deemed" export controls regulations in a manner that does not obstruct or detract from their primary research, teaching, and education roles. It is the view of AAU that the ambiguity in the regulations would force personnel to seek numerous advisory opinions and

assistance from the Department of Commerce in interpreting the regulations on a case-by-case basis. This is clearly not workable and would result in an undue burden not only on university researchers and administrative staff but also upon BIS officials. In addition, contradictory language and lack of clarity undermine development of a positive, cooperative spirit of compliance among researchers.

AAU urges BIS to further clarify the language and definitions in the existing regulation and to establish a clear and narrow definition of "use" technology. AAU recommends that Commerce provide additional clarification concerning the specific nature of technologies and equipment usage that are, in fact, likely to require licenses and for which demonstrable security threats have been identified. This should include information concerning when, if ever, "operation" of specific equipment needed for fundamental research would likely trigger export licensing requirements. Moreover, licensing controls should be limited to those few technologies where (1) intelligence confirms a demonstrable need for restrictions and (2) the controls are carefully calibrated to focus only on those controlled "use" technologies that: (a) are "controllable" (i.e., proprietary and not readily available outside the United States); and (b) actually are likely to result in preventing deleterious technology transfers.

4. The OIG's recommendation that country of birth should be used for purposes of export control in addition to most recent citizenship should be rejected.

AAU urges that the use of "country of birth" as a determining factor for requiring that a deemed export license be obtained for a student/scholar be rejected because it is overly broad. It also raises constitutional issues in assuming that an individual's country of birth determines his or her allegiance to a nation. Moreover, this requirement would place a costly and time-consuming administrative burden on U.S. universities and laboratories. It is important also to recognize the impact these policies would have on our allies whose citizenry would be subjected to new scrutiny and could face restrictions based upon their birthplaces. Other nations might reciprocate. International researchers might respond out of solidarity with their colleagues through further boycotts of conferences in the U.S. or by taking their collaborations elsewhere. We would argue that these negative impacts come without any commensurate security benefit.

5. A more comprehensive review and study of the export controls as they relate to scientific research should be undertaken in the context of globalization and our current national and homeland security threats.

The federal government should conduct a comprehensive review and study of the export control rules that affect scientific research. Such a review should include such considerations as the context of globalization and current national and homeland security threats. It should examine whether or not the national security benefits of strict export controls on fundamental scientific research outweigh the costs of lost international students, scholars, and research programs. A study also should take into account whether or not efforts to limit access to fundamental U.S. technical and scientific knowledge in

turn limit our ability to gain access to key scientific advances being made in other countries.

AAU recommends that the National Academy of Science (NAS) undertake a major review of U.S. export control policy, including its potential impacts, both positive and negative, on continued U.S. leadership in science and technology. This study should be similar to that conducted in the early 1980's by an NAS panel chaired by Dr. Dale R. Corson, *Scientific Communication and National Security*. This comprehensive review of science and security played a major role in the promulgation by the Reagan Administration of National Security Decision Directive 189, which established classification as the primary means to control sensitive research and information.

The initial groundwork for such an investigation has already been done by the Center for Strategic and International Studies (CSIS) Commission on Scientific Communication and National Security. In its June 9, 2005, white paper entitled, "Security Controls on Scientific Information and the Conduct of Scientific Research," the Commission examined several forms of security controls on scientific research, including export controls. The Commission strongly reaffirmed the importance of the open conduct and dissemination of unclassified fundamental research and suggested that the best security controls for scientific research are likely to be produced by increased self-regulation by the scientific community. The CSIS Commission rejected outright the recommendations concerning deemed export controls made by the Commerce OIG on the grounds that they would be difficult to administer and could damage U.S. research, hinder important discoveries, and drive away research talent; all while yielding little if any security benefit. AAU endorses the findings of the CSIS commission as contained in the white paper, and feels that this work represents a good basis for a further exploration by an NAS panel.

6. Continue to discuss how best to ensure our national security objectives while also protecting the research essential to our economic, national and homeland security.

The discussion prompted by the OIG recommendations has been positive. It is important that federal agencies continue to work with the scientific and academic community to ensure that we protect national security while also preserving vital fundamental research and the open environment that enables major scientific advances.

AAU is pleased with the formation of a National Science and Technology Council (NSTC) Task Force to examine the potential impact of the OIG recommendations. AAU would suggest that this panel look beyond the impact the OIG recommendations would have on government laboratories to their potential impact on science and the broader scientific and academic communities.

We would also urge that an ongoing forum be established through which discussions could occur among the government, universities, and the broader research community concerning issues that pertain both to protecting information vital to national

security and to the free and open way in which research is most efficiently accomplished. A similar recommendation was made by the National Research Council in its 2002 report, *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism (pp.370-371).* We endorse the NRC recommendation and would urge OSTP and other federal security agencies to move to create such a forum.

B. Recommendations for additional clarification to existing regulations and specific BIS Q&A's

In addition to the general recommendations contained above, AAU believes there are several areas in which the regulations could be clarified and further refined. Specific recommendations are listed below.

1. ***Clarify the definition of "publicly available" technology***

Much of the equipment used for fundamental research at universities is controlled for export abroad but is freely available on the commercial market to anyone in the United States. Moreover, many other countries do not operate under the same deemed export rules and therefore such equipment can be readily purchased, accessed and used in laboratories overseas.

To provide additional clarity to the EAR regulations §734.7(a)(1), AAU strongly recommends that Commerce define "publicly available information" as "technology which is not subject to the protections of corporate policies, non-disclosure agreements, or trade secrets, or which is not otherwise proprietary." Along these same lines, user manuals for publicly available equipment and technology should not be controlled unless such manuals specifically contain "proprietary" information or information of a nature not ordinarily made available to the public or provided with the public sale of the equipment (e.g. manuals for the operation of and maintenance of a Boeing 747 Jetliner).

2. "Modifications and enhancements to" and "fabrication of" equipment during or arising from the conduct of fundamental research should be exempt under the fundamental research exception.

Clarification should be provided such that "modifying," "enhancing," or "fabricating" equipment during the conduct of fundamental research is, in fact, covered by the fundamental research exception, so long as those changes involve no proprietary or classified information. As explained in point I.A.2., equipment is enhanced, modified, and created daily on our campuses as an integral part of the research process. For the purposes of deemed export controls, modification to and fabrication of research equipment should be treated as a part of fundamental research and exempt from deemed export control requirements.

3. Additional clarification is needed concerning when the "operation" of controlled equipment does, in fact, constitute "use" that requires a license.

The OIG's proposed change from "and/or" to "or" would have significant consequences for universities. Virtually all university researchers "operate" equipment in the context of their fundamental research, and are trained in the safe and effective "operation" of that equipment. The definition of "use" should be modified to make clear that such operation is not subject to technology controls.

We have been told verbally by BIS officials that the mere "operation" of controlled equipment does not trigger export control requirements. This statement is contradicted by the plain language of "use," which includes the notion of "operating." By changing the "and/or" to "or," the regulations themselves suggest that in every instance, "operation" would in fact represent "use" and therefore trigger export control requirements.

We would urge that a specific and narrow list be developed of equipment for which "operation" is of specific concern. If these pieces of equipment, or examples thereof, cannot be identified to specifically explain when mere "operation" of equipment would require a license, then we suggest the word "operate" be eliminated from the definition of "use." Moreover, we urge that additional clarification be provided for when other elements of use such as "installation," "maintenance," "repair," "overhaul," or "refurbishing" are likely to result in a transfer of controlled use technology such that a license would be required.

III. Summary and Conclusion

The fundamental research undertaken at our nation's research universities produces new knowledge as well as the educated scientists and engineers who are essential to our national economic competitiveness and national security. To ensure continued global scientific and technological leadership, American universities must be able to continue performing their research and education missions in an open environment, at the highest levels of achievement. To serve the nation, deemed export control policies must recognize the importance of and avoid doing unintentional damage to this open and unique environment.

AAU questions the fundamental premise of the Commerce OIG recommendations that equipment "used" in the conduct of fundamental research on university campuses should not be covered under the fundamental research exception. We believe that this notion is misguided and reflects a lack of understanding of how research and education are conducted in a campus environment. Moreover, it fails to recognize the inseparable nature of the tools used to conduct fundamental research and the research itself. We are concerned that, if implemented as proposed, the OIG recommendations would significantly damage university-based research and education – and actually harm our national and economic security – in an attempt to address unquantified and unidentified security risks.

AAU remains concerned that requiring even a modest number of deemed export licenses on every campus could seriously compromise the fundamental research environment and impose a disproportionate administrative burden on both universities and the Department of Commerce. We therefore urge BIS, at a minimum, to focus much more narrowly the scope of equipment for which "use" on university campuses is of concern and provide additional clarification concerning the specific nature of such technologies and usage. In particular, we urge that "use" technology be very tightly defined and applied in an academic research environment only when specific problems and/or security threats have been identified. Overly broad definitions of "use" and/or "operation" would lead only to confusion on our campuses and make compliance difficult if not impossible. Moreover, they would likely impose a substantial administrative burden on the Department of Commerce BIS. They would not enhance national security, but rather hinder it.

AAU welcomes the opportunity to continue to work with the Department of Commerce on these important national security issues.

Cordially,

Nils Hasselmo
President

Cc: Dr. John H. Marburger, III

NH/TLS/law

From: Montgomery Steve-rttt80 <S.Montgomery@freescale.com>
To: "'publiccomments@bis.doc.gov'" <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 5:05 PM
Subject: RIN 0694-AD29

Re: Request for Comments on Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15,607)
Ladies and Gentlemen:
Freescale Semiconductor, Inc., formerly Motorola's Semiconductor Products Sector, has reviewed the proposed changes to the "deemed export" rule and the "use" definition. The implementation of the changes to the "deemed export" rule not only would result in significant disruptions to our business but also would result in a substantial increase in the export licenses submitted to the BIS.

Freescale, like many other companies, has expended significant resources developing, implementing and maintaining the processes needed to comply with the current deemed export regulations. These processes include the screening of new hires, managing access to information on servers, monitoring intra-company transfer of personnel and ensuring employees are aware of their obligations to comply with the export regulations. While some processes are manual others rely on systems with integrated compliance logic to determine which situations need additional reviews or can proceed because no license is required or a license exception is available. If the proposed deemed export rule is adopted all such processes would need to be re-written and training conducted to ensure compliance with the more restrictive rule. Revising the software and or the manual processes to comply with different criteria for determining the licensing requirements for people would be a costly undertaking. T!
he costs associated with compliance processes directly impacts a company's bottom line.

Even more troubling is that the deemed export rule, irrespective of proposed changes, stifles the development of creative solutions to satisfy the ever increasing demands of consumers. In order to meet these demands companies must be able to move information seamlessly around the world so they can fully utilize the unique skills that a diverse employee population brings to the table.

This is why we have for many years promoted the idea of a license exception with terms and conditions that essentially describe the already rigorous steps reputable companies have in place to protect their intellectual property. Such steps include background checks of prospective employees and, assuming the candidate is hired, the execution of a legally enforceable employment agreement that include information protection provisions. These measures and others enable US companies to move information within the company with a reasonable degree of confidence that it's IP is not improperly disclosed. This confidence allows us to fully use the talents of our people to the fullest extent possible.

The BIS is also proposing to make a change to the "use" definition. While the change comports with our interpretation of the existing definition we want to ensure that BIS will continue to view equipment and system operations manuals as publicly available documents not subject to the Export Administration Regulations (EAR). If such manuals are not considered publicly available Freescale would need to review and classify all equipment and software currently in the company. For the equipment and software found to be subject to use controls, Freescale will need to identify all people who use this equipment and or software; obtain place of birth information from those individuals; and then determine the authority, if any, by which they could have access to the use technology for the equipment and/or software. Additional processes would be needed to monitor incoming equipment and software and for vetting the people who need access to controlled use technology for the new equipme!
nt and software. All of these processes would add more cost and, when combined with the

processes for complying with the deemed export rules, would make collaboration among employees very difficult, if not impossible.

We respectfully request that you abandon the idea of implementing the proposed changes to the deemed export rule. We also request that you consider a license exception for U.S. companies that allows intra-company transfers of technology with terms and conditions that describe the reasonable and effective processes companies already use to protect their technology.

Respectfully,

R.N. Fielding
Freescale Semiconductor, Inc
Director of Compliance Programs

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semiconductor

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
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Washington, DC 20230

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Freescale Semiconductor, Inc., formerly Motorola's Semiconductor Products Sector, has reviewed the proposed changes to the "deemed export" rule and the "use" definition. The implementation of the changes to the "deemed export" rule not only would result in significant disruptions to our business but also would result in a substantial increase in the export licenses submitted to the BIS.

Freescale, like many other companies, has expended significant resources developing, implementing and maintaining the processes needed to comply with the current deemed export regulations. These processes include the screening of new hires, managing access to information on servers, monitoring intra-company transfer of personnel and ensuring employees are aware of their obligations to comply with the export regulations. While some processes are manual others rely on systems with integrated compliance logic to determine which situations need additional reviews or can proceed because no license is required or a license exception is available. If the proposed deemed export rule is adopted all such processes would need to be re-written and training conducted to ensure compliance with the more restrictive rule. Revising the software and or the manual processes to comply with different criteria for determining the licensing requirements for people would be a costly undertaking. The costs associated with compliance processes directly impacts a company's bottom line.

Even more troubling is that the deemed export rule, irrespective of proposed changes, stifles the development of creative solutions to satisfy the ever increasing demands of consumers. In order to meet these demands companies must be able to move information seamlessly around the world so they can fully utilize the unique skills that a diverse employee population brings to the table.

This is why we have for many years promoted the idea of a license exception with terms and conditions that essentially describe the already rigorous steps reputable companies have in place to protect their intellectual property. Such steps include background checks of prospective employees and, assuming the candidate is hired, the execution of a legally enforceable employment agreement that include information protection provisions. These measures and others enable US companies to move

freescale semiconductor

information within the company with a reasonable degree of confidence that it's IP is not improperly disclosed. This confidence allows us to fully use the talents of our people to the fullest extent possible.

The BIS is also proposing to make a change to the "use" definition. While the change comports with our interpretation of the existing definition we want to ensure that BIS will continue to view equipment and system operations manuals as publicly available documents not subject to the Export Administration Regulations (EAR). If such manuals are not considered publicly available Freescale would need to review and classify all equipment and software currently in the company. For the equipment and software found to be subject to use controls, Freescale will need to identify all people who use this equipment and or software; obtain place of birth information from those individuals; and then determine the authority, if any, by which they could have access to the use technology for the equipment and/or software. Additional processes would be needed to monitor incoming equipment and software and for vetting the people who need access to controlled use technology for the new equipment and software. All of these processes would add more cost and, when combined with the processes for complying with the deemed export rules, would make collaboration among employees very difficult, if not impossible.

We respectfully request that you abandon the idea of implementing the proposed changes to the deemed export rule. We also request that you consider a license exception for U.S. companies that allows intra-company transfers of technology with terms and conditions that describe the reasonable and effective processes companies already use to protect their technology.

Respectfully,

R.N. Fielding
Freescale Semiconductor, Inc
Director of Compliance Programs

From: "Shirley M. Tilghman" <smt@Princeton.EDU>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 9:13 AM
Subject: RIN 0694-AD29

Please see attached letter.

Shirley M. Tilghman

CC: <msnowden@Princeton.EDU>

Princeton University
President's Room
Nassau Hall
Princeton, New Jersey 08544

June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, DC. 20230

Dear Mr. Lopes:

Thank you for the opportunity to respond to recommendations made by the Department of Commerce Inspector General regarding the application of deemed export controls to fundamental research at universities.

Princeton University is concerned that the Department's proposed regulations will interfere with the free exchange of ideas about basic research on our campus and will deter talented foreign researchers from contributing to the advancement of American science and engineering. For decades, America's economic growth and competitiveness have benefited from advances in science, engineering and technology. Universities have contributed significantly to those advances by training the scientific and technical workforce as well as generating many discoveries from which advanced technologies and products have evolved. The American higher education system—indisputably the envy of the world—has been successful because of its ability to attract the best and brightest students from around the world and because our open system of basic research facilitates intellectual collaboration in myriad ways.

The students and researchers whom we attract from abroad enhance our research communities immeasurably, and the best of them often remain in the United States and contribute to our high-tech economy. Unfortunately, universities have seen a decline in interest by domestic students in science and engineering careers, increasing our reliance on foreign talent to meet our institutional and workforce needs.[1] At the same time, American universities are no longer the only good choice for foreign nationals who seek advanced degrees in science, mathematics and engineering. Universities around the

[1] National Academy of Sciences, *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States – 2005*, Committee on Science, Engineering and Public Policy.

world are improving their facilities, educational programs and recruitment strategies and are gaining momentum in competing for the most talented international students.

I am myself a Canadian-born scientist who came to, and stayed in, this country because of the extraordinary research taking place here. As you know, many of this country's Nobel Laureates are also foreign-born. Let me take the opportunity to tell you about just one who now serves on the Princeton faculty and has made major contributions to this country's position of scientific and technological leadership. He is Professor Daniel C. Tsui, who grew up on a farm in China before receiving his undergraduate degree from Augustana College in 1961. Professor Tsui went on to obtain a doctorate in physics and to work for Bell Laboratories, where he did fundamental work in quantum mechanics that won him the Nobel Prize, before coming to Princeton where he has continued to teach and conduct research. The United States certainly needs to protect itself from threats to its security and well-being, but it also needs to continue attracting brilliant individuals such as Professor Tsui to its laboratories and universities. If foreign graduate students know that they must be licensed before participating in research projects in the United States, they are more likely to go elsewhere. And if American researchers know that they must license brilliant students such as the young Daniel Tsui before admitting them to their laboratories, they may bypass opportunities that could have led to important and fundamental discoveries.

We wish to express particular concern about the possibility that the use of controlled equipment or other technologies might be regulated even when that equipment is employed in fundamental research. This position, if accepted, would abridge the fundamental research exclusion that protects basic research in the United States and thereby sustains this country's competitive advantage in science and engineering. The use of equipment and the conveyance of knowledge on how to use equipment are inseparable in academic research. This knowledge is indispensable to training the high-tech work force in this county. Bureau of Industry and Security (BIS) staff have said publicly on many occasions that they understand this point and that their intent is to license only "use technology" that requires knowledge of proprietary information or trade secrets, or that is otherwise subject to publication or research restrictions according to the terms of research grants or contracts. We ask that BIS take this opportunity to state in writing that the proposed regulations would apply only to secret, proprietary information and not to any portion of fundamental research. This statement would be welcomed by America's scientific community, and it would also carry forward National Security Decision Directive 189, issued in the 1980's and reaffirmed by Condoleezza Rice in November 2001, which upholds the fundamental research exemption.

If the regulations are not carefully limited to apply only to a narrowly defined category of proprietary information, we believe that they could have the unintended consequence of driving both researchers and research projects to foreign institutions, thereby compromising American competitiveness. There is also a risk that the regulations will impose administrative burdens that would make American research much

more costly, and would undermine the research competitiveness of American universities, and thus the research competitiveness and economic vitality of the country. Princeton operates over 150 research laboratories across its campus. One such laboratory that could be affected by Commerce's proposed changes to the deemed export regulations has roughly 300 pieces of equipment valued at over $5000. That lab has about ten foreign researchers at any given time (including graduate students, post-doctoral researchers, and other research staff). We anticipate that a thorough review of this laboratory's equipment and operations would take an individual approximately 1.5 months (at the rate of 50 pieces of equipment per week). Extrapolating from this information, we estimate that a review of the entire campus could take approximately 225 person-months initially, plus one full-time staff member for ongoing licensing and compliance work. Let me stress that this additional effort would be required for laboratories all of which are conducting fundamental research without any publication or access restrictions. We estimate that costs for screening and licensing in the initial year could be in the range of $750,000 and for subsequent years in the range of $150,000 annually.

We recognize, of course, that the export control regulations serve valuable purposes. We at Princeton are careful about adhering to the requirements of the fundamental research exclusion. For example, we have rejected federal and industry research awards for our faculty that would restrict publication or access to research methods. We have educated our faculty regarding the export control regulations through group meetings and special project reviews over the last several years. A guide for faculty members is posted online.[2]

I offer these comments in the hope that they will lead to a resolution that fully considers the risks and benefits of any change in deemed export regulations. Princeton will continue to be mindful of national security concerns and to educate our faculty and students in proper implementation of Export Administration Regulations. I want to thank you for your willingness to work with universities and to discuss our concerns regarding the Inspector General's recommendations and for this opportunity to respond to the Advance Notice of Proposed Rulemaking.

Sincerely,

Shirley M. Tilghman

Shirley M. Tilghman

[2] See Princeton University educational and reference documents at http://www.princeton.edu/orpa/memos/export_controls/DeemedExports_2005_June9.doc and other relevant documents on the ORPA site dating back several years.

From: "Stephen Erickson" <ericksst@bc.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 1:44 PM
Subject: RIN 0694-AD29

We are enclosing comments made in response to the reference Advance Notice of Proposed Rulemaking.

Stephen Erickson, Director

Office for Research Compliance

Office for Intellectual Property Management

Boston College, 21 Campanella Way, Room 550

Chestnut Hill, MA 02467

Phone: 617-552-3345

On Campus Fax: 2-6981 Fax to My Computer: 413-895-8328

Boston College

June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230

RE: Advance Notice of Proposed Rulemaking (RIN 0694-AD29)

Dear Mr. Lopes:

We are writing to provide comments in response to the referenced Advance Notice of Proposed Rulemaking (ANPR). The proposed regulatory and policy changes are troubling in a number of ways, and we appreciate this opportunity to voice our concerns. We believe that the Department of Commerce has severely underestimated the impact that the application of "deemed exports" to fundamental research will have on universities.

We have reviewed the letter submitted in response to the ANPR by the Council on Governmental Relations (COGR). We concur completely with the points raised in COGR's letter. While we support all of the positions set forth by COGR, there are several that we would like to emphasize.

1. We understand that the Department of Commerce is seeking detailed data from respondents. As a single institution, and since we can speak only for ourselves, Boston College cannot provide meaningful data on the impact of the proposed rulemaking. We have many hundreds of pieces of equipment that would have to be individually evaluated to determine whether the would be covered by the regulations. We also have many foreign scholars and graduate students who may, at one time or another, use that equipment. Without a detailed analysis, it would be impossible to offer accurate and complete data, but even this general information illustrates one aspect of the burden that would be imposed on universities.

   We can, however, offer a hypothetical example of the impact. It would not be unusual, for instance, for a given laboratory to have six foreign scholars or graduate students and six

pieces of equipment that may fall within the coverage of the Export Administration Regulations. The very nature of fundamental research does not permit an accurate forecast of when any individual may need to use a piece of equipment in the furtherance of his/her research. In order to avoid severe penalties for noncompliance, the only logical step for us to take would be to obtain licenses for every individual to use every piece of equipment. That means for just this hypothetical laboratory, thirty-six licenses would need to be obtained. If one were to extrapolate that number, it would be reasonable to estimate that, depending on the size of an institution, hundreds and perhaps thousands of licenses would have to be obtained by each institution.

2. The Department of Commerce has asked for specific data, yet at the same time, we have not been informed of any specific instances in which the absence of the "deemed exports" has resulted in any actual violation of real security concerns. C. Daniel Mote, President of the University of Maryland in his March 15, 2005 remarks to the Export Control Task Force (National Science and Technology Council) said, "We desperately need a risk analysis that looks at the real threats and the real costs to government, government laboratories, industry, and the nation's universities be for changes in "use" of controlled equipment are made." We concur complete with Dr. Mote's view, and urge the Department of Commerce to defer any proposed rulemaking on this subject until the risks, costs, impacts, and administrative burdens are assessed completely.

3. We believe it is unreasonable for the Department of Commerce to segregate the results of fundamental research from the process used in obtaining research data. The process and results are inextricably intertwined. If the data and findings from projects are considered to be fundamental research, then it is inappropriate and inconsistent to posit that the process is subject to export controls.

4. The impact of applying the concept of "deemed exports" to fundamental research would completely change, and we believe damage, the conduct of fundamental research projects. Projects will be delayed due to the need to assess the applicability of the Export Administration Regulations as well as to request and wait for licenses to be processed. This will harm graduate students in degree programs who depend on the research for the completion of their academic requirement. The delay will harm faculty by interfering with the natural progression of research projects and impede the ability to collaborate freely and openly. The university environment is not the same as found in industry. University research is grounded in the open exchange of information and free discussion. The application of "deemed exports" to fundamental research will severely impede the immediacy of discussions, and thus interfere with the very nature of how universities conduct research programs.

5. We believe that the most appropriate way to address potential security concerns that may exist lies within the visa screening process. Once an individual's background is screened prior to granting him/her a visa to enter the United States as a foreign scholar or student, we have a reasonable assumption that the purpose of the individual's stay in the United States (i.e. for study and/or to participate in research programs) is taken into consideration prior to granting a visa. Since we have been notified of no instances of inappropriate transfer of technology, we do not believe expanding the concept of "deemed exports" is necessary. It would in fact, add a significant burden and unfunded mandate that would have to absorbed by universities.

6. The proposed requirement that "deemed exports" be applied on the basis of an individual's place of birth rather than country of citizenship is troubling in principle and would be administratively burdensome. It is base on a faulty assumption that a person will always maintain primary allegiance to the country in which he or she happened to be born, rather than the country in which he/she has chosen to become a citizen. We do not maintain records nor do we track visiting scholars country of birth. It would be intrusive to do so as well as administratively burdensome, and yet another unfunded mandate.

We appropriate this opportunity to offer our comments.

Sincerely,

Michael A. Smyer
Associate Vice President for Research

Stephen Erickson
Director
Office for Research Compliance and
Intellectual Property Management

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June 27, 2005

Via Email

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230
ATTN: RIN 0694-AD29

Re: Comments Concerning Proposed Revision and Clarification of Deemed Export Related Regulatory Requirements - RIN 0694-AD29

Dear Sir or Madam:

On behalf of ConocoPhillips, we are writing to provide comments regarding the proposed revisions to deemed export requirements under the Export Administration Regulations ("EAR") pursuant to March 28, 2005 and May 27, 2005 Federal Register notices of advance rulemaking.[1]

ConocoPhillips is a U.S. energy company with operations in over 40 countries and over 35,000 employees worldwide. Due to the inherently international nature of ConocoPhillips' operations, compliance with EAR deemed export and deemed reexport requirements is central to how the company conducts business and how it competes in the international marketplace. Like any U.S. company that operates globally, ConocoPhillips' operations, including those in the United States, involve many foreign nationals who are not U.S. permanent residents. These include foreign nationals who may be ConocoPhillips' employees, contractors, or business partners. After careful consideration of the proposed changes, ConocoPhillips is concerned that these changes would have a severe negative impact on the company's ability to employ and work with foreign nationals and would impose a considerable burden relating to foreign national screening for purposes of deemed export compliance.

[1] 70 Fed. Reg. 15608; 70 Fed. Reg. 30655.

ConocoPhillips provides the following comments on the proposed revisions:

1. "Use" Technology

ConocoPhillips agrees that replacing "and" with "or" in the definition of "use" set forth in EAR Section 772.1 could help clarify the definition of "use." However, ConocoPhillips is concerned about the Office of the Inspector General's ("OIG") apparent position that granting access to controlled equipment to foreign nationals in the United States almost automatically raises deemed export licensing issues. This position appears to be based on the assumption that "use" of a controlled item is generally accompanied by a release of controlled technology. From the compliance standpoint, such an overbroad view of deemed export controls would create an enormous burden on companies employing foreign nationals that may have access to controlled equipment, even though such access is rarely accompanied by a release of controlled technology. ConocoPhillips does not believe that OIG's view is borne out by the current EAR framework for technology controls, including the provisions of the General Technology Note in Supplement 2 to EAR Part 774. However, due to the different interpretations concerning deemed export licensing requirements in the context of "use" of controlled equipment by foreign nationals, ConocoPhillips urges the Bureau of Industry and Security ("BIS") to provide clear guidance on when foreign national access to controlled equipment triggers deemed export licensing requirements.

In particular, BIS' guidance should make it clear that consistent with the General Technology Note, only technology that is "required" for the use of the item is controlled. Because EAR Section 772.1 defines the term "required" narrowly, much of "use" information given to foreign nationals in connection with access to controlled equipment would not be captured by deemed export licensing requirements. This is because such information is rarely of the type "peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions" of a controlled item.

For instance, foreign nationals employed by ConocoPhillips in the United States frequently use software programs loaded onto their computers that may be controlled for export to the recipient foreign national's country of citizenship. One such example would be software classified under ECCN 5D991. Technology for "use" of software classified under ECCN 5D991 is controlled under ECCN 5E991. While the foreign nationals might not be involved in writing or manipulating source code for these programs, they might receive information on how to use them. Under OIG's expansive view of what constitutes controlled "use" technology, it would appear that much of such "use" information could be captured as controlled technology and be subject to deemed export license requirements. We do not believe this interpretation would be consistent with the current regulations.

In addition, it is unclear how ConocoPhillips could successfully screen its domestic employees who have access to basic commodities here in the United States if OIG's overbroad view of deemed export requirements were accepted. For example, suppose ConocoPhillips has an Indian national cleaning a pipe used in a natural gas project in the United States. The pipe requires a license for export to India (because it is classified under ECCN 2A292). ConocoPhillips provides information about the composition of the pipe so that the Indian national can use the right chemicals for cleaning. Under the OIG interpretation, would ConocoPhillips have to go through a compliance exercise to determine whether the individual needs a license (because "use" technology for items classified under ECCN 2A992 is controlled under ECCN 2E290)? Surely such a situation would not require licensing and BIS should provide clarity in the regulations, examples, or website materials. For example, BIS could add guidance on what constitutes a release of *controlled* technology in the context of "use" of controlled equipment in a supplement to EAR Section 734 or incorporate it into the General Technology Note. ConocoPhillips believes that such guidance to the industry would be helpful in clarifying distinctions between controlled and non-controlled aspects of "use" technology and in ensuring that companies understand their compliance responsibilities relating to deemed export requirements.

2. Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement

The Bureau of Industry and Security requested information on the number of foreign nationals who could be subject to export control requirements if the licensing requirement were changed from the country of most recent citizenship to the country of birth. ConocoPhillips does not have access to this information because, under current law, ConocoPhillips does not collect this information. In the employment context, collection of this information is sensitive in light of concerns relating to employment discrimination based on national origin. In general, employers have few, if any, legitimate reasons to require information about the country of birth of any employee. In the context of business relationships involving foreign nationals, such as dealing with contractors, consultants, or business partners, inquiring about the foreign national's country of birth could implicate privacy issues, and would certainly be viewed negatively by those asked for the information. ConocoPhillips needs to engage and work with its business partners around the world, not antagonize them.

The current rules that base licensing requirements on a foreign national's most recent citizenship or permanent residency recognize that in today's global environment, an individual's place of birth may not be an adequate or useful criterion for determining that individual's allegiance. Under the proposed rule, a number of categories of individuals who have no actual ties to their country of birth would forever remain nationals of their birth countries for deemed export purposes. That would include refugees and individuals who either lost or formally renounced citizenship in the countries of their birth. It would also scoop up individuals who may have left a foreign country shortly after birth, never to return there. In the context of foreign

national employment, this would, as a practical matter, disproportionately affect individuals born in countries subject to some of the strictest U.S. export controls. Inevitably, if deemed export licensing requirements were to be triggered based on the foreign national's country of birth, many transfers of low-level technology, such as technology relating to items controlled for antiterrorism reasons only, would need to be licensed.

* * *

In sum, ConocoPhillips respectfully recommends that BIS provide guidance on what constitutes a release of controlled technology in the context of "use" of controlled equipment and that BIS *not* adopt the Inspector General's recommendation changing deemed export requirements to base them on country of birth. For the reasons stated above, ConocoPhillips believes that the current policy achieves a good balance between encouraging legitimate business and enhancing U.S. national and foreign policy interests.

ConocoPhillips appreciates the opportunity to comment on the proposed revisions relating to deemed export licensing requirements. If you have any questions or need more information, please feel free to contact Rod G. Smith, Senior Counsel, ConocoPhillips, at (281) 293-1740 or Gregory S. Herzog, Manager, Export Compliance, ConocoPhillips, at (832) 379-6024.

Respectfully submitted,

F. Amanda DeBusk
Sylwia A. Lis

From: "Ted Poehler" <tpoehler@jhuadig.admin.jhu.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 10:39 AM
Subject: Response to Notice of Proposed Rulemaking- "RIN 0694-AD29"

Greetings

Attached is the reponse of Johns Hopkins University to the Notice of Proposed Rulemaking dated Marcy 28, 2005 on Deemed Exports. "RIN 0694-AD29"

Ted Poehler

Ted Poehler
Vice Provost for Research
Johns Hopkins University
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410 516 8765
410 516 8035(FAX)

CC: "Michael Alexander" <MAlexander@jhuadig.admin.jhu.edu>

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Theodore O. Poehler
Vice Provost for Research

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTENTION: RIN 0694-AD29

Gentlemen:

I am writing in reference to the advanced notice involving proposed rulemaking for the Revision and Clarification of the Deemed Export Regulatory Requirements. The Johns Hopkins University recognizes that export control regulations are a primary concern throughout the United States, especially since September 11, 2001. As a result, the university continues to update its procedures to monitor compliance in support of this priority. Although research projects conducted at Hopkins involve primarily fundamental research due to the university's requirements for unrestricted dissemination and open access by everyone, we recognize that Hopkins faculty, staff, and students must continue to comply with the designated standards where appropriate.

Johns Hopkins acknowledges the concerns of the Office of the Inspector General regarding current policies of the Bureau of Industry and Security under the Export Administration Regulations. In turn, Hopkins is asking the Office of the Inspector General to recognize the serious problems that all academic institutions with significant research programs will face if the proposed recommendations are adopted. Although the recommended governmental actions purport to simply clarify the definition of "use" of technology subject to EAR, the result is a fundamental change in the operation of institutions of higher learning with regard to students who are foreign nationals. Currently, the "use" by foreign nationals of equipment that may be covered by the EAR is exempt, not only because the use made in the ordinary course of research and instruction does not fit the current definition of "use," but also because the information conveyed to the students concerning such equipment is "information released by instruction in

catalog courses and associated teaching laboratories of academic institutions" and is therefore exempt from export control regulations. The consequence of the recommendations is to alter that reasonable and workable system (this equipment and information is readily available throughout the world--much of it manufactured and supplied by companies based outside of the United States). The intent of the recommendations is to bring this innocuous activity within the export control regulations, and require deemed export licenses for virtually every foreign national who is a student of the sciences at a U.S. based institution. The result will be a financial and managerial disaster for institutions of higher learning, without significantly advancing U.S. interests.

These recommendations would also serve to impair various research projects in the academic institutions in a variety of ways.

> First, the cost in manpower, and, quite often, outside legal and other expenses is enormous, if every foreign national who touches a 20-liter fermenter requires an export license. And if that person operates a mass spectrometer capable of detecting biological agents, would a second license be required?
>
> Second, these recommendations, if adopted, would generate a need for mammoth systems to track birth information, country of origin, and residence status for foreign nationals who may be in attendance.
>
> Third, incredibly costly record keeping would be required to track the activities permitted under the license, and to preserve those records as is required for activities within the EAR.

The OIG proposals would result in unexpected and costly expenses for the institution, the foreign national, the sponsoring agencies and even unanticipated delays in academic matriculation of the individuals involved. These impediments would affect projects sponsored by federal as well as non-federal agencies.

In addition to the research opportunity loss, the cost of implementing the proposed OIG use definitions would depend upon the size and caliber of the institutions' academic research programs. Based on our experience in other analogous compliance programs, the expense to Johns Hopkins is estimated to be an initial start-up cost of $775,000 for space charges, office expenses, equipment, technology systems, and training for new staff and annual operating costs of $350,000.

It is most appropriate to mention the influence these revisions to the interpretation of the export control regulations will have on the competitiveness of United States universities, as well as on the economic growth and development of the nation. The decline in foreign students and scholars presents a serious threat to the country's competitive standing and to its future progress. The critical contribution of foreign students and scholars to U.S. science and engineering may be significantly diminished through implementation of the Inspector General's recommendations that, in turn, could ultimately adversely affect U.S. economic competitiveness and national security. Foreign countries are significantly increasing the number of their science and

engineering graduates while U. S. students in these areas are declining, enabling other countries for the first time to attract technology-based jobs in very large numbers. This places the U.S. at serious risk of falling behind other nations in these fields, and ultimately of losing its leadership in innovation and the global economy. Our entire national innovation system is at risk, and hence so is our national security.

Johns Hopkins and other academic institutions facing this proposed major adjustment in procedures are making significant attempts to understand the need to modify the current structures to accommodate the ever-changing aspects of the nation's security. It would be most beneficial to the academic institutions, industry, as well as the Bureau of Industry and Security to work together to develop and implement a more realistic approach toward dealing with this problem.

In order for Johns Hopkins to institute a program that would be more compliant with BIS proposed modifications, the Bureau would need to acknowledge the following:

1. The Commerce Control List contains an immense amount of equipment that should be reviewed and this data should be revised for the purpose of limiting its scope to specific scientific equipment not readily available outside of the United States--information about which is also not widely published and readily accessible to foreign nationals outside of the educational environment. Much, if not most, of the scientific equipment used in the typical university laboratory is well known and its technical specifications and operating manuals are readily available throughout the world.

2. The Commerce Control List should not contain any instrumentation or equipment that is advertised for purchase on the open market today.

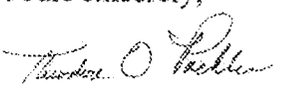
3. One method to assist foreign nationals from being called into question regarding laboratory research, as indicated by colleagues at the University of Maryland, is an application/licensing process that coincides with the visa application and authorization process. This would take place prior to the foreign national being permitted to reside in the U.S., and would constitute a blanket license for access to EAR controlled equipment at the educational institution as part of the course of instruction.

4. Since Visa applications for foreign nationals who plan to study or participate in projects that involve certain "sensitive" areas of scientific research are already subject to a comprehensive interagency clearance entitled *Visas Mantis,* it would be relevant and practical for the federal government agencies as well as higher education institutions for a license to be issued concurrently during the time that the foreign national's visa application is being processed.

It would be realistic, economically sound, and programmatically efficient to institute the final proposed recommendations from BIS only after the above have been implemented.

Finally, I want to thank you for taking time to consider the concerns outlined in this letter. These issues and their solutions are of major importance to academic institutions throughout the United States as we prepare new and dynamic leaders for our nation's future.

Yours sincerely,



Theodore O. Poehler
Vice Provost for Research

From: <cicerot@msnotes.wustl.edu>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 3:50 PM
Subject: RIN 0694-AD29

Attached are Washington University's comments on RIN 0694-AD29.
Thank you for your attention,
Theodore J Cicero
Vice-chancellor for Research
Washington University
Campus Box 8027
660 South Euclid
St Louis, MO 63110
(314) 362-7010 (phone)
(314) 362-4856 (FAX)

(See attached file: FINAL Memo on RIN0694 to DOC.06.27.05.doc)

TO: U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230

RE: **RIN 0694—AD29**

FROM: Theodore J. Cicero, Ph.D.
Vice Chancellor for Research
Campus Box 8027, 660 South Euclid Avenue
St. Louis, MO 63110

Date: June 27, 2005

CC: Chancellor Mark Wrighton

On behalf of Washington University, I write in response to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register, Volume 70, No. 58, March 28, 2005; specifically, on the recent recommendation of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

Washington University recognizes the importance of current efforts to enhance the security of our national research environments and is committed to helping protect the country against potential threats. However, while we support the spirit of these recommendations, we are strongly opposed both to restricting equipment used in fundamental research and to the reclassification of foreign nationals according to country of birth. As detailed below, we share the belief with other universities that the implementation of these recommendations will ultimately weaken, not strengthen, our national security, and in the process place an enormous administrative burden on the research community.

As persuasively articulated by the Council of Governmental Relations (COGR) in their response to the proposed rulemaking, the changes recommended by the Department of Commerce are based on misconceptions of the nature and importance of university fundamental research. The use of equipment and the conveyance of technology on how to use equipment are not distinguishable in academic research, which relies for its success on an open and international collaborative environment. Washington University shares the concerns COGR has enumerated about how the implementation of policy changes recommended by the IG will affect all universities; specifically, how American universities will have difficulty hiring top international scientists, forcing valuable

intellectual capital offshore and reducing the number of international collaborations, how American universities eventually will be seen as unwelcoming to foreign students and researchers in general, how the redefinition of "use" will place unnecessary restrictions on fundamental research, and finally, how the administrative burden represents a costly unfunded mandate. We urge the Department of Commerce to work together with the academic community to craft security measures appropriate for the unique university environment.

In order to better understand the administrative burden at our own institution and represent the associated costs as accurately as possible, we consulted with faculty, deans, and other administrative personnel on campus. The following outlines the results of our assessment.

Washington University's Assessment of the Administrative Impact: An Unfunded Mandate

Evaluate all existing and proposed research projects to assess impact of new regulations

- Work with all scientists and engineers on campus whose research falls within any of the broad categories of EAR (e.g. "study of microorganisms" or "electronics design or development") to determine whether their investigations involve the use of EAR or ITAR controlled equipment and material. (Previously, because of the "fundamental research exemption" such determination was not required).
    i. Both faculty and administrative staff time will be required. The identification of ECCN and ITAR categories and the evaluation of relevant export control requirements will necessitate faculty expertise.
    ii. This determination is made particularly demanding by the inclusion, among the list of specific EAR controlled items, of equipment that may have deserved control several years ago, but today is readily available commercially, e.g. high-speed analog-to-digital converter chips.
- Expand current inventories of newly controlled equipment and materials to include ECCN and ITAR classification and documentation.
- Assess building and room security where equipment is housed.
- Document all exemptions.
- Develop and implement procedures for the cases in which a need for licensing is identified.
- Total costs cannot be determined until the evaluation is complete.

Review records of foreign nationals on campus

- Identify all foreign nationals working in research laboratories: students, postdocs, senior scientists, lab technicians, faculty and staff.
- Cross-check all records of foreign nationals with the newly expanded equipment inventories to identify the need for export licensing.
- Total costs are unknown until the review is complete.

Increase building security for fundamental research

- Purchase and install new security technology where necessary.
- Construct new rooms or buildings, if necessary.
- Total costs are unknown until the review is complete.

Obtain export licenses

- Apply for licenses for dual-use equipment previously exempt. This requires additional time from legal counsel, faculty, and administrative staff.
- Pay additional licensing fees.
- Total costs are unknown until the review is complete.

Craft Policies and Enhance University-wide Procedures

- Create a central database of research and equipment and materials with ECCN and ITAR classification.
- Create a University mechanism and enhance existing administrative infrastructure to ensure compliance with the new regulations. Enhancements to our existing infrastructure will require significant additional staff and faculty time.
- Craft new and revise existing University policy and procedures for Export Controls: several meetings with top University officials.
- Implement revised and new policies and procedures. This will require significant and permanent additional faculty and staff time.
- Total costs are unknown until assessment is complete.

Increase Administrative and Scientific Support Staff

- Additional time required from the Office of General Counsel.
- Additional time required from the technical support team.
- Additional time required from faculty and administrative staff.
- Additional scientific experts may be needed for each school within the University to serve as reference and point of contact.
- Total costs cannot be determined until assessment is complete.

Tangible Consequences & Cultural Impact at Washington University

- The delays involved in the management of export licensing would cause significant setbacks in the progress of science at Washington University. In isolated cases it may become necessary to hire interim scientists to keep research on track.
- It would become difficult to recruit top scientists from around the world—students, scholars, and faculty.
- The difficulty in hiring foreign scholars would reduce the number of international collaborations.

- The difficulty in hiring foreign scientists will be exacerbated by the perception of being unwelcoming, a reputation we will share with other American universities.
- The bias against foreigners will increase with the shift in the licensing requirements to consider country of birth rather than citizenship. The benefit of the current citizenship rule is that "foreignness" is defined by a neutral category of residency, rather than by birthright, kinship, and heritage.
- Administrative costs of research in fundamental, basic science would increase dramatically.
- There would be no chance of recovering those costs since the facilities and administrative cost rate is capped by the government.
- Washington University's competitiveness as a major research university would decline. An important source of scientific discovery and innovation at Washington University has been the contribution of foreign students and scholars. Diminishing this key source will negatively impact our national and international status as innovators in science and engineering.
- The impeded access to our laboratories and decreased range of scientists who bring fresh ideas and new perspectives will change the very essence of our university as a place for the free exchange of diverse opinions, information, and ideas.

We believe that efforts to enhance security must be balanced against the potential for furthering adverse trends in our nation's leadership role in technological and medical discovery and innovation. With COGR we urge the DOC to undertake a careful cost-benefit analysis. We believe the additional burden and expected costs to the research community of the proposed changes have been well documented; however, the DOC has demonstrated neither verified gains nor the inadequacy of the existing visa and research classification clearance processes. Instead of tightening export licensing restrictions in the specific ways currently proposed, we respectfully ask the DOC to recognize that the continuing fast pace of technological and scientific development demands a system of regulations that take into account the fundamental research environments of the nation's academic institutions. Fundamental research relies for its success on international collaboration among the world's outstanding scholars and scientists and on an open, stimulating environment of scientific discovery and creativity.

From: <Thomas_Jordan@acip.com>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 5:22 PM
Subject: Proposed Rulemaking Concerning the Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, Mar. 28, 2005)

Please see attached document Proposed Rulemaking Concerning the Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, Mar. 28, 2005).

American Council on International Personnel
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Washington, DC 20005
• 202-371-6789 • Fax 202-371-5524 • www.acip.com

Via Electronic Mail & facsimile
publiccomments@bis.doc.gov
(202) 482-3355

June 27, 2005

United States Department of Commerce
Bureau of Industry and Security
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Attention: RIN 0694-AD29

RE: Proposed Rulemaking Concerning the Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15607, Mar. 28, 2005)

Dear Sir or Madam:

The American Council on International Personnel (ACIP) respectfully submits the following comments to the above-captioned Department of Commerce (DOC), Bureau of Industry and Security (BIS) Advance Notice of Proposed Rulemaking (ANPR) regarding deemed export licensing requirements for foreign nationals working with or having access to sensitive technology.

ACIP is an organization comprised of over 200 corporate and institutional members with an interest in the movement of personnel across national borders. Each of our members employs at least 1,000 employees worldwide, and, in total, ACIP members employ millions of United States citizens and foreign nationals in all industries throughout the United States. ACIP sponsors seminars and produces publications aimed at educating human resource professionals on compliance with immigration laws, while working with Congress and the Executive Branch to facilitate the movement of international personnel.

Discussion

The BIS published the ANPR on March 28, 2005, shortly after the release of a DOC Office of Inspector General (IG) report criticizing the current deemed export requirements. *See* *Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.,"* Final Inspection Report No. IPE-16176 (U.S. Dept. of Commerce, Mar. 2004). As a threshold matter, ACIP recognizes, as does the IG, that the current system needs reform. Indeed, the current deemed export license requirements, in most cases, represent an ineffective formality and can be an impediment to attracting highly skilled and talented foreign

professionals. At the same time, the requirements bring minimal benefit to securing our nation. For that reason, ACIP commends the BIS for its initiative in addressing the current system.

However, ACIP respectfully submits that the ANPR does not remedy the shortcomings of the current system. In fact, the new definition of "home country," the country of birth rather than country of citizenship or permanent residence as defined under current law, may in fact make us less secure than we are presently. The current law takes into account the mobility of the world's population, and is based upon a person's allegiance rather than mere ancestry. Moreover, the majority of countries confer citizenship based upon *jus sanguinis* (bloodline) instead of *jus solis* (place of birth). As such, the ANPR assumes that a person would owe allegiance to a country even if that person left the country during infancy and never held citizenship of that country. ACIP respectfully suggests that this assumption is not well founded.

The ability to attract and retain the world's brightest and highly skilled professionals is of paramount importance to the United States' standing as the global economic and technological leader. Our ability to remain a leader is integral to our homeland security. When necessary, our universities, research facilities and other institutions, which keep our nation on the forefront of innovation, depend on the infusion of foreign talent to bolster our domestic workforce. According to the 2000 Census, 38% those who hold a doctoral degree in our workforce are foreign born, compared to 24% in 1990. A blanket policy of basing deemed export licensing requirements on country of birth will drastically increase the number of license applications, increase administrative burden on the government as well as legitimate American businesses, have a chilling effect on recruitment, but will not increase the level of security for our country. Law-abiding businesses also will have to halt research in order to ascertain the newly required information, creating an even greater security and economic vulnerability.

To avoid these adverse effects, the United States must have a policy that maintains the delicate balance of preserving America's status as a global leader on one hand, and vigilantly protecting our security on the other. Specifically, U.S. policy on restricting employment of foreign scientists and other professionals must be crafted narrowly so as to address particular threats and vulnerabilities without unnecessary disruption on legitimate American business activities. Failure to do so not only contributes nothing to national security, but would encourages businesses to take their research and development abroad, taking with them American jobs and innovation. ACIP recognizes the loophole under the current system where a person could first obtain permanent status in a country with lenient immigration laws before gaining access to sensitive technology. However, rather than the stringent, "one-size-fit-all" approach of relying solely on the country of birth, the government must review the totality of circumstances when determining whether employment of any particular person triggers a deemed export licensing requirement. Country of birth and country of citizenship, are only factors to consider.

Finally, the ANPR also does not account for restrictions under privacy laws. Most companies currently have no legitimate need to ask for country of birth information. Compliance with the ANPR will require companies to approach every employee, prospective employee, contractor, and even third parties with access to covered technology for such information. These questions may invoke issues of national origin discrimination and businesses to liability.

Conclusion and Recommendation

ACIP recognizes that national security interest is paramount to all other interests. However, our ability to stay competitive in the global technology arena and our economic strength are vital components of our national security strategy. ACIP respectfully recommends the BIS to take a broader approach in its deemed export policy and consider the totality of circumstances, and not just country of birth, as the determinative factor.

Sincerely,

Lynn F. Shotwell
Executive Director

From: "Berdar, Carol" <Carol.Berdar@rfsuny.org>
To: <publiccomments@bis.doc.gov>
Date: Mon, Jun 27, 2005 1:53 PM
Subject: RIN 0694-AD29

Dr. Mr. Lopes:

As requested by 70 FR 15607, "Revision and Clarification of Deemed Export Related Regulatory Requirements," issued March 28, 2005, The Research Foundation (RF) of The State University of New York is responding to the Department of Comemrce (DOC) Bureau of Industry and Security (BIS) request for commments on the advanced notice of proposed rulemaking (ANPR).

The RF response is comprised of 3 attached documents:

* A cover letter signed by Timothy P. Murphy, Executive Vice President and Chief Operating Officer

* A list of State University of New York (SUNY) state-operated campuses

* A detailed response identifying issues, alternative suggestions, and best-estimate data

To assure receipt by the deadline of COB, June 27, 2005 - we are also faxing the RF response to 202-482-3355.

Please contact me if there are any problems/questions regarding the submission and/or receipt of the RF response.

Thank you, ~Carol H. Berdar~

<<DOCANPRFresponseletfTM_0627051.doc>> <<campuslist.doc>>
<<DOCANPRRFresponseattf_062705.doc>>

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THE RESEARCH FOUNDATION
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June 27, 2005

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, NW
Room 2705
Washington, D.C. 20230

Attention: RIN 0694-AD29

Dear Mr. Lopes:

As requested by 70 FR 15607, "Revision and Clarification of Deemed Export Related Regulatory Requirements," issued on March 28, 2005, The Research Foundation (RF) of The State University of New York is responding to the Department of Commerce (DOC), Bureau of Industry and Security (BIS) request for comments on the advance notice of proposed rulemaking (ANPR).

The RF administers sponsored programs funded by the federal government and other sponsors on behalf of the State University of New York (SUNY). During the fiscal year that ended on June 30, 2004, our total sponsored programs expenditures were approximately $710 million. For your reference, attached is a list of the state-operated campuses in the SUNY system.

In regards to the Inspector General (IG) Report (IPE-16176, March, 2004) on export controls, the RF is sensitive to critical and heightened national security impacts, and acknowledges that the DOC/BIS is taking the initiative to understand the impacts surrounding higher education, university research and innovation. We appreciated the extension of the comment period (70 FR 39655, May 27, 2005) as it gave us the time and opportunity to carefully understand and evaluate the impacts of the IG Report.

Attached is a document that includes additional details, alternative suggestions and the requested best-estimate data to support our position on the proposed changes. The following is a summary of that document.

"Use" Technology: The RF firmly believes revising the definition of "use" technology would be damaging to universities and have unintended results. To illustrate, under the proposal simply showing a foreign national how to turn on a piece of controlled equipment could trigger the requirement for a deemed export license which could lead to delaying research by several months as well as the associated costs to obtain a license. In addition, we disagree with the

interpretation that technology involving the use of controlled equipment—regardless of how use is defined—is subject to the deemed export requirements if fundamental research is being conducted with the equipment.

Foreign Nationals: The RF firmly believes the IG Report recommendation regarding foreign nationals did not specifically identify or verify the tangible benefits that would result from using a foreign national's country of birth as criterion for the deemed export license requirement. To illustrate, the report does not acknowledge that the current visa/classification processes for foreign nationals fails to address concerns about the transfer of sensitive technologies. In addition, it is not clear how the process would be strengthened if the proposed requirement is adopted.

Fundamental Research: The RF firmly believes there is a critical need to maintain the fundamental research exemption as it is currently applied at universities. The application of the deemed export requirements to fundamental research is an extremely serious concern. To illustrate, in academic research the use of equipment and the transfer of technology on how to use that equipment are inseparable because both are critical to the discovery of innovative new ideas. We strongly disagree with the IG Report that the products of fundamental research and the process for obtaining the research results are distinguishable.

Best-Estimate Factual Data: The RF firmly believes that implementing additional significant export control requirements, with potentially serious impacts, should not be adopted without first giving universities the opportunity to complete a thorough cost-benefit analysis in each area. The attached document includes the RF's *best-estimate* of SUNY equipment, laboratory space, non-U.S. citizens (e.g., researchers, employees, students), and the cost and time to obtain a license, but the full impact of the recommended changes would not be known without a thorough review.

Thank you for the opportunity to provide comments on the ANPR. If you have any questions, or need additional information, please contact Patricia A. Winters, vice president for sponsored programs services, by phone at (518) 434-7104, by fax at (518) 434-8343 or by e-mail at pat.winters@rfsuny.org.

Sincerely,

Timothy P. Murphy

Timothy P. Murphy
Executive Vice President and
Chief Operating Officer

Attachments

copy: Chancellor (Acting) John R. Ryan
Provost Peter Salins
President John J. O'Connor
Operations Managers
Sponsored Program Administrators
Management Staff

STATE UNIVERSITY OF NEW YORK CAMPUSES

University Centers

University at Albany
Binghamton University
University at Buffalo
Stony Brook University

Health Science Centers

SUNY Downstate Medical Center
Upstate Medical University

University Colleges

SUNY Brockport
Buffalo State College
SUNY Cortland
Empire State College
SUNY Fredonia
SUNY Geneseo
SUNY New Paltz
Old Westbury
College at Oneonta
SUNY Oswego
SUNY Plattsburgh
SUNY Potsdam
Purchase College

Colleges of Technology

Alfred State College
SUNY Canton
SUNY Cobleskill
SUNY Delhi
Farmingdale State College
Morrisville State College

Specialized Colleges

SUNY ESF (Environmental Science and Forestry)
College of Optometry
SUNYIT (Institute of Technology Utica/Rome)
Maritime College

SUNY System Administration

Levin Institute
System Administration – Provost

Response to the Department of Commerce/Bureau of Industry and Security Attn: RIN 0694-AD29

Advance Notice of Proposed Rulemaking (ANPR) (70 FR 15607, March 28, 2005) Revision and Clarification of Deemed Export Related Regulatory Requirements

This document includes additional details and suggested alternatives that support the Research Foundation's (RF) position on the advanced notice of proposed rulemaking in respect to 70 FR 15607, dated March 28, 2005.

In addition, best-estimate data is provided to identify State University of New York (SUNY) and Research Foundation of SUNY (RF) equipment, laboratory space, non-U.S. citizens (e.g., researchers, employees, students), and the cost and time to obtain a license.

"Use" Technology

Issue: The Department of Commerce (DOC) Bureau of Industry and Security (BIS) is seeking comment on the IG Report recommendation to revise the definition of "use" in the Export Administration Regulations (EAR) (15 CFR 772.1) by replacing the word "and" with the word "or." The RF firmly believes this revision would be damaging to universities and have unintended results because it will not clarify the definition of "use" technology. It's important the DOC/BIS understand that the transfer of certain "use" technology is the focus of deemed exports, not what characterizes the use of equipment. If the definition is adopted, installing, operating and maintaining a piece of equipment controlled for use technology could trigger the requirement for a deemed export license which would have a deleterious impact on both the DOC/BIS and universities.

Suggested Alternative: The RF strongly suggests revising the definition of controlled use technology to encompass only proprietary technology that is generally not available for free or by acquisition on a non-exclusive basis. This would include technology that is only available on an exclusive basis, to limited persons, and to those who sign a non-disclosure agreement. Revising the description to encompass only proprietary technology would help assure that those who acquire the technology would properly regulate its use and limit those with access to the technology. If a foreign national requires access to non-public, controlled-use technology to conduct research, than a decision about whether deemed export requirements apply would need to be made. In addition, the RF suggests the definition of "use" technology must identify and confirm that technology developed during or resulting from research falls within the scope of fundamental research, as long as the results are ordinarily published and are not restricted for dissemination.

Foreign Nationals

Issue: The DOC/BIS is seeking comment on the IG Report recommendation for use of a foreign national's birth country as the criterion for the deemed export license requirement. The RF firmly believes this revision presumes risk without clearly identifying and verifying that it exists. It's based on an assumption that all persons who are born in a particular country, and who forego their citizenship in that country, present a risk. It's not clear how the birth country criterion requirement would strengthen the current visa/classification process and address

concerns for the transfer of sensitive technologies. In addition, since SUNY and the RF do not currently collect or track a foreign national's birth country in our business applications, a change in this regulation would impose a significant cost and administrative burden to implement a system change of this magnitude.

Suggested Alternative: The RF strongly suggests the IG Report recommendation be revisited to clarify the connection between a foreign national's birth country and the heightened security concerns. In addition, it might be more beneficial to require additional controls and/or verifications within the visa process – which screens foreign nationals for concerns before a decision is made to allow them entry to the U.S. and university education/research. It's subjective and too general to assume that a person will maintain loyalty to their country of birth, and that it will always come before loyalty to their adopted country. Domestically, the 1995 bombing of Oklahoma City's Alfred P. Murrah Federal Building demonstrated that individuals other than foreign nationals pose a threat.

Fundamental Research

Issue: The RF firmly believes the IG Report recommendation to apply deemed export requirements to fundamental research presents a potentially grave concern for universities. We strongly think this recommendation is based on a misunderstanding of fundamental research and how critical it is for a university. If changes are adopted that alter the fundamental research exemption in any way, the impact on research, education and innovation would paralyze every university in the U.S. by permanently impeding or actually stopping research. The impact of this outcome could potentially diminish U.S. world leadership, our national security and the global economy. The recommendation would change fundamental research in severe ways (e.g., research teams visiting laboratories of colleagues, project work with controlled equipment, conveying ideas/innovations). DOC/BIS must understand that fundamental research cannot be accomplished without using equipment and conveying information on how to use the equipment. Fundamental research and equipment – the use of and conveyance of information on how to use – are inseparable. It is absolutely paramount that universities maintain the ability for an open, international and collaborative education and research environment; while contributing to the assurance of national security.

Suggested Alternative: The RF strongly suggests reconsidering the interpretation with regard to the correct scope of fundamental research at U.S. universities.

Best-Estimate Factual Data

As requested in the ANPR, we are providing best-estimate data from SUNY and RF business applications to identify equipment, laboratory space, non-U.S. citizens and the cost and time to obtain a license. Data is as of June 2005, and is static, subject to continuous revision (e.g., new students), and would need to be regularly monitored to identify changes. We are providing this data to DOC/BIS to quantify the enormity of the impact and identify the tangible administrative burden that would be imposed on SUNY if the IG Report recommendations are adopted. We also raise the point that the DOC/BIS would see an exponential increase in the administrative burden on your agency via a proliferation of export control licenses to process (e.g., review, analyze approve).

Equipment

This best-estimate data is collected from the SUNY property control system and targets only select equipment types (e.g., telecommunications, chemistry, physics) that would most likely be controlled use items of equipment. Included are three categories of data:

- The total quantity and value of SUNY equipment
- The quantity of equipment with value greater than $5,000
- The quantity of equipment with value ranging between $1,500 and $4,999.99.

To determine if the recommended controlled use technology requirements apply, each item of equipment would need to be reviewed. We estimate this survey would cost $2.5 million to complete, and this estimate doesn't include the costs of making license determinations, applying for a license and follow-up communications.

Total Equipment
***Items* – 139,777**
***Value* - $1,197,946,016.28**

The total is comprised of:
Greater than $5,000
Items – 31,066
Value - $925,798,343.41

Range of $1,500 to $4,999.99
Items – 108,711
Value - $272,147,672.87

Laboratory Space

This best-estimate is collected from the SUNY physical space inventory and targets only select space types (e.g., laboratory facilities, research facilities, medical facilities) and select classifications within each type (e.g., administrative facilities and data processing/computer work space). This is the space that would most likely contain laboratories with the potential for access by foreign nationals and controlled use equipment. To determine the impact of the IG Report recommendations, we identified the number of buildings and total square footage that would need to be surveyed/reviewed. Bear in mind that SUNY is a university system with geographically dispersed campuses throughout New York state. SUNY's diverse campus types include University Centers (e.g., University at Albany); Health Science Centers (e.g., SUNY Downstate Medical Center); University Colleges (e.g., SUNY Brockport); Colleges of Technology (e.g., Alfred State College); and Specialized Colleges (e.g., SUNY Environmental Science and Forestry).

Total Number of
***Buildings* – 720**
***Square Footage* – 8,454,169**

Non-U.S. Citizens

This best-estimate data is combined from SUNY and RF human resources systems and identifies non-U.S. citizens (e.g., researchers, employees, students). If the IG Report recommendations are adopted, SUNY and the RF would need to review each person to identify

and determine if they have access to controlled equipment for use technology and to gather information on their country of birth.

Total Non-U.S. Citizens – ***18,006***

The total is comprised of:
Researchers/Employees – *5322*
Graduate Students - *7712*
Undergraduate Students - *4972*

Note - We identified our independent contractors as another group that is potentially impacted if the rule is adopted. For the purpose of response to the DOC/BIS by the due date we did not have the opportunity to identify and include independent contractors in our best-estimate data.

Cost/Time to Obtain a License

Our best-estimate of the costs and time needed to inquire, process and obtain a license is based on the actual experience of one of SUNY's University Centers. This center needed to obtain an export license to Iran during 2004, and, in brief, the researchers lost three months of valuable environmental field research time and their actual research was delayed by over six months. The protracted licensing process included collecting the initial information for the license, submitting the license application, secondary communications and responding to requests for additional information from the federal government (the equipment in question was a standard lap-top computer). This actual experience quantifies the costs that universities have borne over the years to assure research compliance with unfunded mandates (e.g., human research protections, select agents, Health Insurance Portability and Accountability Act, etc.) All this was done without any increase in the administrative cap of 26 percent.

As compliance requirements become increasingly more complex, universities are required to interpret and implement these requirements without dedicated and experiences resources. The Department of Health and Human Services' Office for Civil Rights has acknowledged that research never should have been included in the HIPAA privacy rule. The possibility exists for a similar tenuous situation if the IG Report recommendations on export controls are adopted.

Total Cost for License - $17,716

The total is comprised of:
Lost Research Time ($16,694) – Based on the length of time it took to get the applications. In addition, over the six-month process, the researchers lost three months of field time in Iraq.

License Application ($1,022) – Based on actual person-hours used to collect information for the license, communications with OFAC (Office of Foreign Assets Control), and follow-up information.

From: Kay Ellis <mkellis@okstate.edu>
To: <scook@bis.doc.gov>, <alopes@bis.doc.gov>
Date: 6/27/2005 10:26:39 AM
Subject: RIN 0694-AD29

Please accept the comment letter from Oklahoma State University attached below.

Kay Ellis, MHR
Director, University Research Programs
Oklahoma State University
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(405) 744-7673 Fax
mkellis@okstate.edu

OSU

Office of the Vice President for Research and Technology Transfer
203 Whitehurst
Stillwater, Oklahoma 74078-1020
405-744-6501; Fax: 405-744-6244

June 24, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce, Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Ave. N.W.
Room 2705
Washington, D.C. 20230

RE: RIN 0694-AD29

This letter is in response to the Advance Notice of Proposed Rulemaking asking for comments on how the suggested revisions from the Department of Commerce Inspector General Report would affect the academic community involved in research.

Currently, Oklahoma State University has approximately 1900 foreign national students and faculty, with 76 holding citizenship different from their country of birth. Considering that in the open environment of our university, a foreign national could have access to controlled technology (or use technology) at any time, we could have the need for 1900 possible deemed export licenses. If it takes 4 hours to apply for a deemed export license at a cost of $150 per hour (administrative costs to process), then the cost to OSU would be $1,140,000, which is prohibitive. Even if a license was not deemed to be necessary for each potential licensing scenario for the 1900 foreign nationals, the administrative costs incurred to review each project would still create a substantial financial burden for the University.

In addition, more time (and money) would have to be spent to determine if the country of birth as opposed to the country of citizenship presented a different licensing situation. Therefore, we do not agree with the IG's recommendation that deemed export license requirements be based on country of origin rather than most recent country of citizenship.

OSU maintains the necessary screening process for admitting foreign nationals into the United States for study at universities is already in place through the existing visa process and Student and Exchange Visitor System (SEVIS) which should eliminate the need for most deemed export licenses. However, we agree the need for a deemed export license may be necessary for university research that poses a real national security threat.

The IG reports suggests that all "use" of equipment by foreign nationals should require a license. It is our understanding that the transfer of controlled technology that is proprietary triggers the need for a deemed export license, not the simple use (i.e., normal operation) of the equipment. We suggest a definition be written that clarifies the "use" of proprietary controlled technology by foreign nationals and examples be given in the Question and Answer section (Supplement No. 1 to Part 734).

We appreciate the opportunity to address our concerns and hope you understand the burdens that will be placed on universities should the IG's recommendations be put in place.

Sincerely,

Stephen W. S. McKeever
Vice President for Research and Technology Transfer

From: "Thomas Linney" <tlinney@starpower.net>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 28, 2005 7:54 PM
Subject: Fw: Letter 6-28-2005

Dear Colleagues: Attached is a comment letter.
----- Original Message -----
From: Thomas Linney
To: scook@bis.doc.gov
Sent: Tuesday, June 28, 2005 5:02 PM
Subject: Letter 6-28-2005

Dear scook@bis.gov: Attached please find a letter of comment for DOC proposed regulations RIN 0694-AD29. Thank you. Thomas J. Linney AIEA Washington Representative.

June 28, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th Street & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230
ATTN: RIN 0694-AD29

Facsimile Transmission: 202/482-3355 (E-mail: scook@bis.doc.gov)

To Whom It May Concern:

The Association of International Education Administrators (AIEA) appreciates the opportunity to comment on the Advance Notice of Proposed Rulemaking (ANPR) published in the *Federal Register* on March 28, 2005, (RIN 0694-AD29) on the "Revision and Clarification of Deemed Export Control Regulatory Requirements." AIEA is a smaller organization than many of the more than 40 scientific and academic organizations that have joined together to support improvements in various regulations and proposed regulations developed by various US agencies in the wake of attacks suffered by the US in recent years. National Security is a broad concept, and yet one that is equally appropriate to be consider on large campuses and small campuses, each of which helps to make up the more than 4000 institutions that enroll 700,000 international students and postdoctoral faculty fellows who study, teach and research in the US every year.

The Department of Commerce Office of the Inspector General (OIG) report, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technologies to Foreign Nationals in the U.S.," to which this ANPR is a response, concludes that existing Bureau of Industry and Security (BIS) policies could enable foreign nationals access to controlled technology and recommends revising the definition of "use" technology under the Export Administration Regulations (EAR) and applying deemed export licenses to individuals based on country of birth rather than current citizenship. While AIEA understands Commerce's interest in protecting the commercial transfer of technologies to certain nations, the Association believes that the OIG recommendations will further restrict the conduct of fundamental research and diminish our national security rather than increase it. AIEA would suggest these proposals are moving in the wrong direction to enhance national security and believes further revisions are necessary.

In the absence of clear evidence that current laws and policies are creating an unacceptable national security threat, we question the need for the proposed revisions, especially given the problems discussed in letters submitted by AAU, AAAS, NASULGC, COGR and 40 other scientific and academic organizations. AIEA endorses the comments submitted by these other organizations in greater detail, and with more specific objections. Before proceeding further with the proposed changes the Department of Commerce should sponsor a study that clearly identifies the nature and extent of the problem that such revisions are intended to solve.

Control of "use" technology. In 1985, President Ronald Reagan issued National Security Decision Directive 189 (NSDD-189) that called for "no restrictions... upon the conduct or reporting of federally-funded fundamental research that has not received national security classification. The Departments of State and Commerce, thereby exempting fundamental research from classification as long as the research findings are made publicly available have upheld this principle for decades. At the same time, the Departments' munitions and control lists provide an additional layer of scrutiny that is applied both to foreign nationals entering our country and to the conduct of federally-funded research through individual grants and contracts.

AIEA is concerned that the proposed changes to the definition of "use" technology will drastically change the character of basic research due to the ambiguity of the language and the inevitable confusion within the research community that will result from variations in the way that institutions interpret the language. The OIG report fails to take account of the fact that the conduct of fundamental research requires many forms of operating, utilizing, adapting, and modifying tools and equipment as part of the serendipitous nature of scientific inquiry and the relationship between basic and applied research. Co-operative agreements between campuses, and among scientific teams from multiple campuses are common on every kind of campus these days. We risk creating an environment where institutions broadly apply the interpretation of "use" technology in ways that lead to delays in research or unduly restrict the free flow of scientific exchange vital to advancing research and innovation.

National origin as a criterion for license. AIEA questions whether institutions should be made responsible for determining the country of birth of foreign nationals in addition to citizenship when considering whether to apply for a deemed export license.

Since September 11, 2001, AIEA and many scientific and higher education associations have worked diligently with the Departments of Homeland Security and State in revising and refining visa processing procedures that maintain an appropriate balance between national security and academic interests. Both the proposed revisions to "use" technology and the application of national origin for a deemed export license would place added administrative burdens on educational institutions already weighted down by other post-911 policies and procedures. Furthermore, these proposed changes will inevitably lead to more licensure applications and a greater workload for BIS staff. AIEA knows from the visa processing experience that the State Department and DHS has had that augmented staffing and training capabilities are necessary in order to minimize delays. What assurance is there that BIS will have the required personnel, funding, and training to make licensure decisions in a timely and effective manner?

In conclusion, the impact of the proposed revisions on scientific research and our nation's economic competitiveness would be substantial, while expected improvements to national security have not been persuasively presented by the Department of Commerce. To the extent that the proposed changes lead to delays or unnecessary denials of licenses for foreign nationals seeking to work on fundamental research in the U.S., the have the potential to set back research, alienate foreign scholars and students, and exacerbate the declining enrollment of foreign nationals in U.S. graduate and undergraduate degree programs. Many of these are in science and engineering programs. In addition, the proposed rules threaten the important public policy objective of preserving the accepted understanding of fundamental research as defined by NSDD-189.

Sincerely,

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Please see attached letter.

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June 27, 2005

Mr, Alexander Lopes
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Via email attachment and fax: 202-482-3355

Re: Advance Notice of Proposed Rulemaking, March 28, 2005
Revision and Clarification of Deemed Export Related
Regulatory Requirements

Dear Mr. Lopes:

The University of Minnesota appreciates the opportunity to provide comments regarding the above Advance Notice of Proposed Rulemaking (ANPR). We understand from the ANPR that the Bureau of Industrial Security (BIS) is reviewing whether to make regulatory changes that would affect existing requirements and policies for deemed export licenses, particularly as they might affect the academic community. Consideration of changes has been prompted by the Department of Commerce Office of the Inspector General Report (OIG Report), "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176 – March 2004).

The University of Minnesota is deeply concerned about the OIG Report's apparent misunderstanding of the nature of research conducted at this nation's universities. If BIS were to adopt regulatory changes that perpetuate that misunderstanding, the ability of this nation's universities to attract the most skilled and promising foreign students to study, conduct research, and help advance U.S. technological capabilities could be severely damaged.

Notwithstanding these concerns, we believe that it would be helpful for BIS to make clarifying changes that reaffirm that technology for use of equipment is treated on the same footing as other types of technology subject to the deemed export rule. We do not believe such a clarification would undermine the fundamental research rule, on which universities rely, or harm the

critical research missions of academia. Before turning to the specifics of the OIG Report's recommendations, I provide some background information about the University of Minnesota and the research conducted here.

The University Of Minnesota

The University of Minnesota is one of this nation's largest and most comprehensive land grant universities. In 2004-2005, the University had 53,548 students and 16,198 faculty and staff at four campuses, approximately 80% of whom are located on the Minneapolis/St. Paul Twin Cities campus. Recently, the University of Minnesota ranked 21st among research institutions in international student populations with 3,351 foreign students. The University also hosts approximately 1,300 international faculty and scholars each year. A large proportion of advanced graduate students and post doctoral associates on the Twin Cities campus are foreign persons. This is particularly the case in engineering and the physical sciences.

The University of Minnesota has a particularly strong representation of mainland Chinese, who comprise our largest international group. Over 55 years ago, faculty from the University of Minnesota formed close relationships with Chinese colleagues; and, when political relations between the U.S. and the People's Republic of China permitted renewed scientific and scholarly exchanges, the kindnesses of the past were remembered. Thus, in 1979, the University of Minnesota was among the first U.S. institutions to restore exchange relations with China. The University of Minnesota has entered into 18 university-wide exchange agreements with Chinese institutions, and the University's colleges have entered into six more. The University hosts some 800 mainland Chinese nationals each year, approximately 600 of whom are enrolled students. The University of Minnesota has benefitted tremendously from the talented students who have come to our institution. Many University of Minnesota alumni now occupy leading positions in Chinese society and continue to have a high regard for the University and for the U.S. The importance to national security of these relationships is obvious.

The University of Minnesota is particularly concerned regarding comments from some participants at the May 9, 2005, National Academies Workshop on the ANPR—and from other sources—suggesting that potential changes in deemed export policy are being influenced by fears of China as a future rival. While we recognize that this is not the subject of the OIG recommendations, we do wish to express our concerns. Sharp curtailment of the Chinese students who contribute to our research programs and cross-cultural exchanges would be very damaging. Before such a step were taken, we hope that there would be a thorough examination of both whether the national security actually requires such a step, and of the damage to U.S. academia, industry and security that this would entail. The "Corson Report" from the National Academy of Sciences (1982) would serve as a useful model for such an undertaking.

Openness In University Research

The University of Minnesota adheres firmly to the principle of openness in scientific research. The University has no classified labs, either off campus or on campus. Under Regents

policies first adopted in 1969,[1] the University of Minnesota will not accept funding from a source that restricts the full and prompt public dissemination of the results of university research, except for reasons found "compelling" by the university community (acting through two all-university bodies) and by the university president. To the best of my knowledge, no more than five (5) exceptions have been granted in the last ten (10) years, and it is not clear that any had been granted before then.

The scientific process as conducted at universities is inherently open and international in scope. Science seeks verifiable truths that know no borders, and scientists from around the world are engaged in a continuous, open conversation to better understand the nature of our world and universe.

Two of the essential methods of scientific inquiry are publication and replication. Discoveries are interesting or exciting when first made and published, but they are not accepted until replicated by independent observers. Thus, not only the results of the research, but information about the procedures, tools, equipment, and refinements or modifications that allowed the scientist to perform the experiment are shared with the scientific community, in publications, in meetings and conferences, and by direct inquiry to corresponding authors.

This process of open scientific inquiry and independent verification of results differs fundamentally from the closed, proprietary processes of industrial research. Companies must seek competitive advantages in an unforgiving marketplace, and most companies place a high value on maintaining secrecy for much, if not all, of their technological and scientific discoveries. Companies tightly guard their trade secrets for decades; universities maintain confidentiality regarding discoveries only for the period needed to apply for patent protection, if at all.

The OIG Report Appears To Have Misunderstood The Nature Of Fundamental Research In A University Setting.

As noted in the ANPR, the OIG Report concluded that, when equipment is used by a foreign national at a U.S. university, "it is most likely accompanied by some transmittal of use or other information or instruction constituting 'technology'" under the EAR. The OIG criticized universities for relying on the fundamental research exemption under the EAR and noted that some university administrators had not contemplated that the transfer of "use" technology might be subject to the deemed export rule. The implication from the OIG Report is that large numbers of unregulated transfers of controlled use technology are occurring at U.S. universities, and that universities are oblivious to the rules that govern these transfers. This impression is fundamentally mistaken.

The OIG Report seems to have missed the basic point that publicly available technology is not subject to EAR. 15 C.F.R. 734.3 (b)(3). This exclusion encompasses information that is "generally accessible to the interested public in any form." (15 C.F.R. 734.7(a)). The manuals and instruction materials that university labs receive from equipment manufacturers satisfy this general standard, as well as subdivisions (1)(a) and (b) of that section. It would be extraordinary for a

[1] Indeed, this policy, and two letters of concern from then University of Minnesota President C. Peter Magrath, are attachments to the 1982 Corson Report.

vendor of research equipment to be used in a university lab to try to restrict the University's right to freely share information about the equipment with its students, or with other scientists who may wish to replicate experiments conducted with that equipment, or to publish the techniques it used to obtain its results. Universities conducting non-classified, fundamental research simply could not accept research equipment on those terms. In the one known instance in the past five (5) years in which a party proposed to transfer equipment to the University of Minnesota under such restrictions, the University rejected the equipment.

Once equipment arrives at the University, additional insights about how to use it and modifications to it will also be excluded from the EAR. As university researchers develop new ways to use equipment or modify equipment, they want and need their students to understand these advances—both to fulfill their professional obligations to teach their students, and because the students perform a large portion of the hands-on work of research projects. Typically, such information is conveyed in courses, or it may be on file in a university library or posted on the lab's website, and as such it is excluded from the EAR. 15 C.F.R. 734.9; 734.7.

More broadly, information that arises from fundamental research is not subject to the EAR. 15 C.F.R. 734.8. As the EAR point out, the norm is that University research is fundamental research. At an institution like the University of Minnesota that does not accept publication restrictions or conduct classified research, virtually all research will qualify as fundamental research. Information the University of Minnesota develops about how to use equipment will arise during research activities that are not subject to publication restrictions, and for this reason as well the information will be excluded from the EAR. Of course, and as BIS has confirmed, the information the foreign national herself develops in the course of performing fundamental research is excluded from the EAR, and thus the implication that mere use of equipment gives rise to deemed exports is fundamentally mistaken.

In sum, since the "in-coming" information from vendors about use of equipment will not be subject to the EAR, and since the information developed at the University will not be subject to the EAR, instances of "use" technology in a university setting that would be subject to the EAR would be most unusual. The OIG Report's implication that such cases would be frequent is incorrect.

The OIG Report's erroneous understanding is exemplified by its focus on fermenter technology. OIG Report, 14-16. The technology for fermenters clearly is in the public domain. A five-volume encyclopedia of such technology was published in 1999 and updated on the web in 2003, with periodic updates to follow. Encyclopedia of Bioprocess Technology: Fermentation, Biocatalysis and Bioseparation, M.C. Flickinger, SW Drew, Eds., John Wiley & Sons, 1999. As it happens, University of Minnesota Professor Michael C. Flickinger is editor-in-chief of this encyclopedia. There are 350 authors from 35 countries. It is incorrect to imply that the university community may have violated export control regulations or undermined national security by involving foreign nationals in fundamental research involving large fermenters, whose methods of use are universally known to the scientific community.

When the OIG Report first issued, those responsible for export controls at the University of Minnesota were truly alarmed. Language in the report suggested that merely using equipment entailed an export of use technology. The choice of the example of fermenter technology heightened

the alarm: since this use technology is already so well known, what else could the OIG Report have in mind, but that mere use involves an "export" of non-public "use technology." We have appreciated the repeated clarifications from BIS that mere use of equipment does not constitute a release of "use technology," and that information that is publicly available, or developed during fundamental research, is not subject to the EAR.

The University of Minnesota urges BIS both to retain the current structure of the EAR and the fundamental research rule, and to be clear in any rulemaking that any revisions it proposes are merely clarifications, and not changes, in the application of the deemed export rule. The regulations clearly state that normally university research qualifies as fundamental research. The exceptions to that principle are well-established and understood: (a) the publication restrictions on the results of the work, and (b) receipt of proprietary information used in the research, when that information is subject to publication restrictions. If a university agrees to publication restrictions on use technology—either because it accepts such restrictions from the vendor, or because it receives confidential sponsor information about how to use equipment for the research, or because it agrees not to publish the results of its own discoveries about how to use equipment—then under the principles set forth in the EAR, the use technology is subject to export controls (if it is listed on the CCL). We urge BIS to reaffirm these principles.

BIS Request For Data On The Impact Of Changes In The Regulations

If the regulations are reaffirmed as suggested above, rather than changed, the University of Minnesota does not anticipate any significant impact. The University has made significant efforts to comply with export control laws and regulations, and it will continue to do so. A reaffirmation of the existing regulatory principles would not increase our compliance costs or damage the university's research programs.

If BIS were to change the regulations in ways implied by the OIG Report, however, the impact on the University could be quite severe. As noted, the University has large numbers of international students and scholars, and our labs are outfitted with the most advanced scientific equipment we can afford. Since we do not know what actual changes BIS might be considering, it is not possible at this point to provide specific data on the impact of changes. The possibilities of having to file hundreds of deemed export licenses each year, of not being able to assure prospective students that they could work effectively in the University's labs, and of losing the best and brightest students to universities overseas, could not be discounted.

PROPOSED CLARIFICATIONS OF REGULATIONS AND Q/As

1. Change of "and" to "or" in the definition of "use" technology.

The University of Minnesota has no objection to the substance of this proposed change, which we consider merely technical. We believe "and" has always meant "or" in the context of this definition.

Our concern is that the OIG Report could be read as a gloss of "regulatory history," supporting an argument that this wholly minor revision is, as the OIG Report would have it, "critical

in determining how to implement and enforce the deemed export provisions in the EAR," and that the revision effectuated a basic change in how the deemed export rules apply to universities. In fact, the revision if of no particular relevance or importance. If BIS does make this revision, the University of Minnesota requests that it explain that the change is technical and has no effect on the publicly available and fundamental research exclusions that generally exclude university research from the EAR.

2. **Use of country of birth as a criterion for deemed export licensure.**

Because the University of Minnesota does not accept publication restrictions and avoids bringing export controlled proprietary information onto campus whenever possible, the University only rarely needs to evaluate whether to apply for deemed export licenses. Thus, it would appear that this change would have a minimal impact on the University at the license application stage.

However, a new country-of-birth requirement would apply, not only to obtaining licenses for particular individuals, but also to developing technology control plans to assure unlicensed persons from countries of concern do not obtain access to controlled technology. Occasionally the University of Minnesota agrees to receive export controlled information for which no export license will be needed because it appears that no one from a country of concern needs to access the information. If this recommendation were implemented, control plans would require that the country of birth of every foreign person who might have access to the technology be known. Thus, even if the University is not applying for licenses, considerable numbers of foreign persons at the University might need to be scrutinized for both citizenship and country of birth. But there are no systems in place either at the University or at the national level to reliably provide and monitor this information.

Absent evidence that there is a genuine threat to national security from reliance on country of citizenship, we urge BIS not to implement this recommendation. Further, to the extent that threats might exist, we believe these would most appropriately be identified and weeded out by the State Department in the process of granting visas. It is doubtful that additional security would be provided by a supplemental, cumbersome—and currently non-existent—system at the university level.

The OIG Report noted that the State Department uses a country of origin approach in administering the ITAR. This is a poor analogy for the EAR, which has 16 different reasons for control and at least 16 different lists of potential countries of concern, with countries of concern shifting based on specific reasons for control cited in the voluminous Commerce Control List. In contrast, under the ITAR, all countries other than the U.S. are countries of concern for all covered technologies.

It is one thing for the State Department to look at country of origin as one factor in deciding whether to exercise its discretion on a case by case basis to grant a license to a particular foreign person. It is something else entirely for a non-governmental entity to have to know the country of origin—in addition to citizenship—of all its foreign students and scholars to determine whether to apply for a license in the first place or whether to exclude that individual from access to technology under a technology control plan, particularly when that non-governmental party is not provided the information by the State Department when the Department issues a visa. We request that this recommendation be rejected.

3. **Clarification of Q/A A(4).**

The University of Minnesota agrees that the Answer to Question A(4) is inaccurate, at least in part, and is partially inconsistent with 15 C.F.R. 734.11 (and with Q/A E(1), Supp. 1). A clarifying revision of Q/A A(4) is appropriate.

Section 734.11(a) explains that the "publicly available" exemption from export controls will not apply if a researcher/institution violates a national security control imposed by a U.S. government funder. Therefore, to the extent a control is violated, the EAR clearly do apply. However, the regulation goes on to provide as follows:

> However, any export or re-export of information resulting from the research that is consistent with the specific controls may nevertheless be made under this provision.

Q/A E(1) then clarifies that the term "this provision" means the publicly available provisions of the EAR, one of which is cited in the preceding sentence of Section 734.11(a). The Q/A states:

> Any such export or re-export that is consistent with the controls will continue to be eligible for export and re-export under the "fundamental research" rule set forth in § 734.8(a) of this part. Thus, if you abide by the specific controls you have agreed to, you need not be concerned about violating the EAR.

Thus, longstanding BIS policy on national security controls is quite straightforward: where such controls apply, the question of whether the EAR applies depends on whether those controls have been violated. In contrast to this conditional policy, the answer to Q/A A(4) is a categorical assertion that EAR controls do not apply, even when a national security control is violated. This is incorrect. We would suggest that the following answer be substituted for the current answer:

> Answer: So long as you comply with the prepublication clearance requirement, no, the transaction is not subject to the EAR. But if you published in violation of any Department of Energy controls you accepted in the grant and the publication led to a release of technology to foreign nationals, the export would be subject to the EAR and you could be subject to civil and criminal sanctions under the EAR as well as appropriate administrative, civil, or criminal sanctions under other laws. *See* § 734.11 and Q/A E(1).

The above revised answer is a straightforward resolution of the conflict. Unfortunately, the OIG Report appears to have misunderstood Section 734.11. As explained in the ANPR,

> The OIG stated that, according to Section 734.11 of the EAR, if research is funded by the U.S. government and national security controls are in place to protect any resulting information, the research is subject to the EAR.

The OIG would substitute one error—the categorical statement that the EAR never apply—with the opposite error—a categorical assertion that the EAR always apply, when a national security publication approval requirement is in place.

The University of Minnesota respectfully disagrees with BIS's proposal to revise the answer to Question A(4) to provide that, "if the government sponsor reviewer imposed restrictions on publication of the research, then the technology would continue to be subject to the EAR." First of all, if the researchers were complying with the government restrictions prior to submitting the publication for review, then under Section 734.11 and Q/A E(1), the technology was not subject to the EAR, so the term "continue" to be subject to the EAR is inaccurate. Moreover, if the reviewer imposed a restriction and the researchers continued to comply with that restriction, then any exports that do not violate the restriction should "continue" to be excluded from the EAR, and would not be subject to the EAR.

If the government sponsor wanted to restrict the nationalities of members of the research team or restrict researchers' ability to share information with foreign national colleagues, those would be separate, distinct national security controls—of a type that the government does sometimes impose. The problem with stating that any reviewer restriction on publication means that the technology in the publication becomes subject to the EAR is that the whole panoply of restrictions on sharing information with foreign nationals would apply automatically, even if the government agency funding the work had consciously elected not to invoke any of them. We believe Section 734.11 should continue to be applied on the basis of each specific control that the funding agency considers necessary, and that so long as the specific controls are followed, the research qualifies as fundamental research. That is what § 734.11 and Q/A E(1) provide, and a revision of Q/A A(4) that agreed with the OIG Report's recommendations would be in conflict with the regulation and other Q/A.

4. **Clarification of Q/A D(1).**

We believe Q/A D(1) is accurate as stated. We are concerned that any revision of Q/A D(1) should not be seen as incorporating the fundamental misunderstandings in the OIG Report. If there is a need to clarify Q/A D(1), there is no particular reason to single out "use" technology as the only qualification of the general application of the fundamental research rule. We suggest the following revision of the answer to Question D(1):

> Question D(1): Do I need a license in order for a foreign graduate student to work in my laboratory?
>
> Answer: Not if the research on which the foreign student is working qualifies as "fundamental research" under § 734.8 of this part. In that case, the research is not subject to the EAR. However, if the student needs to have access to technology that is not generally available to the public, such as a sponsor's proprietary technological information (See Q/A D(2)), or confidential information about use of controlled laboratory equipment, the student may need a license if the export of the technical information to the student's home country would require a license.

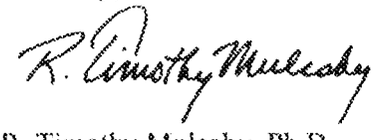
This revision makes the important point that the rules governing use technology are the same as those governing export of any other technical information.

Conclusion

Thank you again for the opportunity to provide information and comments on the issues raised by the OIG Report. The University of Minnesota believes the questions raised in the OIG Report can and should be resolved through clarifications that do not alter the existing structures of export controls for university based research.

As recognized in the Corson Report and in National Security Decision Directive 189 (1985), and as reaffirmed countless times since, the open university research environment plays a critical role in assuring the nation's technological superiority and national security. At the same time, that environment fosters webs of relationships and depths of cross-cultural understandings that are vital to the future of both national and international security. Nothing in the OIG Report warrants changing or undermining the fundamental research principle, which is so vital to the process of University research and the benefits the nation reaps from that process.

Sincerely,



R. Timothy Mulcahy, Ph.D.
Vice President for Research

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Subject: RIN 0694-AD29

Attached, please find the Brown University response to the Advance Notice of Proposed Rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements as published in the Federal Register March 28, 2005 (70 FR15607).

BROWN

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Reference: Revision and Clarification of Deemed Export Related Regulatory Requirements, RIN 0694-AD29

To Whom it May Concern:

Brown University welcomes the opportunity to respond to the Advance Notice of Proposed Rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements as published in the Federal Register March 28, 2005 (70 FR15607).

A member of the American Association of Universities, the Association of American Medical Colleges and the Council on Governmental Relations, Brown endorses the comments provided by those organizations, and wishes to add the following remarks.

Brown University takes very seriously threats to national security and this is a significant factor in our deep concern about the proposed rule, as national security is more threatened than advanced by the provisions outlined therein. The proposed rule would provide no apparent additional security benefit, and would in fact hamper all university research involving any foreign nationals. Since American science and engineering programs have been, and continue to be, vitally dependent upon the participation of foreign students and scholars, the proposed rule would do much more harm than good, placing the U.S. at risk of losing its primacy in technological innovation and economic competitiveness.

To require that researchers on our campuses now be singled out by national origin or citizenship and licensed before participating in the very basics of research equipment use, modification, alteration or adaptation will fundamentally damage the American university research environment and its hallmark openness to a free exchange of ideas and experimentation.

The ANPR is itself unclear on the meaning of "use technology" which will almost certainly result in overly restrictive measures on our campus, necessitated by a conservative interpretation of the government's intent. In the dynamic nature of our academic research environment we must presume that a transfer of information – a deemed export – may occur whenever equipment controlled for use technology is utilized.

The proposed rule poses a virtually insurmountable challenge. The number of individual items of equipment which may be on, or include components which may be on, the controlled technology list, is voluminous. Brown University's evolving equipment inventory, and the flow of research personnel between laboratories, units and departments, makes the proposed mechanisms for licensing of individual scholars for access to individual items of equipment unworkable. The only logical approach to compliance with the proposed provisions would be to apply for deemed export licenses for use controlled technology for all our foreign scholars and students, the financial and administrative burden of which would be enormous.

This ANPR seems to be at odds with the current visa screening process. Foreign students and scholars are admitted through a visa process aimed at identifying and barring persons who pose security threats. Once a foreign national has gained entry to the U.S. through that screening, s/he should be permitted to participate fully in the research and educational experience for which s/he was admitted. If the provisions articulated in this ANPR are implemented, Brown University would be placed in the position of isolating certain scholars and students, properly admitted to the U.S. for study, and delaying or suspending their research while licenses are sought. We are gravely concerned about the resulting disruption of research programs across our campus, and the potential loss of highly qualified students and scholars who look to other countries which are competing for their talents and are more hospitable to their research ambitions.

It is important to note that much of the equipment controlled for use technology is available in the marketplace. While controlling sensitive technology that is restricted as to access or availability would make sense from a national security standpoint, requiring deemed export control licenses for scholars who use technology that is available for purchase to anyone, regardless of citizenship or national origin, adds nothing to the effort to protect our country's security .

The contributions of foreign students and scholars to the research productivity of Brown, and, indeed, research universities across the country, are immeasurable. This ANPR proposes controls which would fundamentally damage the research environment and,

hence, American advances in science and technology which are a cornerstone of our economy and national security.

Sincerely,

Andries van Dam
Vice President for Research
Thomas J. Watson, Jr., University Professor
of Technology and Education
and Professor of Computer Science

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US Department of Commerce, Regulatory Policy Division

Subject --Advanced Notice of Proposed Rulemaking
Federal Register 15607-15609. March 28, 2005
RIN 0694-AD29

I am a Professor of Physics at Stanford University and the Past President of the American Physical Society.
I wish to comment on the proposed rule RIN 0694-AD29. While it is the intent of this rule to make the United States more secure, I submit that it will in fact do just the reverse. Both the security of the US and its economic viability are built on the technical capabilitites of its industry, which in turn is built on the research capabilities of its Universities. In order to be at the forefront of science in the modern world Universities must be open to a steady flow of international collaborators and students through their laboratories. If we were to cut off this flow we would quickly become a backwater and soon lose our superiority. Research science must remain as open as possible in order for the US to be among the leaders of all fields, ready to capitalize on good ideas that emerge from research.

The proposed rule would place huge burdens on the research enterprize just to identify what equipment is covered by the rule and to track access to equipment now in open use within research laboratories. Much of the affected equipment is also available outside the US, only classified equipment that is already protected from such access is likely to be unique to this country. Any possible gain in security by excluding users from certain equipment will be offset by the fact that, faced by these barriers, the affected students and scientists will simply choose to go to other countries to study or collaborate, thereby isolating the US from the network of knowledge at the forefront of research.

Yours sincerely, Helen Quinn

From: "Deborah A. Levin" <dalevin@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 03:49PM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security
FROM:
SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). In short, I am concerned about that the proposed changes, as currently worded, will result in an overly restrictive interpretation for universities. As a faculty member of an aerospace engineering department and based on my nineteen years as a research staff member and task leader at the Institute for Defense Analyses, I am extremely sensitive to the need for export control. I understand that those foreign entities that seek to undermine our country strongly emphasize the exploitation of unclassified information.

However, we need to put in place policies that will allow us to safely collaborate with research investigators from reasonably friendly foreign nations without sacrificing our national interests. In my own field of research, there are many fundamental issues related to materials performance and vehicle control for hypersonic flight that still remain unsolved. Both flight and large ground based laboratory measurements are expensive and realistically cannot be borne by U.S. government funding agencies alone. We need to have a rationale policy in place for sharing mature instrumentation and basic research data as well as for encouraging international programs where both American as well as international students can participate. I believe that
our present interpretation is so restrictive that we are already missing important collaborative opportunities.

Before we put in place the proposed new regulations, I would urge that the academic research community be allowed to participate in an approach that will allow us to protect our competitive technological edge, but at the same time will protect the research enterprise that has helped build it.

Respectfully,

Deborah A. Levin,
Associate Professor,
Aerospace Engineering
Penn State University
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Jane Auhl, Administrative assistant
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From: "Rick Gill" <rrgill@vfrench.com>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 03:36PM
Subject: RIN 0694-AD29

U.S. Department of Commerce
Bureau of Industry and Security

Regulatory Policy Division

Attention: RIN 0694-AD29

Dear Sir or Madam:

Attached are the comments of the International Electronics Manufacturers and Consumers of America (IEMCA) on the proposed "revision and clarification of deemed export related regulatory requirements" issued by the Bureau of Industry and Security (BIS) on March 28, 2005.

Sincerely,

Richard R. Gill

Executive Director of IEMCA

International Electronics Manufacturers and Consumers of America
Suite 370 South · 601 Thirteenth Street, N.W. · Washington, D.C. 20005

June 27, 2005

Filed by e-mail at scook@bis.doc.gov
Subject line: RIN 0694-AD29

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Room 2705
Fourteenth Street and Pennsyvlania Avenue, N.W.
Washington D.C. 20230

Attention: RIN 0694-AD29

Dear Sir or Madam:

I am writing on behalf of the International Electronics Manufacturers and Consumers of America (IEMCA) to express its members' objections to the proposed "revision and clarification of deemed export related regulatory requirements" issued by the Bureau of Industry and Security (BIS) on March 28, 2005.

IEMCA is a trade association founded in 1987 and headquartered in Washington, D.C. Its members are world-class U.S. manufacturers of consumer and commercial electronics, computer, and information technology products. IEMCA's mission is to advocate an open world trading system. To carry out its mission, IEMCA seeks fair and balanced international trade, tax, investment, and environmental laws.

In response to a report from the Office of the Inspector General of the Commerce Department, BIS proposes to require U.S. employers not merely to determine the citizenship or most recent country of residence of a foreign employee, as current rules require, but to determine his or her country of birth, in order to judge whether or not he or she can be granted access to "sensitive" dual-use technologies. The object, as IEMCA understands it, is to impose a deemed export license requirement upon persons born in "sensitive" countries, such as China, Russia, and India, who have become permanent residents or citizens of Canada, the EU, or some other nation for which the U.S. does not require licensing for sensitive dual-use technology. The rationale, as IEMCA understands it, is to identify persons whose country of birth implies that they might take advantage of the absence of a deemed export license requirement

applicable to them in order to obtain information about "sensitive" technology and communicate it to objectionable persons in their country of birth.

This proposal would violate existing U.S. and foreign laws and constitute a large, costly, and needless impediment to U.S. research and development and the U.S. economy, for the following reasons.

- U.S. laws generally ban employers from asking questions about a job applicant's or employee's place of birth and asking questions about his or her immigration status apart from whether or not he or she can legally work in the U.S. Thus a U.S. employer generally cannot reliably answer where a job applicant or employee was born because the question generally cannot be legally asked.

- An objection at least as important is the fact that other nations, where many U.S. employees reside, impose far stricter limits than does the U.S. upon inquiries by employers into job applicants' or employees' citizenship or place of birth. If BIS's regulation took effect, it would apply not only to prospective but current employees and do so worldwide. Thus employers would be obliged to inquire about the country of birth of their global workforce, a daunting, burdensome, and – as noted in the preceding paragraph – generally impermissible task.

- Even if an employer's inquiries about country of birth were permissible, an employer's attempt to seek deemed export licenses for current and prospective employees under the proposed rule would cause research and development projects – including projects vital to homeland and national security – to grind to a halt while applications for licenses were pending. Owing to the application of the proposed rule to current employees, this problem could well be more acute – and costly – with respect to existing than proposed projects.

- The proposed rule does not address the liability of an employer if an employee presents an apparently valid but in fact false certification of country of birth. Absent limitations on liability, the proposed regulation would expose employers to charges that they accepted as authentic certificates of country of birth that were bogus. Owing to the vast number of different issuers of birth certificates, and the ease of obtaining them, not least in the U.S. itself, employers' liability could be virtually limitless.

- BIS has not justified the proposed rule. Why would country of birth, a biographical fact at least 20 years old for virtually all employees, better forecast an employee's trustworthiness than his or her citizenship or country of residency, factors which, being more current, are logically far more likely to forecast trustworthiness? In short, the proposed rule would dramatically expand the burden of compliance upon employers with no demonstrated commensurate benefit.

- Even in its present form, the deemed export rule is a constitutionally suspect prior restraint on the right of legal U.S. residents to communicate with other legal U.S.

residents. The Ninth Circuit Court of Appeals has judged that the EAR's export licensing system "allow[s] the government to restrain speech indefinitely with no clear criteria for review." (Bernstein v. United States, 176 F.3d 1132, 1145 (1999).) Requiring identification of country of birth would exacerbate the suspect discriminatory effect of the rule.

To sum up, IEMCA respectfully recommends that BIS withdraw the proposed rule.

If you have questions or you wish IEMCA to provide further information, please contact me or Verrick French at (202) 783-7272, rrgill@vfrench.com, or vofrench@vfrench.com.

Sincerely,

Richard R. Gill

Richard R. Gill
Executive Director

From: "Brady, David" <dbrady@vt.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 03:55PM
Subject: Response to BIS Deemed Export Control Notice of Proposed Rulemaking RIN 0694-AD29

Attached please find comments Virginia Polytechnic Institute and State University's Research Division's response to BIS Deemed Export Control Notice of Proposed Rulemaking RIN 0694-AD29.

David Brady

Industrial Research Contracting Officer

Office of Sponsored Programs

Virginia Tech

460 Turner Street Suite 306

Blacksburg, Virginia 24060-0170

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Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Office of Sponsored Programs

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June 27, 2004

Mr. Alexander Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Dear Mr. Lopes:

Attached please find the comments of the Virginia Polytechnic Institute and State University's Research Division in response to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) asking for comments on the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

Sincerely,

David Brady
Industrial Research Contracts Officer

dba:dba
University File

Response to BIS Deemed Export Control Notice of Proposed Rulemaking

0694-AD29

The Department of Commerce (Commerce) has issued an Advance Notice of Proposed Rulemaking (ANPR) that was published in the Federal Register on March 28, 2005 (RIN 0694-AD29). The ANPR asks for comments on the BIS proposed regulations implementing recent recommendations of the Commerce Inspector General (IG) in Report No. IPE-16176 (March 2004) with regard to "deemed exports" from technology developers and manufacturers, academic institutions, and US Government research facilities.

The Bureau of Industry and Security (BIS) has asked for specific information on the impact of the regulations: e.g., data on the number of foreign nationals in the United States who will face licensing requirements if these rules are adopted, and the impact of compliance with new licensing requirements-cost, resources, procedures. In discussions with BIS officials two weeks ago, Virginia Tech was left with the impression that BIS viewed the proposed changes as having a minimal impact on research universities (e,g,, a few more license applications per year). This perception is incorrect and significantly understates the impacts of the proposed rules on research institutions.

Virginia Tech is the largest educational institution in Virginia and one of the top 50 research institutions in the country. The university has more than 3,700 active sponsored research projects, conducting more than $200 million per year in sponsored research. The majority of research is for the federal government. A great deal of the university's

research will be adversely affected by the sudden denial of access to, or delays in accessing equipment previously exempt from regulation under the fundamental research exemption.

Use

The university has more than 1400 foreign national graduate students, hundreds of who are involved in sponsored projects. The university also has more than 500 foreign national undergraduate students, and 100 foreign national faculty on HB-1 visas who will also potentially be affected, as they have access to university facilities and labs for education and sponsored research programs.

The vast majority of the university's sponsored projects are not export control regulated under the EAR. A small portion is controlled but exempt under the fundamental research exemption, and only a few projects are restricted by the EAR. Of the projects that are EAR restricted, all have sponsor requirements restricting access to United States citizens only. Segregated facilities are developed for these projects or other applicable measures are taken to ensure that EAR-restricted research is not disseminated to foreign nationals.

Whereas the university is able to deal with these few export controlled research projects, the requirements resulting from the proposed change in the regulations would extend export controls to "use" of equipment to all university research. Research cannot be done without using equipment and conveying information on how to use equipment. This proposed change in the regulations would severely impact all aspects of the university's current research program.

The following are impacts that Virginia Tech sees as likely results of the proposed rule change.

Segregated Research Facilities

University research equipment has been purchased and developed over many decades, and arranged in labs to best facilitate the university's dual missions of education and research. University labs are multipurpose and provide a wide range of equipment, technology, and software to researchers. In some cases, labs have as many as 30 active projects in progress at any one time- for 30 different sponsors- sharing lab space, personnel, equipment, technology, and software, as well as administrative facilities. In order to comply with the new "use" definition, Virginia Tech would have no choice but to abandon this efficient system of lab arrangement. Controlled laboratory equipment, would have to be segregated to prevent unauthorized access by foreign national students and researchers to previously uncontrolled items.

Practically speaking, if foreign national students or faculty have access to lab space, under the new regulations, they potentially have access to use the controlled equipment in that lab space- and the university has limited means to curb that access. Compliance cannot be handled by simply issuing "a few more licenses." With a rotating population of more than two thousand foreign national students and faculty using research equipment, the university would have to develop more certain means to ensure that no foreign national graduate student or researcher can possibly get access to use controlled items without an appropriate license - and that would require that the university be able to deny

any specific foreign student or researcher access to any controlled item until a license review could be conducted and an appropriate license obtained.

One alternative considered would be to control access to all labs through highly intrusive security systems and/or hire dedicated screening personnel with denied access lists to ensure that no unlicensed foreign national gains access to the controlled items. But the university has hundreds of labs. The costs of erecting screening devices or employing screening personnel would be prohibitively expensive.

If the existing lab facilities cannot be economically made secure through addition of security systems or security personnel, shared lab space would no longer be viable; and segregated facilities for controlled items would be required. This could not be accomplished without the addition of new facilities because the university is already severely constrained in existing laboratory space. Making new segregated facilities for controlled items would necessitate new building construction, which costs the university tens of millions of dollars per building. Rather than allocating resources for much needed new research space, capital funds would have to go to duplicate facilities—just to comply with the new "use" interpretation.

Trying to group these items based on security considerations, rather than on ease of access to facilitate research and education will significantly hamper both the university's sponsored research and teaching capability. For example, based on a nonexhaustive review of department inventory versus the Alphabetical Index of the CCL, the Electrical and Computer Engineering (ECE) department has identified more than 2500 items across more than 1000 ECCNs that will have to be reviewed for control under the new

regulation. If a significant number of items identified in the CCL inventory actually require export controls, and lab facilities must be reorganized on based on security priorities rather than research priorities, several of the labs (such as the nationally recognized Mobile Portable Radio Group) have indicated that they would not be able to function any more.

If Virginia Tech is required to segregate or close labs to foreign researchers and students, the ultimate damage to the university cannot be easily quantified, nor overstated. Over the vast majority of sponsored projects, researchers currently have a high degree of flexibility in assigning students and personnel among the research projects. Under the proposed regulation, as it relates to foreign nationals, that flexibility will be lost, as any on the spot replacement of licensed foreign nationals would necessarily have to wait a minimum of 41 days until a new license could be obtained. Researchers in sponsored projects would lose the ability to change personnel in a dynamic research environment, and would be a substantially less flexible and less competitive research division.

Moreover, for many high technology research projects, there are no US citizen graduate students with the expertise to readily replace foreign national students and researchers on research projects. For example, the ECE department has several hundred foreign national students working in more than 300 active awards totaling more than $25 million annually. If even a fraction of these students are denied access to equipment that they currently use in research, the cost to the university in delays and cancellation of contracts could run to millions of dollars. Some projects will have to be stopped or delayed, if they depend on foreign student participation and there are licensing issues that cannot be

immediately resolved, and suitably trained replacements with no licensing issues are not readily available.

In conclusion, Virginia Tech has a large population of foreign researchers and students that would be adversely affected by the proposed rule change. Implementation of the proposed regulation will adversely affect existing and future sponsored programs, potentially causing widespread delays and cancellation of projects. Segregation of controlled items from the entire foreign national research population will be cumbersome and expensive for the university to implement, jeopardizing competitiveness of the university in high technology research, and the openness of access to research, which it the foundation of that competitiveness.

Administrative Burden

To implement the proposed regulation, the university would incur a considerable administrative burden. Virginia Tech would need to conduct a 100% inventory of existing equipment, and related technology and software, and evaluate several thousand foreign nationals against every potentially controlled item to which they might gain access. This is a major undertaking. As discussed previously, one single department identified more than 2500 items across more than 1000 ECCNs that will have to be reviewed for control under the proposed regulation. That department (ECE) has more than 200 foreign national graduate students with access to ECE facilities. In any given research project, researchers and students may use tens to hundreds of these items listed on the CCL. As a BIS license is based on applying to use a single ECCN commodity, the potential of having to conduct tens to hundreds of license reviews per each research

project must be contemplated, before the project may go forward. Even accepting that many of these licensing cases may be dealt with by licensing exceptions, this department alone will face an enormous administrative burden in order to continue sponsored research involving foreign national students and researchers.

The university is not staffed to conduct such a review, and additional personnel would be needed to accommodate the inventory and subsequent license volume caused by a constantly changing population of 2,000 foreign students and researchers. On a continuing basis, the university would likely see a dramatic increase in commodity classification requests and deemed export licensing evaluations and applications. There could be a need for thousands of license reviews per year.

For sponsored projects, a pre-proposal export control review based on research content would no longer be adequate. Equipment for each proposed research project would need to be scrutinized against the CCL and list of foreign national students/personnel proposed to work on the project to determine if license(s) would be needed. This would probably necessitate setting up a multi-staffed office of export controls, with at least a full time export control representative in both the Graduate School (to handle evaluations of foreign national access and licenses) and in the Office of Sponsored Programs to handle vetting proposals, and an export controls assistant to every department/ center in the university.

In addition to central staff personnel dedicated to accommodating the increased deemed export license/sponsored program burdens, the university would need to scrutinize every future purchase of equipment, technology, and software against the Commerce Control

List (CCL). Practically speaking, this review could only be done at the department level. Based on review within the ECE department, given the volume of technology-related purchases the department makes in a year, this would necessitate at least an additional Full Time Employee (FTE) dedicated to research and evaluation of license requirements/ controls necessary for each particular item purchased, and probably more than one FTE. The university has more than 80 departments and centers, the majority of which are engineering and science-based. More than 50 of these departments and centers are more likely to use cutting edge equipment, technology, and software that may be controlled on the CCL (e.g, optical detectors and sensors, numerically controlled machine tools, encryption software, robot end effectors, hybrid computers and components. The list could go on extensively). Hence, these 50 departments and centers are more likely to be involved in research that will require thorough review for controlled items while purchasing, now and in the future. [1]

It is not unreasonable to assume that the university would need to hire as many as 25 to 50 additional personnel (at an additional expense to the university of in excess of one to two million dollars per year) to accommodate the additional administrative burden of the proposed regulation.[2]

[1] Engineering related departments (ECCN Categories 0-9), Life Sciences related departments (0, 1), Math, Physics, Computer Science related departments (0, 3,4,5), Materials Research, Chemistry, Ag Research related departments (0,1); Graduate School related departments (0,4,5)

[2] Assuming Financial Specialist 1 $30,000 base salary. Whereas not all departments may need a dedicated person, many engineering and lifescience departments may need more than one.

Prepublication Clearance Clarification

Currently, the BIS guidance states that a government prepublication clearance requirement does not make the transaction subject to the EAR (Question A.4 from Supplement No. 1 to part 734). The proposed clarification would be that "if the sponsor reviewer imposed restrictions on publication of the research, the technology would continue to be subject to the EAR." This clarification presents a major problem to universities in handling research projects. It means that all research is subject to the EAR until the reviewer's comments are in. No one will know if there are restrictions on the research until the work has already been completed and ready for publication. Only at that time, after review by the sponsor, will we know if the work is subject to EAR. Therefore, in order to comply with EAR, we would need to treat every research project as export controlled. We would not be able to accept any research projects that had prepublication review requirements on which we proposed having foreign nationals without acquiring licenses.

This proposed clarification effectively voids the exemption in the EAR for material to be published. The clarification should be "if the sponsor imposes restrictions on publication of the research, the technology would be subject to the EAR". Universities need to know upfront before accepting research projects whether there are any such restrictions that would require implementation of EAR controls. You can't wait until receipt of the reviewer's comments.

From: "Legan, Miriam R." <mlegan@anl.gov>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 04:08PM
Subject: RIN 0694-AD29 - Comments

Attached for your consideration is Argonne National Laboratory's response to the subject DOC Advanced Notice of Proposed Rulemaking regarding the revision and clarification of certain regulatory and administrative requirements with respect to deemed exports (70 Federal Register 15607, March 28, 2005).

Please call if you have any questions regarding this transmission.

Miriam R. Legan, Paralegal

Argonne National Laboratory

Legal Department

9700 S. Cass Avenue, Bldg. 201

Argonne, Illinois 60439

(630)252-3040

THE UNIVERSITY OF CHICAGO
OFFICE OF THE VICE PRESIDENT FOR RESEARCH AND
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Thomas F. Rosenbaum
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June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

Attention: RIN 0694-AD29

To Whom It May Concern:

The following is a response from Argonne National Laboratory (ANL) to the recent Department of Commerce Advance Notice of Proposed Rulemaking regarding the revision and clarification of certain regulatory and administrative requirements with respect to deemed exports (70 Federal Register 15607 (March 28, 2005), RIN 0694-AD29). ANL is a multi-purpose national laboratory operated by The University of Chicago for the U.S. Department of Energy (DOE); ANL conducts a diverse set of research programs and operates multiple state of the art user facilities.

Three stated subject areas are addressed by this Federal Register Notice, based on the Department of Commerce's Office of Inspector General (OIG) Report (Final Inspection Report No. IPE-16716-March 2004). The two subject areas where the OIG recommended changes would impact the Laboratory are: "Definition of Use Technology" and "Use of Foreign National's Country of Birth as Criterion for Deemed Export License Requirement."

Use Technology

To minimize the adverse impact this change would have on fundamental research, it is Argonne's recommendation that the various terms within the definition of "use" be clarified. The most significant such term in the "use" definition that needs to be clarified is "operation". Technology may or may not transfer during the "operation" of a piece of equipment. In order to make an accurate determination of whether such a transfer would take place, individual circumstances need to be taken into account. These circumstances should be evaluated under the conditions of operation. A complete operational analysis allows for a determination of what equipment would be utilized and the manner in which it would be utilized. Such an operational analysis would allow those performing export control reviews to determine if there is a reasonable probability of any transfer of export controlled technology occurring. This would eliminate the need for the further,

unnecessary action of acquiring a "deemed export license" if there is little or no probability of export controlled technology release.

Citizenship Versus Country of Birth
To eliminate the adverse impact the change would have on collaborative research as well as foreign relations, it is Argonne's recommendation that citizenship continue to be the only criterion. Implementation of the OIG recommendation likely will cause delays and/or our inability to acquire the highest level of expertise to perform the work. The OIG recommendation also would create inconsistency by examining a person's citizenship for actual exports to a country, but his or her birth place for deemed exports. This action could cause significant complications in establishing collaborations with foreign institutions and countries that employ citizens of their country whose place of birth is in another country. In addition, foreign countries could interpret this OIG recommendation as finding that their processes for approving citizenship and determining loyalty and intended behavior are inadequate or substandard when compared to the processes of the United States. The Laboratory strongly recommends continuation of the country of citizenship, rather than country of birth, as the appropriate standard to employ.

As I indicated above, Argonne National Laboratory supports a diverse set of research programs and multiple state of the art user facilities. In conjunction with these activities, the Laboratory hosts approximately 6,000 foreign nationals annually, almost one-third of all foreign nationals visiting DOE laboratories. While an exact cost to Argonne cannot be determined in the event that the OIG recommended changes were to be adopted, it is clear that the operational impact, based on the volume of activity, and the resultant probable delays in advancing research and development work, would be anticipated to be significant, not only to the Laboratory, but also to the DOE. Implementation of the OIG recommendations on use technology and country of birth as described in the advanced notice, without the clarification and modification indicated above, would adversely affect research and development work conducted at ANL and throughout the National Laboratory System. As such, we believe the OIG recommended changes would be detrimental to technology development in the United States, with impacts to both the country's national security and its commercial leadership position.

Sincerely,

Thomas F. Rosenbaum
Vice President for Research and for
Argonne National Laboratory

Robert Rosner, Director,
Argonne National Laboratory

From: "Maggie Hershey" <mhershey@semi.org>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 04:44PM
Subject: RIN 0694-AD29

To: U.S. Department of Commerce

Please find attached SEMI's comments on the advance notice of proposed rulemaking related to deemed exports. We appreciate the opportunity to provide comments.

Regards,

Maggie Hershey
Director, Public Policy
Semiconductor Equipment and Materials International (SEMI)
1401 K Street, N.W., Suite 601
Washington, DC 20005
Phone: 202-289-0440
Fax: 202-289-0441
Email: mhershey@semi.org
www.semi.org

(See attached file: SEMI Comments on Deemed Exports.pdf)

SEMI Washington Office
1401 K Street, N.W., Suite 601
Washington, DC 20005

June 27, 2005

Matthew S. Borman
Deputy Assistant Secretary for Export Administration
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29

Re: Request for Comments on Revision and Clarification of Deemed Export Related Regulatory Requirements (70 Fed. Reg. 15,607 (March 28, 2005))

Dear Mr. Borman:

Semiconductor Equipment and Materials International ("SEMI") hereby offers comments on the advance notice of proposed rulemaking with respect to deemed export-related regulatory requirements.

SEMI is the voice of the industry that makes the equipment and materials used for the production of semiconductors, the fundamental building blocks of the modern electronics sector. SEMI includes almost 1,000 companies in the United States. Semiconductor equipment and materials ("SEM") companies devote enormous resources to the development of advanced technology directed toward enhancing commercial semiconductor production. For this and other reasons, a thriving SEM industry is critical to the competitiveness of the overall U.S. economy.

The request for comments relates to recommendations made by the Department of Commerce Office of the Inspector General (the "OIG") report, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No, IPE-16176-March 2004). These comments address the Bureau of Industry and Security's ("BIS") notice that it is considering OIG recommendations to make the Export Administration Regulations ("EAR") "deemed export" rule more restrictive by: (1) adjusting the definition "use" as it relates to export-controlled technology; (2) making application of the deemed export rule dependent on a foreign national's country of birth rather on than his or her citizenship or country of residency; and (3) adjusting answers to questions set forth in the EAR about the application of the deemed export rule to government sponsored research and fundamental research.

I. SUMMARY

For most of the history of the EAR, domestic transfers of export-controlled technology and source code to foreign nationals have been licensable only if the transferor acted with the intention or knowledge that the technology or source code would be exported out of the country. In 1994, the Department of Commerce replaced this approach with the "deemed export" rule. This regulation embodies a legal fiction that the domestic transfer is an export to the foreign national's home country.

The U.S. government did not in 1994 identify, and has not since that time identified, a basis to conclude that the deemed export rule contributes to protection against unauthorized exports. At the same time, there are solid grounds to find that the deemed export rule undermines U.S. interest by, for example, impeding U.S.-based research and development. The rule motivates U.S. technology companies like U.S. members of SEMI to advance the frontiers of microelectronics production technologies overseas rather than in the United States. The OIG's recommendations to expand the deemed export rule could make matters considerably worse.

Recommendation to Modify Definition of "Use" Technology: The OIG has identified what it views as a defect in the EAR's definition of "use" as the term is employed to describe potentially controlled technology relating to use of equipment. The OIG, though, leaps from this technical issue regarding the regulatory text to a concern, nowhere justified, that there could be heretofore unnoticed and unauthorized deemed exports taking place of use technology to foreign national university graduate students and national laboratory researchers associated with their work with laboratory equipment. This is a matter of importance to U.S. SEMI members given their extensive collaborative work with U.S. universities and national laboratories on microelectronics production techniques.

The ostensible subject of the OIG recommendation, the regulatory definition of "use," is probably of little consequence. The suggestion that there may be widespread licensable transfers of use technology to university and national laboratory researchers, however, could be damaging if not resolved appropriately by the BIS.

The one kind of use technology that could potentially be relevant to the university laboratory environment is simply the "technology" needed for conventional operation of a machine, that is, operating instructions. But instructions for operating equipment used in the laboratory would not typically be proprietary and controlled; rather, they would ordinarily fall within the publicly available exemption of the EAR.

SEMI urges the Commerce Department to clarify that the full breadth of the publicly available exemption would apply as regards dissemination of operating instructions among foreign national university and government laboratory researchers.

Recommendation to Make Foreign Nationals' Country of Birth the Determinant of Whether the Deemed Export Rule Applies: If the deemed export rule is retained its application should continue to be determined by a foreign national's last country of citizenship or

permanent residency. First, the OIG does not identify a material need for its proposed movement to country of birth, and there would not appear to be one. Second, there is no evidence that adding this requirement will better prevent unauthorized technology transfers. Finally, making the deemed export rule more restrictive as per the OIG's recommendation would affirmatively harm U.S. interest by undermining the efficient, collegial and collaborative domestic research efforts that are needed to advance U.S. technology leadership.

Recommendations Regarding EAR Questions/Answers on Government Sponsored Research and Fundamental Research: As detailed below, neither of the proposed edits of answers to illustrative questions set forth in the regulations would appear to be needed or helpful.

II. GENERAL COMMENTS

A. Deemed Export Rule's Origins

To consider the OIG's recommendations in an informed manner, it is useful to assess them in the context of the origin and development of the deemed export rule. The deemed export rule came about as a result of a 1994 amendment to the EAR. 59 Fed. Reg. 13,449 (Mar. 22, 1994). Prior to this modification, the regulations specified that release of technology or source code to a foreign national in the United States would be treated like an export only if the transfer was made with the knowledge or intent that an actual export would occur. 15 C.F.R. § 779.1(b)(1) (1993). The deemed export amendment eliminated the requirement of knowledge or intent without identifying any compelling rationale and without requesting public comment.

The only explanation that the Commerce Department provided in promulgating the amendment was "to codify the long standing interpretation that the release of technical data and source code to a foreign national is deemed an export to the foreign national's home country" and "to conform the EAR treatment of the release of technical data to the prohibitions under the International Traffic in Arms Regulations." 59 Fed. Reg. at 13,449. Prior to the 1994 revision, however, companies commonly understood there to be a rebuttable presumption that domestic transfers of technology to foreign nationals constituted an export. In addition, no explanation was provided for why the EAR should conform with the International Traffic in Arms Regulations.

B. Effectiveness of the Deemed Export Rule

The OIG report is part of a series of annual reports to the Congress mandated by the National Defense Authorization Act for Fiscal Year 2000. This statute requires the OIG to audit "the policies and procedures of the United States Government with respect to the export of technologies and technical information" to countries and entities of concern during the preceding calendar year. Consistent with this mandate, SEMI encourages the OIG to evaluate whether the deemed export rule is, in fact, an effective tool in preventing unauthorized international technology transfers.

The deemed export rule does not appear to provide real protection from unauthorized transfers. Despite the lengthy licensing process required of foreign nationals, any such individual could still return to his or her home country and distribute licensable technology without U.S. government approval. Regardless of whether a foreign national is licensed or unlicensed, he or she is subject to the same U.S. export control laws and regulations, which can be difficult or impossible to enforce outside the United States. The licensing of a foreign national does not necessarily prevent unauthorized technology transfers nor make prosecution efforts easier if an unauthorized transfer takes place.

A company's nondisclosure agreement with a foreign national employee, on the other hand, can represent an effective means of preventing unauthorized technology transfers. A company has a strong interest in and ready resources to enforce contract rights against a foreign national who violates the terms of a non-disclosure agreement, as is well understood by foreign national employees. Prior to the 1994 amendment, companies effectively self-regulated transfers of technology to foreign nationals. In addition, several other measures currently exist that protect against unauthorized transfers of technology, such as national security screenings for U.S. work and student visas and border screenings.

Furthermore, the deemed export rule does not take into consideration the limitations of personal knowledge. The knowledge that SEM employees gain is usually highly detailed and specific to a particular aspect of SEM technology. A single employee probably never has a comprehensive understanding of the employer's operations. It seems unlikely that a foreign national's limited personal knowledge regarding particular manufacturing procedures or research findings could be the basis for a threat to U.S. national security or U.S. technological leadership.

Since the deemed export rule is not susceptible to being an effective means of controlling sensitive technology, there would seem to be no way that the OIG-recommended changes to the rule or any other changes to it could render the rule a useful policy.

C. Deemed Export Rule Costs

The deemed export rule rests on an irrebutable presumption that a foreign national with access to technical data will make unauthorized transfers. The rule appears to be based on an assumption that a person's citizenship or nationality is linked to his or her intent illicitly to export controlled technology. Such unequal treatment of foreign nationals is commonly considered discriminatory. Yet, neither the Commerce Department nor any other U.S. agency has identified a reasonable rationale for government interest in such treatment of foreign nationals.

The deemed export rule creates major obstacles to the U.S. government's and industry's goal of maintaining worldwide technological leadership. The SEM industry's strongest asset is its workforce. It can be extremely demoralizing for an employee or student researcher to work in an environment in which he or she is presumed to plan to engage in illicit activity. It is certainly a burden on companies to partition its workforce, prolong the hiring process and take preventative measures, such as internal server firewalls. However, the greatest cost is to the intelligence, diversity and cohesiveness of a company's workforce. This discriminatory

treatment often fuels a foreign national's decision to avoid these restrictions and work for a non-U.S. company un-constrained by the deemed export rule.

In light of the questionable effectiveness of the deemed export rule, SEMI encourages the OIG and the Commerce Department to evaluate whether its retention is worth the associated costs.

III. "USE" TECHNOLOGY RECOMMENDATION

The U.S. SEM industry is deeply engaged with universities and government laboratories in research initiatives directed toward advancement of commercial microelectronics manufacturing. These efforts involve a commitment of technical analysis, effort and resources that is crucial to maintaining U.S. microelectronics technology leadership.

One OIG recommendation focuses on the EAR's treatment of "use" technology, that is, data and know-how regarding use of controlled equipment. This is an aspect of the regulations that is particularly relevant to some microelectronics university and government laboratory research that SEM producers support and in which they participate. Given the importance of these research initiatives, it is critical that the BIS not take action that would unnecessarily disrupt them.

The relevant OIG recommendation relates to the EAR's definition of "use:" "operation, installation . . ., maintenance . . ., repair, overhaul, and refurbishing." EAR § 772.1. The OIG states that these activities should be viewed in the disjunctive, not in the conjunctive, as currently suggested by the definition's employment of the word "and."

The real issue, however, is the OIG report's assertion that this revision would require deemed export licenses for the transfer of use technology. Specifically, the OIG report provides that "many of the academic and Federal laboratories might need to seek deemed export licenses for some foreign national working with controlled equipment or otherwise restrict their access to such equipment." The report bases this statement on the inapplicability of the fundamental research exemption to the transfer of controlled technology to foreign nationals.

Use "technology" involved in laboratory research is ordinarily limited to instructions to operate machines. Regardless of whether the fundamental research exemption encompasses provision of these instructions, transfers of the instructions would rarely require a license since the instructions are typically publicly available. This largely explains the scarcity of export license applications for use technology.

The publicly available exemption encompasses "printed books, pamphlets," "miscellaneous publications," and "any other media available for general distribution to any member of the public or to a community of persons interested in the subject matter." EAR §§ 734.3(b)(2), 734.7(a)(1). Guidance on mere operation of controlled equipment is often issued by equipment makers as published pamphlets and handbooks or instructions posted online for end users.

In contrast, technical data implicating other aspects of the definition of "use" -- instructions required to install, maintain or refurbish the equipment -- are generally proprietary to an equipment maker. Equipment makers such as most SEMI members do not, by and large, disseminate this type of information to university or national laboratory researchers. Moreover, the complex nature of most controlled equipment requires it to be exclusively serviced by the equipment maker or other proprietary contractor. Thus, proprietary, export-controlled use technology -- use technology other than operating instructions -- is not typically relevant to the circumstances envisaged by the OIG.

The distinction between publicly available technology and information restricted for proprietary or specific national security reasons is well understood by industry. Thus, the OIG report's proposed revision of the "use" definition should not create an additional license requirement with respect to the transfer of use technology. And changes to the "use" definition should not substantially affect application of the deemed export rule.

Nevertheless, the regulatory change advocated by the OIG could undermine university and national laboratory research if the BIS, by action or omission, generates an impression that the change effectively creates new license requirements applicable to distribution of operating instructions to foreign national laboratory researchers. This would gratuitously impede research activities that contribute substantially to U.S. microelectronics technology leadership. And it would materially increase multinational companies' incentive to locate research efforts outside the United States.

Even if the BIS did not expressly impose limitations on the regulations' exemption from the EAR of publicly available information, the OIG's comments could result in confusion if the "and"-to-"or" change were made without clarification. SEMI, then, urges the BIS to reinforce the breadth of the publicly available exemption and highlight its application to common forms of operating instructions.[1] If this is done, the adjustment would be beneficial to U.S. interests by supporting efficient university and government laboratory research efforts that advance U.S. competitiveness with no adverse impact on U.S. security.[2]

IV. COUNTRY OF BIRTH RECOMMENDATION

The OIG report's recommendation regarding country of birth provides that the Commerce Department should amend its current policy to require U.S. entities to apply for a deemed export license when a foreign national employee or visitor was born in a country to which the technology in question is EAR-controlled. Current license requirements are based on the foreign national's most recent citizenship or permanent residency.

First, the OIG does not identify a material need for this adjustment, and there would not appear to be one. As a threshold matter, there is no evident rationale for retention of the

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1 Alternatively, the BIS could eliminate operating instructions from the scope of use technology.

2 The BIS should also correct an oversight in drafting of the EAR by adding "according to the General Technology Note" to each use technology entry on the Commerce Control List where it is absent.

deemed export rule itself; as described above, the EAR's pre-deemed export rule policy seemed to serve U.S. interests at least as well as the deemed export rule. In any event, the OIG does not substantiate a problem with the deemed export rule that is in need of a policy modification. The OIG report references a difference between State Department and Commerce Department policy as justification for this recommendation. But State Department policy does not require companies to obtain a license based on foreign nationals' country of birth.

Second, there is no evidence that adding this requirement will better prevent unauthorized technology transfers. The OIG makes no showing that naturalized citizens or alien residents of a non-controlled country are more likely than other citizens of that country to transmit technical data to controlled countries.

Finally, making the deemed export rule more restrictive as per the OIG's recommendation would affirmatively harm U.S. interests. The proposal would require companies to conduct much more screening and partitioning of employees. SEMI members have stressed to SEMI that country-of-birth information would likely be difficult to elicit, particularly in many non-U.S. jurisdictions. Because country of birth bears no demonstrated or intuitive relationship to illegal exports, pursuing information on this topic would raise civil rights and privacy concerns. Employees are likely to find inquiries about country of birth to be offensive.

In this regard, companies today are expected to have a diverse and collaborative workforce. As is, the deemed export rule creates a segregated environment, causing foreign national employees to feel unwelcome and unwanted. Making application of the rule contingent on individuals' country of birth could exacerbate these problems substantially. It is one thing to discriminate against an individual because he or she is a Canadian citizen. Although still often viewed as obnoxious and irrational, citizenship or residency has a technical character that sometimes ameliorates negative reactions. It is quite another thing to discriminate based on the fact that the employee happens to have been born in Israel. This is far more personal and reflective of the type of invidious discrimination that the United States and other countries have worked so hard to eliminate. The unfairness and attendant divisive impact would be considerably more acute. This is another change that would likely be sufficiently disruptive materially to increase incentives to locate research activities overseas.

SEMI recommends that the Commerce Department not implement this recommendation and, rather, return EAR treatment of domestic information transfers to its state before the 1994 deemed export amendment.[3]

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[3] The deemed export rule currently exempts U.S. permanent residents from being licensed. Although not mentioned in the advance notice of proposed rulemaking, the OIG report criticizes this exemption on the grounds that a U.S. permanent resident may never become a U.S. citizen, is under no requirement to do so and is not subject to travel restrictions. The report recommends that the Commerce Department work with the Congress and the National Security Council to find a solution.

We are pleased that the BIS did not see fit to include this recommendation in its notice. As with the country-of-birth recommendation, modifying the U.S. permanent resident exemption would gratuitously and harmfully expand the breadth of the deemed export rule.

V. RECOMMENDATIONS REGARDING EAR QUESTIONS/ANSWERS ON GOVERNMENT SPONSORED RESEARCH AND FUNDAMENTAL RESEARCH

The BIS proposes to revise an answer to an illustrative question set forth in the EAR to provide that a foreign national student's participation in fundamental research could entail the need for a deemed export license if the student receives use technology associated with controlled equipment. As described above in Section III, it would be far more productive for the BIS to describe the likelihood that any such use technology would be covered by the publicly available exemption to EAR coverage.

In addition, the BIS proposes to edit another EAR question/answer to specify that if a government sponsor of research imposes restrictions on publication of research results those results would not be covered by the fundamental research exemption. In SEMI's view, this change would be unnecessary to preservation of U.S. security interests and would needlessly motivate universities to forego government research support.

VI. CONCLUSION

Generally, SEMI urges the Commerce Department to reevaluate the deemed export rule with respect to its rationale and its implications. Since its introduction 11 years ago, the deemed export rule has created a complex set of restrictions for technology transfers even though the prior system worked well. Implementation of the OIG report's recommendations would further extend the breadth of the deemed export rule. As SEMI believes the current rule is misguided, expansion of the deemed export rule is distinctly inadvisable.

With respect to specific OIG recommendations:

The OIG report does not describe how U.S. security would allegedly benefit from modifying or restricting the U.S. permanent resident exemption. The recommendation ignores the personal commitments made and legal requirements fulfilled by U.S. permanent residents. United States permanent residents currently enjoy the same rights as U.S. citizens with the exception of voting and some jobs that require security clearances. Creation of restrictions or licensing burdens on U.S. permanent residents would change their status to one of second- or third-class citizens. Persons that have been legally admitted to live permanently in the United States would potentially be viewed as inclined to betray U.S. national security and anti-espionage interests. The dubious benefit to national security that would be provided does not merit creating an environment of suspicion towards individuals who have committed to and immeasurably contributed to the welfare of the United States.

In addition to providing no ascertainable benefit, this recommendation would create a massive compliance burden on companies to review the current U.S. corporate population comprised of U.S. permanent residents. In fact, licensing of many of these employees would prohibit them from performing their jobs. Furthermore, the huge influx of deemed export licenses would create major backlog for the Commerce Department, while companies continue to struggle to compete for employees in an extremely time sensitive hiring process.

SEMI recommends that the Commerce Department reject any proposed modification of the U.S. permanent resident exemption.

- The revision to the "use" definition should not change the commonly understood meaning of the word in relation to export-controlled technology.

- The OIG report has failed to take into account the utility of the publicly available exemption in the transfer of use technology. The Commerce Department should continue to recognize and highlight the applicability of this exemption.

- The Commerce Department should not implement a country-of-birth criterion for application of the deemed export rule.

- The Commerce Department should not revise the EAR question/answer to state that restricted government-sponsored research would be disqualified under the fundamental research exemption.

* * *

Please do not hesitate to contact me if SEMI can clarify or supplement the foregoing.

Sincerely,

Victoria D. Hadfield

Victoria D. Hadfield
President, SEMI North America

From: "Dunn, Peter E." <pedunn@purdue.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 04:35PM
Subject: RIN 0694-AD29

Dear Mr. Lopes,

I have attached in both .doc and .pdf formats a letter providing Purdue University's response to the Advanced Notice of Proposed Rulemaking (ANPR) published by the Department of Commerce in the Federal Register on March 28, 2005 (RIN 0694-AD29). Thank you for the opportunity to provide comments to this ANPR.

Please let me know by return e-mail if you are unable to open the attached letters.

Sincerely,

Peter E. Dunn, Ph.D.

Professor

Associate Vice President for Research

Director, University Research Administration

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PURDUE
UNIVERSITY

OFFICE OF THE VICE PRESIDENT FOR RESEARCH

June 27, 2005

Mr. Alexander Lopes, Director
Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW
Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29

Dear Mr. Lopes:

This letter responds to the Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register on March 28, 2005 (RIN 0694-AD29) asking for comments on the recent recommendations of the Department of Commerce Inspector General (IG) with regard to "deemed exports" in the context of university fundamental research.

As one of the nation's major research intensive institutions of higher education and Indiana's Land Grant University, Purdue University is committed to sustaining and growing the scientific and engineering foundation for U.S. technological leadership and competitiveness. We believe that success in this overall mission is critical to ensuring the nation's security. Like other institutions of higher education, we seek to accomplish this goal through integrated discovery, learning and engagement activities. Key to the success of this strategy is the maintenance of an open and collaborative environment supporting research and the exchange of information and technology. Foreign-born students and scholars have and continue to play a central role in the development of new knowledge and regularly contribute to major technological advances. During the Fall 2004-05 semester, 4,921 international students representing 128 countries were enrolled at Purdue University. During the same semester, 5.7% of tenured and tenure-track faculty and 39.2% of non-tenure-track faculty and lecturers were international scholars. The inclusion of these scholars and students as active participants in discovery, learning and engagement projects is critical to Purdue's, Indiana's and the nation's leadership and competitiveness.

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We understand the national need to segregate and protect certain key technologies through control of exports and deemed exports. Clearly, managing an appropriate balance between open investigation and instruction in fundamental science and engineering, and segregation and protection of the most critical advanced technologies is the objective we seek to accomplish. However, we do not believe that the proposed changes to the Export Administration Regulations (EAR) and their accompanying FAQs will contribute to achieving this desired balance.

Following are specific comments on the changes proposed in the March 28, 2005 ANPR.

1. Definition of "Use" Technology. The Department of Commerce proposes to change "and" to "or" in the definition of "use" in EAR Sec. 772.1.

It is our understanding that the intention in proposing this seemingly minor change in wording is to clarify what is controlled as a deemed export, and not to modify the controls under the regulations for use of technology. We agree that clarification is needed in the definition of what is controlled, but we feel strongly that the proposed change misses the mark in providing this clarification. The intent of the concept of "use technology" is not clear today, and would remain unclear if the proposed minor change were to be implemented.

During numerous public meetings and presentations by Bureau of Industry and Security (BIS) staff following the publication of the ANPR, it appeared that BIS wished to make clear to the regulated community that what is controlled under the EAR is generally not access to or simple "use" of equipment, for example, to make a measurement. Rather, when "use technology" is controlled, it is the transfer of sufficient enabling technology concerning the equipment to make the equipment perform to maximum specifications or standards of optimal performance, or to allow one to "reverse engineer" the equipment, that is controlled. If indeed, this is the intent of the regulation, simply changing "and" to "or" in the definition will not provide this clarification. The unfortunate use of the term "operation" as the lead descriptor in the current definition, which would not change under the proposed revision, leads even the most sophisticated reader to a very different conclusion.

Further, it appears from verbal comments and interpretation by BIS staff during these same public presentations that a key in the identification of whether technology is regulated is whether the technology is already in the public domain. Thus, if the equipment is freely available for sale to the public, and enabling technology allowing optimal performance of a piece of equipment can be found in a manual or other publication freely available from a public source or available for purchase without constraint, then transfer of the technology is not regulated. On the other hand, if this enabling technology is proprietary and only available under limiting terms of a confidentiality agreement or license, then the technology may be regulated. However, this key criterion is not sufficiently explicit in the current regulations or accompanying FAQs.

What would be very much more helpful in clarifying the intent of the EAR to the regulated community are additional published formal notes or FAQs addressing issues like those identified above. While it is very helpful to have BIS staff provide these clarifications in public verbal statements or in advisory opinion letters, it would be much more desirable to state them explicitly in published addenda to the EAR themselves. Clearly, BIS staff and their prevailing interpretations change. Absent definitive published clarifications, university administration will be forced to assume the more conservative interpretation. Implementation of these conservative interpretations can only result in undesirable and unintended restriction on the participation of foreign students and scholars, increasing damage to the open discovery and learning environment, and harm to the vigor and productivity of the U.S. academic research enterprise.

2. Use of a Foreign National's Country of Birth as Criterion for Deemed Export License Requirement.

We understand the underlying rationale for the proposed changed from country of citizenship to country of birth as the criterion for determining export license requirements. However, our experience with foreign students and scholars suggests strongly that adoption and implementation of this change would result in many more unnecessary and unintended delays in research and instruction, and unintended discrimination against innocent foreign individuals, than increased national security. We reach this conclusion for two reasons.

First, it is not at all uncommon for individuals to be born in a country not because of their parents' allegiance to that country, but rather due to a coincidence of their parents' current employment or assignment. For example, a parent employed by a multi-national firm or engaged in foreign service (diplomatic or military) for their home country (country of true allegiance) may be living in another country at the time of birth of a child. Shortly thereafter, the parent's assignment may change to another country or the family may return home. We have experienced numerous examples of students who were born in one country only to return to their parents' country of citizenship and allegiance after only a few months or years. There are numerous other circumstances that may result in a person's country of birth not being a reflection of their country of allegiance. For example, a person may have escaped their country of birth to avoid persecution or moved to another country to obtain freedoms or take advantage of opportunities not available in their country of birth or changed countries to avoid strong religious laws inconsistent with the religion of the family. In these situations, an individual's allegiance is generally stronger to their adopted country than to their country of birth. In the current global environment is not reasonable to assume that a person's country of birth is the same as their country of allegiance.

Second, it seems reasonable to expect that the background checks that are currently conducted by the Department of State as a component of the visa application process for foreign person who wish to visit the U.S. would be much more extensive and thorough than the process that any university could implement in the review of applications from foreign students and scholars. For a university to attempt to duplicate these background checks would be undesirable and unnecessarily costly. If a foreign student or scholar is granted the appropriate visa for the

purpose of their visit, a university should be able to rely on their citizenship in determining the need for an export permit for a deemed export.

3. Clarification of Supplemental Questions and Answers on Government Sponsored research and Fundamental Research.
(a.) Question A(4) in Supplement 1 to Part 734.

While we agree that the change to the answer to Question A(4) suggested by the Department of Commerce seems consistent with Section 734.11 of the EAR, we believe that it would be helpful to the regulated community if Commerce also provided additional examples to help to clarify the response.
For example, one such clarification might indicate the possibility that an overall project with publication review and approval restrictions imposed by a federal sponsor might be divided into components. Some of the component subprojects might retain publication restrictions and require an export permit for participation by a foreign person. However, a portion of the overall project that could be isolated might not require publication restriction and would qualify as fundamental research in which a foreign person could participate without an export permit.

(b) Question D(1) in Supplement 1 to Part 734.

The revised wording proposed by Commerce is unclear and fails to clarify the regulation. Our comments to this proposal are related to the concerns expressed in comments to the proposed change in the definition of "use" above. We join with the Council on Governmental Relations in disagreeing "with the IG's premise that the products of fundamental academic research and the process for obtaining the research results are separate and distinct. The use of equipment and the conveyance of technology on how to use equipment are inseparable in academic research. The only reasonable interpretation of the fundamental research provision in the Export Administration Regulations (EAR) is that it must include the right for foreign students and researchers to use, alter, and create, and to receive information on how to use, alter and create, controlled equipment while conducting fundamental research." The EAR currently exempts fundamental research from export licensing requirements, and it has been assumed based on the wording of existing questions and answers accompanying the EAR, that use of equipment and associated technologies - otherwise subject to export controls - was also exempt so long as it was required to perform such fundamental research. Any other interpretation would appear to conflict with the intent of the fundamental research exemption and the intent of National Security Decision Directive 189 (NSDD 189).

As was mentioned above, a major component of our concern may be alleviated if the meaning of "use" is significantly clarified. If as BIS staff appeared to state in public meetings since the publication of the ANPR, physical access to and operation of controlled equipment (for example, to make measurements) in the course of fundamental research is not controlled, this should be made clear. However, to accomplish the goals of fundamental research, it may also be necessary to alter or create improved equipment that may otherwise be controlled. To alter, create or improve equipment, one must understand how and why it functions to current specifications. If

the technology required to understand current optimal function is available either freely or for purchase (not proprietary and not requiring a user license), and the intent of the project is to publish freely the results of the research, no export permit should be required for participation by a foreign student or scholar.

Similar issues are associated with instruction on technology and the function of equipment in formal courses. It is critical that, in courses, students learn to use and are able to use equipment, and receive instruction on equipment performance and calibration in order for them to correctly select appropriate equipment for a specific future purpose and to interpret results obtained from the equipment.

In general, the equipment in question is readily available on the open market. Technical information about the equipment is generally not proprietary and is available to foreign persons from sources outside the university without the need for a license. Controlling access to this type of equipment by Purdue's foreign students and scholars would be extremely disruptive to the open research and instructional environment without significant benefit to national security.

In addition to these comments, we agree with and endorse the comments submitted by the Association of American Universities (AAU) and the Council on Governmental Relations (COGR), and the discussion and recommendations on export controls in the White Paper on Security Controls on Scientific Information and the Conduct of Scientific Research submitted by the Center for Strategic and International Studies (CSIS).

We join these associations and other institutions of higher education in recommending that the Department of Commerce:

1. Reconsider and not accept the IG's interpretation of the scope of the fundamental research exclusion from export controls.
2. Clarify the Export Administration Regulations in a number of ways that would help establish clearer compliance standards and facilitate university compliance.
3. Seek to foster a continuing high level dialogue among stakeholders both within the government and the regulated communities focused on developing an improved overall strategy to achieve the desired balance between sustaining and growing a robust scientific and engineering technology base and ensuring the nation's security.

Thank you for the opportunity to respond to the Advanced Notice of Proposed Rulemaking.

Sincerely,

Peter E. Dunn, Ph.D.
Associate Vice President for Research
Director, University Research Administration

From: "Erica Kropp" <ekropp@umces.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 04:47PM
Subject: "RIN 0694-AD29"

Please find attached a comment letter.

June 27, 2005

Mr. Alex Lopes
Director, Deemed Exports and Electronics Division
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, N.W.
Washington, D.C. 20230

Dear Mr. Lopes:

On behalf of the University Maryland Center for Environmental Science (UMCES), I appreciate this opportunity to provide comments on the Advance Notice of Proposed Rulemaking concerning the Clarification of Deemed Export Regulatory Requirements published in the Federal Register, on March 28, 2005.

The UMCES is one of 13 constituent institutions of the University System of Maryland (USM). We concur, endorse and support the concerns made in the comment letter of the Chancellor of our System and my colleagues at the University of Maryland, College Park.

Although UMCES is not a large research institution and is one with a particular focus on environmental research, our research has world-wide, interdisciplinary application and is often conducted with international collaborators. We work in a very trans-disciplinary community and our research laboratories are not only those we have across the State of Maryland, but are the inter-coastal, wetlands, marshes and forests in many parts of the US and the world. I wish to make the point that the proposed change in BIS deemed export regulations on the definition of "use" is so far reaching I believe it would have a harmful effect on the nature of all of our academic institutions – no matter the subject or size of the institution or field of study. The Commerce Department must recognize that one of the core elements of how we conduct our fundamental research goes hand in hand with the use of equipment – the two cannot be separated. Even though we may not have a great number of controlled equipment items nor a great number of foreign national students, we do have both and the impact of complying with these regulations is as though we had both in great numbers. We would be required to conduct the same on-going review and assessment of all of our equipment - no matter the percentage of controlled items or number of foreign nationals involved in our programs. And even if the determination in the end is that the equipment item is not controlled, or a license is not required, the research has been possibly delayed, therefore possibly harmed and, the resources have been spent.

Like others, I see no reason to put regulations into place that could impose a significant change to the way we conduct fundamental research and serve to limit our ability to both attract and keep great talent from outside the US – talent we need to keep our science programs on top. If there are items or projects that should be controlled for security reasons, then it would seem that the classification process would be in order. At the very least, there needs to be further study into what the national problem is to be fixed before creating yet another. I urge the Commerce Department to follow the recommendations and steps proposed by USM Chancellor Kirwan and University of Maryland President Mote in their comment letters to you.

Again, I appreciate the opportunity to have provided comments on this matter.

Sincerely yours,

Donald F. Boesch
President

Cc: USM Chancellor Kirwan
UM President Mote

From: "Mike Ferguson" <mferguso@nmsu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 05:12PM
Subject: Comments on Rulemaking RIN 0694-AD29

Attached for filing are the Comments of New Mexico State University on the Department of Commerce, Bureau of Business and Security Advance Notice of Proposed Rulemaking at RIN 0694-AD29. These comments are also being faxed to your office. Thank you for your consideration.

Michael D. Ferguson
Office of Grants and Contracts
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June 27, 2005

United States Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Room 2705
14th and Pennsylvania Avenue, NW
Washington, DC 20230

Re: Advance Notice of Proposed Rulemaking (RIN 0694-AD29)
Revision and Clarification of Deemed Export Related Regulatory Requirements

New Mexico State University (NMSU) hereby submits its comments on the Notice of Proposed Rulemaking (NOPR) issued by the Bureau of Industry and Security (BIS) of the United States Department of Commerce (DOC) on March 28, 2005 at 70 F. Reg. 15,607. In its Notice, BIS states that it is seeking comments on how certain revisions and clarifications of its deemed export-related regulatory requirements would affect industry, the academic community, and U.S. Government agencies involved in research. NMSU appreciates the opportunity to comment on these concerns.

Background of the NOPR

The NOPR results from recommendations contained in a DOC Office of Inspector General (OIG) report issued in March 2004.[1] That report and similar reports issued by the Inspector Generals of other federal agencies were generally critical of the efforts made by universities and other research organizations to comply with federal export control regulations, particularly those involving "deemed exports" of controlled technology to foreign nationals within the United States. The OIG report recommended

[1] Final Inspection Report No. IPE-16176-2004, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S."

that currently effective Export Administration Regulations (EAR) be revised or clarified to require (i) that "deemed exports" of any form of "use technology" associated with controlled equipment be subject to EAR restrictions, even when such equipment is or will be utilized to conduct exempt "fundamental research"; and (ii) that "foreign persons" to whom deemed exports of technology may not be made in the absence of a license be identified by reference to their place of birth rather then their current citizenship or permanent residency. The NOPR asks for comments on these proposed regulatory changes plus some additional related clarifications of the EAR.

NMSU's Interest in the NOPR

NMSU is a comprehensive institution of higher education dedicated to teaching, research and service at both the undergraduate and graduate levels. It is New Mexico's land grant university, and is ranked by the Carnegie Foundation as "Research-Extensive", the top category of research universities. NMSU has a substantial research presence and has long been involved with national laboratories, military research organizations, and federal agencies such as the Department of Defense that engage in sensitive research programs. For this reason, NMSU is appreciative of the need to regulate technologies that affect national security. Most of the scientific and engineering research conducted at NMSU, however, is at the basic, fundamental level and is "open" in nature, conducted in open laboratories, intended to be "peer-reviewed," meant to be shared broadly in the affected academic communities, and destined ultimately to become public information.

NMSU's Current Export Control Compliance Program

Like many universities, NMSU has taken steps during the past several years, through training presentations and compliance programs, to increase awareness of export control requirements among research faculty and administration. Beyond increasing awareness, NMSU's approach to export control compliance has been relatively simple and straightforward. Its objective has been to effectively screen research proposals that might fall within the scope of the EAR or ITAR (International Traffic in Arms Regulations) to ensure, to the greatest extent possible, that they properly fall within the scope of the "fundamental research" or "teaching" exemptions to those regulations.

If a particular project consists of basic or applied research in science or engineering, and if no constraints on publication and no security or other access or dissemination restrictions have been imposed on it by the terms of the applicable grant or contract, then it is considered to be exempt from deemed licensing requirements under the EAR or ITAR. If, on the other hand, a proposal does involve developmental or proprietary research, or if it is classified or subject to other access or dissemination restrictions (including publication restrictions, approval of foreign nationals, etc.), NMSU's solution, in the event it is unable to obtain sponsor agreement to remove the problematic restrictions, has either been to decline to engage in the research, or to remove it to a secure facility on campus (e.g., NMSU's Physical Science Laboratory) and, if required,

to pursue the requisite licensing.[2] NMSU, however, has only rarely undertaken research activities that have required export licensing.

How the Proposed "Use Technology" Clarification Will Affect University Research and Export Control Compliance

In the university context, the provision of technical "use" information on equipment utilized to conduct fundamental research has customarily been perceived as either beyond the scope of export control regulations or as falling within the fundamental research or teaching exemptions and thus not subject to deemed export restrictions. By relying on these exemptions, universities have largely avoided having to deal with the complexities involved in the Commerce Control List (CCL) classification and deemed export licensing processes. This is because the exemption approach allows even non-technical personnel to categorize most research proposals as either subject to, or exempt from, deemed export controls by reference to publication rights or other contractual restrictions, with the result that technical determinations frequently do not have to be addressed at all, specific foreign nationals and the extent of their involvement in a particular project do not have to be identified, and no licensing is required.

Although stated as a narrow definitional issue, the "use technology" clarification represents a major attempt to "tighten up" the licensing exemptions available for academic research in order to bring additional categories of technology transfer under the federal licensing umbrella. It remains to be seen if more licensing and better security will be the result if the proposal is implemented. At this juncture, it seems much more certain that the effect of the proposal will be the imposition of a substantial new compliance burden on universities, a great deal of confusion and distraction, and huge disparities among universities in how equipment and information pertaining to equipment is classified and treated.

As a compliance matter, universities must approach the "use technology" question from two different directions, or in two distinct steps. The first of these focuses on research equipment, and necessitates the classification of equipment by CCL category and Export Control Classification Number (ECCN) in order to determine which equipment items are controlled and how they are controlled. The second approach focuses on technology, and requires identification of the kinds of technical information relating to controlled equipment "use" that are subject to "deemed export" restrictions.

Equipment classification imposes an enormous potential compliance burden on universities. For example, NMSU has a current inventory of approximately 30,000 property items, much of which is equipment located in numerous on- and off-campus laboratory facilities. Although inventoried for property control purposes, none of these equipment items have been classified into CCL categories or by ECCN. The CCL classification process is complex and highly technical, requiring a sophisticated

[2] NMSU's Physical Science Laboratory is registered under ITAR as an exporter, has obtained a Technical Assistance Agreement for deemed exports, and has, from time to time, undertaken classified military research.

knowledge of the vast array of arcane categories of technology covered by the EAR and an awareness of product design, manufacturing techniques, design parameters, and U.S. and foreign content of specific equipment items. Although CCL classification is routinely undertaken by equipment manufacturers and distributors for purposes of export licensing, it is not a task that is normally undertaken by domestic equipment purchasers, nor is classification or export control information normally furnished to such purchasers by manufacturers. It is clear, given the technicality and specificity of the ECCN criteria, that this is not a task that can be accomplished by non-technical personnel such as property managers or research administrators, or even in many instances by university research faculty and staff, who may have expertise in the techniques and theory of using specific equipment, but little experience with product design and manufacture. Thus, even the basic task of identifying, through the classification process, which equipment possessed by the university is included on the CCL would appear to be daunting, particularly when a large inventory of equipment accumulated over many years and residing in a diversity of laboratories and other facilities is at issue.

Categorizing equipment-related "use technology" to determine which materials are, or are not, subject to deemed export restrictions is perhaps less burdensome than equipment classification, but is no less problematic. Here the problem is one of clarity and precision rather than complexity, and primarily involves eliminating from the restricted category technical information that is in the public domain, or that does not qualify as "technology" or "use" technology, as defined in the EAR. A great deal of "use" information, for example, is public information not subject to the EAR. Examples of this include user manuals or instructions furnished with the equipment, equipment use instructions posted on university websites, technical notes, calibration instructions, and other use information posted on manufacturers' websites, and equipment information published on the internet or in trade or scholarly journals. Similarly, not all information on equipment, even if not public, qualifies as "technology", defined in the EAR as "specific information necessary for the "development," "production," or "use" of a product." 15 CFR §772.1 Technology for the "use" of equipment, under the clarification proposed in this rulemaking, includes specific information necessary for "operation, installation (including on-site installation), maintenance (checking), repair, overhaul or refurbishing."

These definitions are broadly and imprecisely worded, and will undoubtedly cause confusion. For example, much information on the "operation" of equipment is not particularly technical and is likely to be commonly known, even if in a given instance it may not be public in the sense of being published. Information that informs the equipment user to plug in the power cord, push the on/off switch, insert a slide, or perform a particular keystroke are some simple examples. At a somewhat higher level is information that educates the equipment user on operating techniques and parameters, without disclosing design information or how the equipment actually works. It seems unlikely that basic operative instructions such as these could be perceived as "technology", even though they seem to fall within the literal definition of "operation," an ambiguity that is perhaps underscored by the fact that the EAR has been interpreted as not prohibiting a foreign national from actually using controlled equipment, just receiving

"use" (including "operation") information about such equipment.[3] If this is the case, it begs the question of how a foreign national can freely "use" equipment without being provided access to at least some species of "use" information. The clarification of the definition of "use" proposed in this rulemaking does nothing to resolve this ambiguity.

A related concern with the "use" definition is that it does not adequately accommodate legitimate educational objectives, and the relationship between education and research. Students must learn to do research, and must have research experience, if they are to be adequately educated, and research necessarily involves the proper and skillful use of equipment. If a foreign graduate student, for example, is not allowed access to information necessary to understand the operating theory of a particular instrument, and how the instrument must be set up, calibrated, or adjusted to accomplish a desired operation, then he or she is not being adequately educated. If American universities cannot provide research skills to their students, including equipment-related skills, they have no business admitting them to their educational programs in the first instance. It seems implausible that the intent of the access restrictions on "use" information, as proposed here, would be to bar certain foreign nationals from acquiring equipment-related research skills and experience in connection with a degree program which they have been allowed to pursue, but that is the result if certain students are prohibited from having access to non-public information on equipment "operation," even when the information in question is limited to instructions necessary to allow the equipment to be operated in an informed, skillful manner. Licensing, with its attendant disincentives, uncertainties, and delays, is not the appropriate response to this concern.

In sum, the "use technology" proposal – requiring universities to obtain "deemed export" licenses to provide certain information on certain equipment (which can only be ascertained by means of an elaborate classification and categorization process) to certain foreign nationals – is such an oblique and overreaching method for addressing the problem of illegal technology transfers in the university research arena that it seems unworkable and misplaced. Universities would be more receptive to export control compliance generally if the regulatory program was more straightforward and manageable. Some ways to make the program more workable and effective are as follows:

- Greatly simplify the application of the CCL/ECCN classification scheme to university research equipment through the following actions:

  Develop and maintain lists of controlled material and equipment categories, with corresponding ECCN's, that are commonly found, occasionally found, and rarely found in research laboratories;

[3] See letter dated August 13, 2004 from DOC Undersecretary Kenneth I. Juster to Alice P. Gast stating "the actual use of equipment by a foreign national is not controlled by the EAR."

Exclude from the CCL any equipment that is readily available overseas, and eliminate any requirement for equipment purchasers, such as universities, to determine the U.S. and foreign content of specific equipment as an element of CCL classification by treating all foreign manufactured equipment as non-controlled unless specifically identified by type, make and model;

Exclude from the CCL equipment purchased prior to a technology obsolescence date (the date that a specific equipment item becomes superseded by more technologically advanced equipment, or becomes widely replicated in global markets) determined (and updated) for various categories of equipment;

Exclude from the CCL equipment purchased without restriction as used equipment.

- Define or explain restrictions on "deemed exports" of technology in terms of the objectives of the restriction. For example, if the objective of restricting the disclosure of technical information on a product is to prevent the reverse engineering of the product, or to frustrate the violation of licensing requirements, or to promote some other objective, the regulatory definitions should so state.

- Expressly exclude any form of public information and all technology that is either in the public domain or commonly determinable or attainable from the definition of "use" technology.

- Define "use" technology in a manner that allows legitimate educational objectives to be met, including access to information necessary for the informed utilization of research equipment by foreign nationals as part of a degree program involving the attainment of research skills and experience.

How the Proposed Rule Change Concerning "Country of Origin" Will Affect University Research and Export Control Compliance

The EAR currently requires foreign persons to be identified by reference to their most recent citizenship or permanent residency for export control purposes. The NOPR seeks comments on whether identification should be by reference to place of birth rather than current citizenship or permanent residency. The rationale for changing the current rule is that foreign persons who were born in a country of concern may be able to gain access to controlled technology without scrutiny if they obtain citizenship or residency in a country to which deemed exports are more readily permitted. The place-of-birth criteria, however, would not be applicable to naturalized U.S. citizens, to foreign nationals who are permanent residents of the U.S., or to "protected persons" under federal immigration laws, all of whom would remain completely exempt from deemed export restrictions.

The proposal imposes an additional level of scrutiny and discrimination on foreign persons involved in university research, and increases the burden of complying with export control requirements since it requires new information on foreign researchers (place of birth, in addition to current citizenship) that may not normally be available. In addition, the proposal is excessively broad in its application, and fails to consider narrower and more appropriate methods to identify foreign persons whose current nationality, or dual nationality status, might mask a legitimate export concern.

Because most of the research conducted at NMSU is covered by the fundamental research exemption, NMSU rarely has had occasion in the past to inquire into the nationality of foreign persons engaged in research for export control purposes. If the proposed regulatory clarification concerning "use technology" is adopted, concerns about a foreign researcher's nationality (or place of birth) will undoubtedly increase, and more personal information about individuals engaged in research will have to be obtained. Although the administrative burden of doing this may be manageable, a greater concern is the adverse impact on open research and collegiality in general, and the effect on nondiscrimination policies that universities generally promote. If the reference point for deemed export restrictions is changed from nationality to place of birth, the impact of compliance will be significantly personalized, and thus even more prone to perceptions of discrimination and division among research personnel, because information on birthplace may only be ascertainable by asking the affected persons for it, as opposed to information on nationality, which is contained in university records and is generally perceived as more official and less personal in nature.

It is difficult to rationalize the intrusiveness of requiring disclosure of personal information such as place of birth when the information is largely gratuitous and of limited utility for export control compliance. Using the broad brush of birthplace as the criteria for deemed export restrictions overlooks the legitimacy of naturalization and permanent residency in countries other than the U.S. and ignores situations where foreign birth does not affect citizenship. This seems to be such an overreach under so many different circumstances that it is little more than capricious. For example, the proposal would treat a Canadian citizen born in China of Canadian parents as Chinese rather than Canadian. It would treat an Iranian citizen who obtains permanent residency in the United States as an exempt U.S. person, but one who obtains permanent residency in Canada or the United Kingdom as a non-exempt Iranian. In contrast, it would treat a natural born Canadian or a person born in Great Britain who establishes permanent residency in Iran as either Canadian or British rather than Iranian, and thus not subject to export restrictions to Iran. It would treat a person who emigrated to Germany from India as a child, who subsequently obtained German citizenship, was educated in Germany, married a German spouse, and whose native language is German, as Indian rather than German, third-world rather than NATO, and export restricted under many circumstances rather than unrestricted.

Certainly, current citizenship or permanent residency does not reveal all that might be revealed about a particular individual, but neither does place of birth. On balance, given the commitment and investment that is necessary for a non-citizen to obtain citizenship or

permanent residency, as opposed to the immutability of birthplace and natural citizenship, the more rational choice as the reference for export restrictions would seem to be the citizenship or residency chosen purposively by an individual rather than actual or imputed nationality resulting simply from place of birth. If there is reason to believe in specific instances that place of birth might be a better reference for deemed export restrictions than current citizenship, this should not be a matter that is left to universities to sort out. Rather, this kind of determination should be made in the context of the visa process that applies to every foreign visitor and student, where background checks can be accomplished and a range of relevant information going beyond mere birthplace can be gathered. Through this process, visa qualifications can be specified which impose restrictions on the affected foreign person's access to technology in the research context. In general, however, absent such qualifications, the reference specified by the EAR for deemed export restrictions should continue to be current citizenship or permanent residency rather than place of birth.

Conclusion

For the reasons discussed above, if BIS adopts a modification or clarification of the definition of "use" technology which would have the effect of making access to information concerning research equipment subject to deemed export licensing, it should only do so under a simplified, scaled-down CCL and ECCN scheme designed to make dual-use control specifications accessible to university researchers and administrators, and which specifically exempts public and non-technical information, as well as information serving legitimate educational purposes, from the scope of the EAR. In addition, licensing requirements for deemed exports of "use" technology should be explained or defined in terms of the objectives to be served by access restrictions as well as the technology covered by such restrictions. Finally, no change should be made to the current rule specifying current citizenship or permanent residency as the criteria for identifying foreign persons subject to deemed export restrictions.

Respectfully submitted,

NEW MEXICO STATE UNIVERSITY

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<<GE Comments Deemed Export.pdf>>

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June 27, 2005

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Attention: RIN 0694-AD29

Re: Comments on Advance Notice of Proposed Rulemaking – Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Sir or Madam,

The General Electric Company ("GE") submits the following comments in response to the Commerce Department's Bureau of Industry and Security's ("BIS's") March 28, 2005, Advance Notice of Proposed Rulemaking (70 Fed. Reg. 15,607) (the "Advance Notice") regarding deemed exports.

GE welcomes the opportunity to comment on this notice and appreciates BIS's efforts to include stakeholder input in its rulemaking process. GE supports BIS's efforts to develop regulations that help prevent terrorism and the proliferation of weapons of mass destruction through a sound system of effective export controls. Without question, the U.S. Government has a strong interest in preventing terrorists and rogue states from acquiring valuable U.S. technologies that are subject to export controls.

For the reasons explained below, however, GE urges BIS not to use a foreign national's country of birth as a criterion for deemed export licensing requirements as described in the Advance Notice (the "Proposal"). Our comments focus on GE's protection of technology, the additional costs and burdens associated with the Proposal and that the Proposal does not appear to provide any greater protection regarding the release of technology. We respectfully request that BIS give careful consideration to our comments, and if necessary, consider alternatives to the Proposal, including internal screening and controls programs.

Background on GE

GE is one of the oldest, largest and most innovative companies in the United States, tracing its roots to Thomas Edison's Electric Light Company established in 1878. Today, GE has operations in over 100 countries, more than 300,000 employees and 2004 revenues of more than $150 billion. GE currently operates through 11 businesses, including 6 manufacturing units, which produce a wide-range of best-in-class products including aircraft engines, wind turbines, security screening equipment and CT scanners.

As a company dedicated to technology leadership, as well as worldwide operations and sales, all of GE's diverse businesses deal with some form of export controls. Our businesses are involved with

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products, software, and/or technologies captured in multiple entries on the Commerce Control List (the "CCL").

GE has a strong commitment to integrity and requires all employees to abide by and periodically reaffirm their responsibilities under our compliance policies, including GE's International Trade Controls Policy. The GE businesses are constantly striving to maintain world-class standards in the critical area of export controls.

Given the size and diversity of our operations, and our commitment to compliance, GE is a key stakeholder in export control issues.

Protection of Technology and the Existing Deemed Export Framework

The current deemed export rule recognizes that "there is no more effective way of disclosing sensitive technical information (e.g., design know-how) than to work side-by-side in a laboratory or on the production floor of a company."[1] GE takes the concern of improper use and disclosure of sensitive technical information very seriously, because of the strong commercial interest that GE has in protecting our valuable trade secrets, as well as the importance of compliance.

Businesses that rely on technological differentiation must protect their intellectual property to excel in the market. GE, thus, has a powerful interest in protecting its technology that is both broader and deeper than the legal requirements – extending both to U.S. persons and technologies that are not subject to export controls. GE businesses take great care in selecting our employees, contractors and partners, including those that are U.S. persons, through due diligence and background checks. Businesses exercise even greater care and scrutiny when the employee, contractor or partner is granted access to proprietary technology, including technical information subject to export controls. Before allowing an employee access to a valuable trade secret, GE considers factors such as trustworthiness, reputation and long-term commitment to the company. GE also requires stringent confidentiality and non-disclosure agreements, in addition to conditioning employment and benefits on adherence to corporate compliance policies. These measures are essential to protecting our innovations and our reputation, our most valuable assets.

For companies like GE, therefore, the legal requirement to comply with the current deemed export rule merely adds an additional layer to the pre-existing commercial incentives. Unfortunately the legal requirements often involve additional steps, beyond the stringent screening and access control mechanisms we already employ. Accordingly, this additional layer poses compliance costs. Even for a sophisticated exporter, with exceptional compliance process capabilities like GE, it was challenging to build management of these requirements into our systems. At a minimum, deemed export compliance requires:

- comprehensive product, software, and technology classification according to the CCL;
- managing detailed information on the citizenship and nationality status of our employees, contractors, visitors and partners, beyond the initial screening assessments performed;
- maintaining access controls on controlled technology, which affects, *inter alia*, the design of electronic databases and tools, as well as the location, management and routing of IT support, only some of which are employed for commercial technology-protection reasons;

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[1] BIS web site (http://www.bis.doc.gov/deemedexports/deemedexportsfaqs.html#1) (downloaded June 22, 2005) (emphasis added).

- designing, implementing, and updating training on the issues unique to legal compliance for legal, engineering, logistics, human resources, security and other personnel;
- recordkeeping; and
- devoting significant personnel and other resources to ensure compliance with the legal requirements.

Deemed export compliance also raises complex issues in terms of collaboration and relationship management with U.S. and international partners. Projects, deals and joint ventures often require additional resources, understanding and patience in order to manage deemed export issues.

Conservatively, we estimate that GE's dedicated team of trade controls compliance attorneys, leaders and specialists spend at least 20% of their time and resources managing issues related to deemed exports. And these challenges persist with a regime that was initially promulgated more than ten years ago and has largely remained stable.

Potential Impact of the Proposal

GE businesses would face significant costs and complexities if BIS adopted the Proposal to use a foreign national's country of birth as the criterion for determining deemed export license requirements, rather than the existing rule that bases license determination on the last acquired country of citizenship or permanent residence. A rule based on country of birth would be particularly troubling and difficult to manage given the potential issues with documentation. The costs and complexities would be similar if BIS were instead to adopt a rule basing the deemed export license determination solely on the country of citizenship (disregarding permanent residency), or on a "most restrictive" basis, which would require exporters to apply for a license if any of the countries of permanent residence or citizenship that an individual possessed were license-required jurisdictions.

GE gathered data from a small subset of its operations to estimate how the Proposal would affect our businesses. Thus, these data do not cover the full potential impact of the change on GE's current 11 operating businesses and corporate functions. Our data focus on the potential impact of the Proposal on employees currently based in the United States, and therefore, also underestimate the impact by omitting compliance costs associated with non-employees, such as consultants, contractors and business partners who may require access to export-controlled technology. Our data also do not attempt to quantify the substantial costs GE businesses would face in deemed reexport compliance.

One surveyed GE operation employs more than 1,500 employees in the United States, 15% of whom are "non-U.S. persons." Related to its core mission of technological innovation, this operation has expanded into more work subject to export control restrictions in the past few years. It currently has approximately 20 deemed export licenses and 5 additional licenses in process for non-U.S. person employees. However, this business does not normally track alternative nationalities for all non-U.S. persons, as that information is not necessary to protect our proprietary technology nor to ensure compliance under existing export control law. Were the Proposal adopted, this operation would face substantial costs associated with the collection and analysis of the additional nationality information of its employees, the potential need for additional deemed export licenses, additional burdens in the hiring process, and substantial costs associated with developing and implementing training tailored to the export compliance risks in its operations under the new requirements.

Another GE businesses reported that it currently employs approximately 225 non-U.S. persons inside the United States in its engineering operations. This business has managed its operations such that that it does not require any deemed export licenses related to core engineering functions, by only

considering granting access to export-controlled technology to foreign nationals from no license required jurisdictions. The business does not currently maintain country of birth data (nor any nationality data beyond that which currently determines the employees' export control status). If the Proposal were adopted, this business would have to alter its export control infrastructure and would potentially face a need to re-structure its operations. The Proposal would also affect how this business structures IT support. For example, the business would have to ask employees to validate whether they are also nationals and/or citizens of jurisdictions that would require licenses and would have to pursue licenses or reassign these personnel. In sum, this business would have to expend significant cost, time and other resources to validate the nationality status of all non-U.S. person employees; develop, process and manage deemed export license applications; develop training for its employees on the unique risks given its export controlled technologies; and train thousands of employees on the new requirements.

Another surveyed GE business employs over 200 non-U.S. persons inside the United States. This business has dedicated enormous resources to ensuring that it protects its export-controlled technologies. While this business currently has several deemed export licenses for CCL technology, a rule change could expand that number significantly. This business would incur significant costs to develop, process, and manage deemed export license applications; develop training for its employees on the unique risks given its export-controlled technologies; and train thousands of employees on the new requirements.

Based on the data provided by this small subset of GE operations, we estimate that if the Proposal (or a similarly restrictive rule) were adopted, these businesses and GE Corporate, in support of their activities, would incur nearly $1 million in direct costs, not including the indirect costs associated with changing our commercial operations. These cost estimates relate solely to the additional costs of compliance related to this Proposal inside the United States. While some of these costs would likely be one-time costs associated with a rule change, there would be recurring additional costs associated with managing new employees and prospective employees, managing existing licenses and refreshing training requirements.

Estimated Direct Costs for a Small Subset of GE Operations

Costs to identify dual nationals validate status, update records, etc.	$215,000
Costs associated with developing deemed export license applications, managing licenses, recordkeeping and administrative costs	$187,500
Training costs	$597,100
Total	**$999,600**

This nearly $1 million impact would increase by several multiples considering the effect on non-employees, global operations and the other GE businesses.[2] Outside of the United States the rule change could have an even larger effect, as no GE business currently maintains data on the

[2] This adverse impact would only continue to multiply if, in the apparent spirit of the Proposal, the EAR and/or the International Traffic in Arms Regulations and Arms Export Control Act were amended so as to exclude lawful permanent residents from the definition of U.S. person. If extended to this extreme, the potential additional licensing burden would increase exponentially. One GE business reported that such a change would increase its licensing and license management costs alone by well-over $500,000.

alternative birth, nationality and/or citizenship status of employees, contractors, service providers and partners outside of the United States. Indeed, we understand that privacy and employment law requirements would complicate these efforts and increase the compliance challenge.

Detrimental Impact on Employees and R&D Recruiting Efforts
In addition to the substantial compliance costs, the Proposal would also impose "human" costs and opportunity costs on U.S. businesses, such as potentially demoralizing current employees impacted by such a change. For example, an engineer who is currently considered a Canadian national for deemed export licensing but was born in Iran (and fled that country decades ago) could suddenly become subject to substantial licensing requirements. This engineer could easily be discouraged by a reassignment, even temporarily, while a license were applied for and hopefully obtained. Moreover, the GE business could face delays in important product development activities during the license application process. This uncertainty could ultimately encourage such employees to seek technical positions outside of the United States, enhancing the talent pool available to our foreign competitors.

The rule would introduce additional uncertainty into the recruiting process for skilled scientists, engineers, programmers, and other technical experts, which will harm U.S. companies. This is an important and real cost, though extremely difficult to quantify. For example, GE has made a significant commitment to research and development and faces a very competitive recruiting environment. In the top PhD programs inside the United States in disciplines such as mechanical engineering and aerospace, our experience is that an overwhelming majority of the qualified candidates are foreign nationals. Therefore, in order to maintain our commitment to innovation, we recruit and integrate foreign national scientists and engineers into our programs. A rule change that would make integrating these scientists into our export-controlled programs more difficult, time consuming and costly would put GE and the United States at a competitive disadvantage. We could lose the best and brightest to our foreign competitors, if the U.S. Government makes it more difficult for these students to obtain technical positions, even though they acquired their technical expertise in the United States.

The Proposal Does Not Appear to Offer Greater Protection
The apparent, but unarticulated, premise of the Proposal – that on the basis of their country of birth, foreign nationals would exploit relationships with U.S. companies to disclose export-controlled technology with malicious intent, and that imposing a broader deemed export license requirement would provide additional protection – seems speculative.

In GE's experience, many technically skilled non-U.S. persons have the interest and intent to remain indefinitely, if not permanently, in the United States, and they often pursue naturalization for themselves and their families. Moreover, as a company, we generally recruit skilled scientists and engineers for permanent positions, not foreign nationals who intend to return to their country of birth after a short period of time. And even with respect to foreign national employees who eventually return to their country of birth, we are confident that many do so with greater admiration, respect, and affection for the United States and its allies, as well as for U.S. companies, products, and technologies. Some even continue to work for U.S. companies with a global presence, such as GE. In our judgment, such employees enhance, not detract from, U.S. national security. The Proposal would only generate an additional administrative and compliance burden for these individuals, their employers and the U.S. Government.

As for the impact on individuals with improper motives, the Proposal is more likely to encourage attempts to evade the requirements, instead of resulting in their detection. Thus, expanding the

current deemed export rule to require licenses for our employees on the basis of country of birth does not appear to be an effective mechanism for identifying and stopping foreign nationals who might seek to steal U.S. technology and harm the United States.

As described above, GE and other businesses are already zealous in controlling the disclosure of technology. Employees, contractors, and partners who work with GE know that they will face significant consequences, commercial and otherwise, for violating our confidentiality and non-disclosure agreements. It is unclear that a broader deemed export rule on the basis of country of birth would provide additional protection from improper disclosure or use of sensitive technologies.

If BIS is concerned that the existing deemed export rule does not provide adequate protection for sensitive U.S. technologies, GE encourages BIS to seek an alternative approach. The U.S. Government and exporting community, in collaboration, could develop an effective system to manage the technology transfer risk through an enhanced internal screening and controls program that met security, reliability and other criteria. Such a system would benefit the exporting community by eliminating the need for qualifying companies to seek individual licenses. This mechanism would also benefit BIS by allowing resources currently dedicated to reviewing deemed export license applications to be rededicated to other valuable purposes. GE respectfully submits that such an alternative system would likely be more effective in managing the potential threat to U.S. national security and far more efficient than the Proposal's approach of basing licensing determinations on the country of birth. BIS could establish an industry-government working group to develop this suggestion or seek alternative approaches.

Conclusion

GE strongly urges BIS not to adopt the Proposal. The costs of this rule, both quantifiable and unquantifiable, would pose a significant burden on and a competitive disadvantage to U.S. companies, and ultimately the United States. Moreover, this rule would not in our experience provide any greater protection for controlled technology. The existing deemed export rule, corporate confidentiality and non-disclosure agreements, together with the corresponding penalties for violations and the benefits of working and living in the United States and other allied countries provide significant assurance that controlled technology will not be improperly diverted. If BIS determines that even greater protection is required for deemed exports, GE urges BIS to work with the exporting community on developing an alternative to the Proposal that focuses on enhancing internal screening and controls programs.

We thank BIS and the Department of Commerce for the opportunity to provide these comments.

Sincerely,

Kathleen Lockard Palma
Counsel, International Trade Regulatiohn

From: "Jaddou, Ur" <Ur.Jaddou@mail.house.gov>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 07:38PM
Subject: RIN 0694-AD29 - Rep. Zoe Lofgren (CA-16)

Congresswoman Zoe Lofgren would like to submit the attached comment regarding the advance notice of proposed rulemaking for "Revision and Clarification of Deemed Export Related Regulatory Requirements" (RIN 0694-AD29).

Thank you.

Best,

Ur

Ur M. Jaddou

Senior Counsel

Congresswoman Zoe Lofgren (CA-16)

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<mailto:ur.jaddou@mail.house.gov> ur.jaddou@mail.house.gov

ZOE LOFGREN
16TH DISTRICT, CALIFORNIA

COMMITTEE ON THE JUDICIARY
SUBCOMMITTEE ON COURTS, THE INTERNET AND INTELLECTUAL PROPERTY
SUBCOMMITTEE ON IMMIGRATION, BORDER SECURITY, AND CLAIMS

COMMITTEE ON SCIENCE
SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY AND STANDARDS
SUBCOMMITTEE ON RESEARCH

SELECT COMMITTEE ON HOMELAND SECURITY
SUBCOMMITTEE ON CYBERSECURITY, SCIENCE AND RESEARCH & DEVELOPMENT, RANKING MEMBER
SUBCOMMITTEE ON RULES

Congress of the United States
House of Representatives
Washington, DC 20515–0516

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June 27, 2005

The Honorable Carlos Gutierrez
Secretary
U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue, NW, Room 2705
Washington, DC 20230

Re: RIN: 0694-AD29, Revision and Clarification of Deemed Export Related Regulatory Requirements, Doc. No. 050316075-5075-01, 70 FR 15607 (March 28, 2005), Extension of Comment Period, Doc. No. 050316075-5133-02, 70 FR 30655 (May 27, 2005)

Dear Secretary Gutierrez:

I welcome the opportunity to offer comments on recommendations contained in the Department of Commerce Inspector General (IG) report, entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S."

I applaud efforts to reform deemed export regulations and any related immigration laws to improve national security while eliminating unnecessary regulations that do nothing to ensure our national security. We can secure our nation while streamlining the deemed export license approval process and make it easier for the best minds to fully participate in science and technology projects in the U.S. Unfortunately, the IG's recommendation that concerns this comment would not ensure our national security and would not remove unnecessary deemed export regulations – obstacles to the growth of science and technology in the U.S. Instead, the proposed recommendation not only is an imperfect solution to a valid concern, it creates new problems and ignores issues addressed by current regulation.

One of the IG's recommendations proposes to use a foreign national's country of birth as a basis for deemed export license requirements, unlike the current standard that focuses on the foreign national's most recent country of citizenship or permanent residency. The

purpose of the IG's recommendation appears to be ensuring national security by preventing the transfer of sensitive technology to a country of concern. Under current regulations, the IG contends that foreign nationals may transfer sensitive technology to countries of concern despite holding citizenship or permanent residency in countries of no concern to the U.S.

The example used in the Advance Notice of Proposed Rulemaking is of a foreign national born in Iran with permanent residency or citizenship in Canada. Since the Iranian-born Canadian foreign national is not considered Iranian for deemed export license purposes, the IG appears worried that foreign nationals may come into contact with sensitive technology that if exported to Canada poses no concern, but if exported to Iran is of great concern. Under current deemed export regulations, this foreign national would not receive extra scrutiny since Canada would be used to determine whether a deemed export license is appropriate. However, the fear is that this person, born in Iran, may then transfer sensitive technology to Iran. To solve this problem, the IG recommends using the country of birth, Iran, to determine whether a license is appropriate instead of the country of citizenship or permanent residency, Canada.

The concern raised by the Inspector General deserves an appropriate response. However, the IG's recommendation not only does not adequately address the issue, it creates additional issues and eliminates a current process that may help to ensure national security, albeit imperfectly.

Country of birth is not easy for companies and research institutions to determine, something they would be required to do under the IG's recommendation. Employers would be required to ask for proof of birth of their foreign national employees, determine the authenticity of each foreign employee's birth records, and based on such records, decide whether they are required to seek a deemed export license. Birth records or other documents used to prove birthplace are highly variable and in many cases, easily forgeable. Employers are generally untrained to review the authenticity of such records and they have no experience with birth documents. Unlike tenuous birth records, the current standard allows companies to easily identify a person's country of citizenship or permanent residency through much more legitimate and secure documents issued by the U.S. government, such as U.S. visas, and/or foreign governments, such as the passport.

Moreover, to legally employ a foreign national, a company is already required to request and review immigration forms that show the foreign national may legally work in the U.S., in addition to their country of citizenship or permanent residency. Proof of country of birth would be an additional requirement that U.S. employers and foreign national employees are currently not familiar with. Concerns over employment discrimination based on national origin may result as employers realize the difficulties of working with a person born in a country of concern, despite current citizenship or permanent residency.

In an increasing mobile world where immigration is becoming more and more common, many foreign nationals may be born in one country, but subsequently move to another country at an early age in life. Considering the country of birth to determine whether

such individuals should receive deemed export licenses ignores the reality that the foreign national would likely have stronger ties to the current country of citizenship or permanent residency, especially if several years have passed since the immigration to a new country. In such cases, the IG's proposal replaces the current regulation with a rule that not only would create new problems for employers, but would ignore the problem addressed by the current regulation – ties to current country of citizenship or permanent residency.

The appropriate solution to the problem raised by the IG is not the recommendation he proposes, nor is it to remain with the status quo. Instead, the solution lies with immigration law and the prosecution of illegal transfers of technology to countries of concern. Foreign nationals should be scrutinized at the time of visa application to ensure the individual poses no threat to our national security through the potential transfer of sensitive technology to a country of concern.

If a foreign national born in Iran with citizenship or permanent residency in Canada appears to be interested in subverting U.S. export regulations that prohibit the transfer of sensitive technology to countries of concern, then that individual should not receive a visa in the first place. If it is discovered that a foreign national is engaging in such activity after receiving a visa, then the individual's visa should be revoked. Furthermore, resources should be concentrated on bringing criminal charges against the individual for attempting to transfer sensitive technology to a country of concern, an illegal act under current law.

Thank you very much for the opportunity to comment on recommendations contained in the Department of Commerce Inspector General report, entitled "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." Please do not hesitate to contact me if you have any questions.

Sincerely,

Zoe Lofgren
Member of Congress, CA-16

cc: Brett Palmer, Acting Secretary for Legislative and Intergovernmental Affairs, U.S. Department of Commerce
Alex Lopes, Director, Deemed Exports and Electronics Division, Bureau of Industry and Security

From: "Contrestano, Maria" <mcontres@qualcomm.com>
To: <publiccomments@bis.doc.gov>
Date: 06/27/05 08:30PM
Subject: RIN 0694-AD29 Comments Regarding Proposed changes to the Deemed Export rules

Enclosed please find QUALCOMM's comments in PDF format regarding the Advanced Notice of Proposed Rulemaking issued March 28, 2005 (70 Federal Register 15607).

Kind regards,
Maria Contrestano for Kathleen Gebeau
Export Compliance
QUALCOMM Incorporated
Direct: (858)651-6945
Email: mcontres@qualcomm.com

QUALCOMM Incorporated

5775 Morehouse Drive
San Diego, CA 92121-1714

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
Attn: RIN 0694-AD29
14th & Pennsylvania Avenue N.W.
Room 2705
Washington, D.C. 20230

Subject: RIN 0694-AD29 – Comments Regarding Proposed Changes to the Deemed Export rules

Dear Sir/Madam:

QUALCOMM Incorporated (QUALCOMM) welcomes the opportunity to comment on the Advanced Notice of Proposed Rulemaking (ANPRM) issued on March 28, 2005 (70 Federal Register 15607) on issues raised by the Office of Inspector General (OIG) report, *"Deemed Export Controls May not Stop the Transfer of Sensitive Technology to foreign Nationals in the U.S."* as to how these revisions would affect industry.

QUALCOMM is a leader in developing and delivering innovative digital wireless communications products and services worldwide. QUALCOMM's revenue for fiscal 2004 was nearly $4.9B. Over 9,000 employees work for QUALCOMM worldwide. Headquartered in San Diego, Calif., QUALCOMM is included in the S&P 500 Index and is a 2005 FORTUNE 500® company traded on The Nasdaq Stock Market® under the ticker symbol QCOM.

QUALCOMM has historically received a high proportion of the deemed export licenses issued to foreign nationals in the United States, and has extensive experience with the present system, which has imposed significant compliance burdens on our company since the introduction of the deemed export rule in 1994. QUALCOMM believes that the proposed changes described in the ANPRM would be ineffective and cause significant increased burdens on industry including QUALCOMM. We strongly feel these changes will create increased compliance costs as well as an increased volume of licenses without an increase in denials and will have little effect on national security.

QUALCOMM

QUALCOMM has reviewed the ANPRM and has comments regarding the definition of "Use" technology and use of foreign national's country of birth to determine deemed export license requirements.

1. **Definition of "use" technology in the EAR.**

   QUALCOMM does not anticipate a concern with the proposed change to the definition of "use" in 772.1 of the EAR to replace the word "and" with the word "or."

   However, QUALCOMM has a concern with the incorrect assumption inherent in the second issue raised related to "use" technology in the OIG Report that mere access to EAR controlled equipment by foreign nationals would inherently result in a deemed export of "use" technology.

   Access to equipment is not prohibited by the deemed export rule. Indeed, most "use" technology – such as published manuals for controlled machines - tends to be in the public domain, and thus not subject to the EAR under Part 734. Indeed, most technology categories in the EAR that are based on Wassenaar controls do not actually control "use" technology.

   To the extent that use technology isn't in the public domain, BIS policy since 1994 has been that License Exception TSU would apply, since there is no license requirement to provide a foreign national access to EAR-controlled equipment in the United States, and thus basic operations and maintenance technology would be for "commodities or software that are lawfully exported or reexported under a license, a License Exception, or NLR." EAR 740.13(a). While it might be argued that TSU should not apply because there is no export or reexport upon which the TSU license exception can rely, such an interpretation would make little sense; following such a rule would mean that if a license exception authorized export of an item to India, then related operations technology could accompany it, while the same technology could not be given to an Indian national employed to operate the same machine in the United States.

   This interpretation is in accord with the General Technology Note, which provides that technology is controlled only if it is required to achieve the relevant control parameter. Use technology would rarely provide information regarding the technology of a piece of equipment required to achieve specific performance parameters – this is more typical of development and production technology.

   QUALCOMM recommends that any amended guidance regarding "use" technology clearly indicate that "use" technology does not apply to public domain technology, is controlled only to the extent that it involves technology required for the equipment to achieve controlled performance parameters, and that License Exception TSU applies to the basic operations and maintenance technology even in infrequent situations where the "use" technology is controlled.

QUALCOMM

2. Use of foreign national's country of birth to determine deemed export license requirements

The contributions of foreign nationals to US industry and the academic community are immense. QUALCOMM relies on its ability to attract, hire, contract and collaborate with foreign nationals in order to compete effectively in today's global environment. The U.S. Government policies place excessive burdens on U.S. companies' abilities to deploy and utilize foreign nationals.

U.S. companies are faced with a serious shortfall of qualified technical experts in technology industries in the hundreds of thousands, the ability to effectively and efficiently hire foreign nationals to work in the high-tech sector is crucial to U.S. competitiveness. Compared to a few years ago it's becoming increasingly more difficult to attract and hire not only qualified U.S. nationals but also foreign nationals. While the U.S. is a favored destination for individuals seeking academic and professional career opportunities, other countries are successfully attracting the same talent supply. In this competitive environment, U.S. government policies placing restrictions on the hiring, deployment and utilization of foreign nationals, should be narrowly crafted to clearly and effectively address specific policy objectives without excessively and inappropriately burdening industry.

The OIG report recommends that BIS amend its policy to require exporters to apply for a deemed export license for foreign national employees or visitors who have access to dual-use controlled technology if they were born in a country where the technology transfer in question would require an export license, regardless of their most recent citizenship or permanent residency. The OIG expressed concern that the current BIS policy allows foreign nationals originally from countries of concern to have access to controlled dual-use technology without scrutiny if they maintain current citizenship or permanent resident status in a country to which the export of technology would not require a license.

This proposed change has numerous negative implications to U.S. industry as pointed out here.

2.1 A person's country of birth is an unreliable and ineffective indicator to prevent alleged transfers of sensitive U.S. technology abroad

Trying to use the deemed export licensing process to prevent alleged transfers of sensitive technology abroad is ineffective and inappropriate, since it is extremely unlikely that unauthorized transfers will be prevented through the licensing process.

The impetus to steal and export dual-use trade and technology secrets is predominantly caused by economic reasons, and U.S. citizens can be similarly motivated to steal or obtain sensitive U.S. technology and export it. The EAR already have enforcement tools that are neutral as to the nationality of the

offender. Under the General Prohibition 10 and EAR 764.2(e) releases of technology is prohibited if the releasing party knows or has reason to know that it will be illegally exported, and similarly penalize any person (regardless of their nationality, place of permanent residence, or place of birth) trying to obtain illegally and export technology abroad in violation of the EAR. Every one of the recent enforcement cases involving deemed exports could have been made by reference to violations of these provisions rather than the deemed export rule.

Similarly, prosecution of technology thefts through the Economic Espionage Act and Trade Secrets laws present effective enforcement tools without imposing administrative burdens on companies seeking to employ foreign nationals.

2.2 The proposed changes would impose increased costs and burdens to U.S. Industry without assured benefits to national security

Most foreign nationals seeking employment in the United States need to have some form of visa review so the identification of a small percentage of foreign nationals who pose a risk could be more effectively identified through the State Department's existing programs such as the Visa Mantis and Visa Condor programs.

In the case of the Visa Mantis program visa applicants working with sensitive technology and who are determined to pose an undue risk of industrial espionage are denied visas.

Multinational companies like QUALCOMM rely on the ability to hire the most qualified technical personnel in order to compete globally. The OIG's recommendation to impose a requirement to ask employees about where they were born in many cases conflicts with local employment, privacy and data protection laws and place unwarranted risk of litigation on U.S. industry without any effective benefit to U.S. national security.

QUALCOMM does not systematically collect information about the country of birth of its employees, but rather confirms employment eligibility and gathers information required for visa processing and compliance with current deemed export rule. While we recognize that a change to the criteria for determining whether deemed export would likely authorize collection of place of birth information from our current employees in the United States under Title VII, it would nonetheless be extremely burdensome to collect this information for all our current employees, with very little change to licensing determination. We are also concerned that this change of policy could unleash lawsuits claiming discrimination under state and federal employment discrimination statues. Simply responding to and defending such suits would result in costly litigation.

Furthermore, the cost of retrospectively going back and re-surveying all of QUALCOMM's employees and contractors would be an extreme burden. QUALCOMM employs thousands of non-U.S. citizens or lawful permanent

residents worldwide. We estimate about 16 man-hours per employee, at an average cost of $75.00 per man hour would be required to obtain this information.

QUALCOMM currently spends an estimated cost of $150,000 on deemed export licensing compliance annually. QUALCOMM has an export compliance staff with individuals responsible for applying for licenses, renewing licenses, managing the compliance program for foreign nationals domestically and internationally, as well as auditing, and training. Foreign National licensing also require time and attention from the Human Resource groups, such as Recruiters and Immigration, among others, who help gather the information, screen new hires, attend annual trainings and updates as necessary, along with assist occasionally with audits. The IT group is also involved in assistance with reports and access restrictions and finally external from QUALCOMM is outside counsel consulted for assistance. The proposed changes could potentially increase this number in excess of $1 million including both one time and ongoing costs.

2.3 Changing the criteria to place of birth ignores international legal concepts of nationality and nationality treatment

Under international law, place of birth does not necessarily identify an individual's nationality for purposes of national treatment.

The deemed export rule as applied in the United States is based on belief that a foreign national is in the United States temporarily, and that they likely return to another country, taking technology acquired in the United States back with them. The current policy, which looks to the most recent place of residency or citizenship of a foreign national to determine licensing requirements is more consistent with the purpose behind the deemed export rule than the policy that relies on birth country. The current rule focusing on the latest acquired citizenship or permanent residency tracks this policy more effectively, since in most cases, a person from a country of concern is more likely to return to that country after leaving the United States.

QUALCOMM also has extensive operations in the European Union. EU privacy and employment laws prohibit companies from asking its employees or prospective employees their place of birth to determine employment eligibility in order to comply with extraterritorial provisions of U.S. export laws thus exposing industry to significant risk of administrative and civil liability under EU laws.

The proposed rule ignores the fact that a foreign national may have spent appreciable time in their adopted country of citizenship or permanent residence where the individual would have established significant ties there as is the case with many Iranian nationals who have established strong communities in Europe and the United States. Many have become citizens or permanent residents of their adopted countries for twenty to thirty years, and have never returned to Iran.

QUALCOMM

The recommendations have, in addition, failed to analyze international citizenship and nationality laws. Industry is faced with many barriers including privacy, data protection and discrimination laws, which may have a significant impact on the implementation of the recommendations. BIS requires information on the date and place of birth of foreign nationals and certain other sensitive personal data, U.S. companies are put in an untenable position, as they may be prohibited from asking for such information under U.S. anti-discrimination laws.

QUALCOMM recommends that BIS continue its current policy and not adopt the OIG's proposed place of birth rule, since to do so would cause absurd results in some cases, and impose significant burdens and risks on companies like QUALCOMM with little tangible effect on national security. The only change we can anticipate in addition to increased compliance costs will be an increase in the volume of license applications, without any concurrent increase in denials of such applications.

We thank BIS and the Department of Commerce for the opportunity to provide these comments, which we hope will be helpful. Should you have any questions regarding these comments, please feel free to contact Kathleen Gebeau, Director of Export Compliance, at (858) 658-2757, or by e-mail at kgebeau@qualcomm.com.

Sincerely,

QUALCOMM Incorporated

Kathleen F. Gebeau
Director, Export Compliance

From: <jcannon@williamsmullen.com>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 28, 2005 9:42 AM
Subject: FW: Revision and Clarification of Deemed Export Policies RIN 0694 -AD29

These comments were sent to "scook" yesterday, pursuant to the Federal Register notice. Subsequently, we received an email directing that the comments be forwarded to "publiccomments@bis." Please accept these comments for filing on behalf of the Customs and International Trade Bar Association.

> -----Original Message-----
> From: Cannon, Jr., James
> Sent: Monday, June 27, 2005 1:34 PM
> To: 'scook@bis.doc.gov'
> Subject: Revision and Clarification of Deemed Export Policies RIN
> 0694-AD29
>
>
> <<comments on BIS regs re country of birth(3).doc>>
>
>
> James R. Cannon, Jr.
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Customs and International Trade Bar Association

June 27, 2005

Honorable Peter Lichtenbaum
Acting Under Secretary for Industry and Security
U.S. Department of Commerce
14th & Pennsylvania Avenue, N.W., Room 2705
Washington, DC 20230

Attention: Alex Lopes
Director, Deemed Exports
and Electronics Division

Dear Secretary Lichtenbaum:

Re: *Revision and Clarification of Deemed Export Policies RIN 0694-AD29*

The following comments are submitted on behalf of the Customs and International Trade Bar Association (CITBA) in response to the invitation of the Bureau of Industry and Security (BIS) in the captioned matter. 70 Fed. Reg. 15,607 (March 28, 2005). The Customs and International Trade Bar Association was founded in 1926. Its members consist primarily of attorneys who concentrate in the field of customs law, international trade law and related matters. CITBA members represent United States exporters, importers and domestic parties concerned with matters that involve the United States export laws, customs laws, and other international trade laws, and related laws and regulations of federal agencies concerned with international commerce.

The proposed revisions to the Deemed Export policies with respect to the reporting and identification of the country of birth of foreign nationals are patently overbroad. The thrust of the policy change suggested by the Office of the Inspector General would use a foreign national's country of birth as a criterion for triggering a deemed export to that country. There is no indication that such an individual would ever be able to shed that status, irrespective of circumstances that might be as tenuous as having lived in his or her birth country for only the first few years of life, or becoming a citizen or permanent resident of another country.

It is sufficient to require that a foreign national identify any country of which he or she is currently a citizen or permanent resident.

A simple per se rule should not be applied on the basis of country of birth, when for example, a person has renounced citizenship in that country and pledged allegiance to another. It is inappropriate to require an export license or to invoke the deemed export rules solely by reason of the country of birth.

The notice published by BIS indicates that the proposed changes to Deemed Export policy were prompted by a report and recommendations of the Office of Inspector General.[1] The OIG Report "concluded that existing BIS policies ... could enable foreign nationals from countries and entities of concern to access otherwise controlled technology."[2] With respect to the nationality of persons potentially covered by the Deemed Export rules, the OIG report found that "BIS' deemed export control policy does not take into account all the nationalities a foreign national has ever maintained."[3] The OIG Report gives an example of a person born in Syria but legally resident in Canada. In that case, the OIG noted that the BIS deemed export rules would treat the person as Canadian. However, the State Department Directorate of Defense Trade Controls (DTC) would treat the person that retained Syrian citizenship as a dual citizen of Syria and Canada.[4]

First, the report cites no past instance in which the current rules failed or in which a foreign national with dual citizenship (or residence) actually disclosed sensitive information to a controlled country. Indeed, the private sector is not well-equipped to address a determined thief or to stop deliberate misuse of sensitive information found on a corporate computer network. The current rules, reflecting longstanding agency practice and precedent, balance the burden on private industry against the risk of disclosure of sensitive, dual-use information that is accessible to foreign persons visiting or working temporarily in the United States. Corporations may have literally thousands of foreign national employees. BIS should not overlook the sheer administrative burden that will result if employers must now obtain birth information with respect to all employees that may have access to a computer network.[5]

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[1] U.S. Dept. of Commerce, Office of Inspector General, "Bureau of Industry and Security, Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.," Rep. No. IPE-16176 (March 2004) (hereinafter "OIG Report").

[2] 70 Fed. Reg. at 15,608.

[3] OIG Rep. at 16.

[4] OIG Rep. at 16.

[5] Moreover, many countries have privacy laws that restrict the collection and dissemination of personal data. Because country of birth has not been required in the

Second, the change proposed by OIG does not take account of the difference in the subject matter of DTC and BIS regulations. The DTC regulations and policies apply to munitions and products with military applications. The BIS regulations apply more broadly to dual-use technology and technical information that have legitimate applications in the private sector.

Third, the OIG Report compares BIS policy to State Department requirements and suggests a new policy that is even more restrictive than the State Department policy. The State Department requires export licenses based upon "current" nationality.[6] That is, the State Department requires an export license when persons maintain dual citizenship and one of the countries is controlled. The State Department would require an export license in the hypothetical case if the Canadian citizen or permanent resident continued to maintain citizenship in Syria. A new BIS rule that country-of-birth triggers a deemed export on a per se basis would be even more stringent than the State Department policy.

The proposed policy change appears to rest upon a presumption that a person will maintain a lasting, permanent commitment or allegiance to his or her country of birth. Yet, it is the case that people leave such countries precisely because they reject the policies of the government or regime in control. Other persons may leave their country of birth as infants and develop allegiance to a new country based upon a lifetime spent in that country. In this regard, it may be noted that there are no restrictions or licensing requirements with respect to U.S. citizens.[7] BIS policy with respect to naturalized U.S. citizens or permanent residents reflects an implicit assumption that foreign-born persons who become U.S. citizens change their allegiance. The same presumption should apply in the case of foreign-born nationals that have rejected citizenship in their birth country.

Finally, it should be noted that Article XVII of the General Agreement on Trade in Services (GATS) requires "National Treatment" with respect to the provision of services by a "natural person" of any other GATS Member.[8] Although the General

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past, collection of such data will very likely implicate laws such as Canada's Personal Information Protection and Electronic Documents Act or the European Union's Privacy Directive. At least, such laws may require private companies to seek consent from their employees to obtain and disclose the country of birth.

[6] OIG Rep. at 16.

[7] Nor are such requirements imposed on naturalized U.S. citizens, regardless of their country of birth. See OIG Rep. at 17.

[8] Trade in services is defined to include the supply of services by "natural persons" of one Member country that are present in another country. GATS, Art. I.2.d.

Exceptions in Article XIV and the security exceptions in Article XIVbis arguably exempt the Deemed Export policies from Article XVII of the GATS, the spirit of the international agreement contemplates that foreign citizens or permanent residents would receive no less favorable treatment than U.S. citizens or permanent residents.

To address more precisely the risk presented, any change in the regulations should be limited to persons with multiple current nationalities or should be otherwise administered so that mere birth does not trigger a license requirement. In the BIS memorandum responding to the draft OIG report, BIS stated that the current approach recognizes that "the most recent country of citizenship reflects the traditional understanding that citizenship denotes a substantial personal connection to a given country."[9] Without more, the mere fact that a foreign national was born in a country that is EAR-controlled should not eliminate this presumption.

In conclusion, the OIG recommendations concerning the birth country of foreign nationals should not be adopted wholesale, but should be balanced against the burden on industry and the longstanding prior practice. Otherwise, CITBA appreciates the opportunity to comment on the issue and the appropriate response.

Respectfully submitted,

Melvin S. Schwechter
President
James R. Cannon, Jr.,
Chairman, International Trade Committee

Article XXVIII(k) defines "natural person" to include "a natural person who resides in the territory of that other Member or any other Member, and who under the law of that other Member: (i) is a national of that other Member; or (ii) has the right of permanent residence in that other Member ...."

[9] Memorandum for Jill Gross, Office of Inspector General, dated March 17, 2004 (OIG Rep. Appendix C) at 2.

From: "Melchers, Keith" <keith.melchers@hp.com>
To: <publiccomments@bis.doc.gov>
Date: Friday, June 24, 2005 4:58 PM
Subject: RPTAC Comments on RIN 0694-AD29: Revision and Clarification of Deemed Export Related Regulatory

Sharron,

Attached is the RPTAC response on RIN 0694-AD29: Revision and Clarification of Deemed Export Related Regulatory Requirements.

Best Regards,
Keith

REGULATIONS AND PROCEDURES TECHNICAL ADVISORY COMMITTEE

June 24, 2005

Ms. Sharron Cook
Regulatory Policy Division
Bureau of Industry and Security
U.S. Department of Commerce
14th Street and Constitution Ave., NW
Room 2705
Washington, DC 20230

RE: RIN 0694-AD29 - Revision and Clarification of Deemed Export Related Regulatory Requirements

Dear Ms. Cook:

The RPTAC appreciates the opportunity to respond to the advance notice of proposed rulemaking on deemed export regulatory requirements. We also note with appreciation that BIS issued this rule as an advance notice, since the potential impact on industry and the academic community is significant.

The RPTAC has consistently argued that the 1994 "deemed export rule" should be rescinded and BIS should instead revert to the pre-1994 rule and General Prohibition 10 to control technical data transfers only in instances where the transferring entity has "knowledge" that the recipient will export the data. All enforcement cases involving deemed exports to date could have been made using Prohibition 10, and that rule is not dependent on the nationality of the recipient, nor does it have the First Amendment shortcomings of the deemed export rule.

Short of a restoration of pre-1994 rule, the RPTAC has advocated a License Exception or similar comprehensive licensing vehicle to facilitate the transfer of technical data within the business enterprise without the need for individual "deemed export" licenses. This is based on the RPTAC's strong belief that companies---as a matter of commercial necessity--- maintain stringent and effective controls to ensure their proprietary technology is not stolen. The RPTAC believes the current deemed export licensing system is of little national security value for the following reasons:

- The 1994 deemed export rule was not established due to any compelling national security requirement. It was an attempt to provide a few exporters who were uncomfortable implementing the "knowledge" standard with a "bright line" to determine when export licenses are required. Unfortunately, it was created without any analysis of its impact.
- Most foreign national employees never return to their home countries.
- The Government approves 99.9% of all deemed export license applications.

- The deemed export licensing system has never been a priority for US intelligence agencies. They appear to view it as not worth their limited resources.
- No evidence has been given suggesting foreign national employees are being uniquely targeted by foreign governments to illegally acquire controlled technologies, or that such individuals are more likely than other individuals to be involved in such efforts.
- No evidence has been given suggesting the deemed export licensing system has contributed to uncovering diversion networks or identifying individuals who contribute to such networks.

That said, the RPTAC welcomes the opportunity to discuss ways in which the national security value of the rule can be enhanced. The OIG has made three proposals to modify the current deemed export rule. The RPTAC believes these changes will do little to enhance the national security value of the rule.

1. **Country of Birth Proposal:**

The OIG recommended deemed export licenses be required for foreign national employees or visitors based on the individual's *country of birth* instead of the individual's most recent *citizenship* or *permanent residency*. The RPTAC believes this change will not enhance national security and will be impossible to implement from a practical and legal standpoint.

From a national security standpoint, the change will eliminate licensing requirements for many foreign nationals currently subject to restrictions. For example, (141) out of (184) countries currently determine nationality based on the parents' nationality. In the United Arab Emirates (UAE) alone, there are large numbers of persons born in the UAE to Syrian and Iranian parents. These individuals are currently treated as Syrian and Iranian nationals by the UAE, but would be treated as UAE nationals for purposes of the deemed export rule under the proposed guidelines. The change would effectively eliminate licensing requirements for those individuals. On the other hand, licenses would be required for many refugees from the oppressive regimes targeted by US regulations. The unintended consequence of this change could be a liberalization of controls on certain nationals of targeted regimes, and a tightening of controls on refugees fleeing those same regimes. It is also worth noting that no evidence has been given suggesting that birth, an event at least twenty years old in all meaningful cases, is more indicative of the likelihood of diversion of technology than the more recent adoption of residency or citizenship in a country.

The change also poses significant problems from a practical and legal standpoint. In many countries, it is illegal to request, retain, or discriminate against individuals based on country of birth. In addition, while citizenship and permanent residence can typically be verified based on passport and visa information, reliable information on country of birth is more difficult to document, increasing the risk of fraud. Finally, unless current employees are exempted from the rule, companies could be forced to re-screen tens of thousands of current employees to determine if they are subject to licensing requirements

under the new rule. Because country of birth information is not currently recorded, it is impossible to do any meaningful statistical estimate as to how many additional license applications would be required as a result of this change.

At the NAS-sponsored meeting on this subject, and in e-mail messages in response to RPTAC questions, BIS clarified that the country of birth proposal was not intended to apply to technology transfers to foreign born US citizens residing in the United States, or to US "green card" holders. While the RPTAC appreciates and strongly supports the decision not to discriminate against foreign born US citizens and "green card" holders based on country of birth, we note that it violates national treatment principles to treat citizens and permanent residents of other countries differently than citizens and permanent residents of the United States.

Note: BIS has suggested that instead of country of birth BIS might consider basing licensing requirements on country of citizenship. This suggestion would discriminate against permanent residents, who are currently subject to the same rules as citizens. The RPTAC notes that this approach poses the same practical and legal issues as country of birth and would be difficult if not impossible to enforce. Moreover, this approach also violates national treatment principles, since US permanent residents would be treated more favorably than permanent residents of other countries, including countries closely allied to the United States.

RPTAC Recommendation:

The RPTAC recommends the OIG proposal not be implemented. Consistent with its longstanding position, the RPTAC recommends the 1994 "deemed export rule" be rescinded and BIS instead revert to the pre-1994 rule and General Prohibition 10 to control technical data transfers only in instances where the transferring entity has "knowledge" that the recipient will export the data. To better address national security requirements, the RPTAC recommends BIS work with industry to develop a set of deemed export "red flags", the presence of which would constitute "knowledge" of an unacceptable risk that an unauthorized transfer of technical data might occur. Export licenses would be required whenever such "red flags" were present. In developing the "red flags" BIS should review the 1% of deemed export licenses applications that have been denied to determine if the reasons for denial can be translated into "red flag" indicators. The RPTAC believes a "red flag" approach would enhance the national security value of the deemed export rule without unduly burdening industry, academia, and government with thousands of export license applications (99% of which will ultimately be approved) and the even greater burden of screening tens of thousands of foreign nationals, the vast majority of which will not require licenses (a determination that can only be made after screening for nationality and the classification of the technology being transferred).

2. Definition of "Use" Technology

The OIG recommended that BIS revise the definition of "use" in 772.1 of the EAR to replace the word "and" with "or". The RPTAC has no problem with such a revision. However, this would not result, nor should it result, in what appears to be the OIG objective of imposing a requirement for a deemed export license before transferring technical data related to the "use" of controlled equipment in the conduct of fundamental research. Controls on technology are determined by the applicable technology item, not by the export control status of the equipment to which the technology is related. The RPTAC notes that most technology items limit what is controlled to that which is "required," as that word is used in the General Technology Note (GTN), *i.e.*, technical data "peculiarly responsible for achieving or exceeding controlled performance levels, characteristics or functions." The RPTAC believes there is no justification to control technology based on any looser relationship to controlled equipment. The only technology which a foreign person would normally require for the "use" of controlled equipment is how to operate that equipment. There may be occasions when the "overhaul and refurbishing" element of "use" would be "required," as that word is used in the GTN. But it is extremely unlikely that the "operation" element of "use" would ever be responsible in any way for achieving or exceeding the performance levels specified for control of the equipment.

Moreover, the OIG proposal demonstrates a lack of understanding of the deemed export rule by the OIG that has caused needless confusion to universities in particular. Access to equipment is not prohibited by the deemed export rule. There is no deemed export rule for hardware or object code software, only for source code and technology. See 15 C.F.R. § 734.2(b)(2). Accordingly, any "use" technology gained from viewing and operating without instruction a product that can be viewed by the public is in the public domain, and thus not subject to the EAR under 15 C.F.R. Part 734. Most other "use" technology, such as published manuals for controlled machines, tends to be in the public domain (e.g., are freely available on the internet, available in a library, or available to any interested user through other prescribed channels), and thus not subject to the EAR under Part 734.

Finally, even if there is a possibility that some very limited "use" technology is not in the public domain, and is controlled by an ECCN that would require a license to the home country of a foreign national, BIS policy since 1994 has been that License Exception TSU would authorize the export of the minimum necessary operations technology for the product. Again, there is no license requirement to provide a foreign national access to EAR-controlled equipment in the United States (i.e., no deemed export of hardware). Thus, basic operations and maintenance technology would be for "commodities or software that are lawfully exported or reexported under a license, a License Exception, or NLR [No License Required]." 15 C.F.R. § 740.13 (a). While it might be argued that TSU should not apply because there is no export or reexport upon which the TSU License Exception can rely, such an interpretation would make little sense. The logic and policy behind this TSU provision (which existed long before the deemed export rule) is that if the item can be accessed, the minimum necessary technology to operate the item should be accessible. That applies in the United States as well as outside the United States. To follow a more restrictive reading of this regulation would mean that, for

example, if a license exception authorized export of the item to India, then related operations technology could accompany it and be received by Indian nationals there, while the same technology could not be given to an Indian national employed to operate the same machine in the United States. Obviously, this wouldn't make sense.

Most companies have built compliance programs around the BIS long-standing policy that TSU would apply to deemed exports of basic operations technology, so have not attempted to classify technology related to basic operations and maintenance of equipment that employees use but do not design or develop. To do otherwise would be to create an administrative nightmare of work, that we believe in the end would still control virtually no technology.

RPTAC Recommendation:

The RPTAC recommends the term "operation" be removed from the definition of "use"; "according to the General Technology Note" be added to all technology ECCNs not now including that phrase; and a Q and A be added to the EAR to explain the significance of the word "required" which appears in the GTN. This would clarify that licenses are not required for standard product operations manuals. Controls would instead focus on technical data to install, maintain, repair, overhaul, or refurbish equipment which is "required" to achieve the technical characteristics of the equipment which form the basis for its control. This is the only documented national security justification for technology export controls.

3. Clarification of Supplemental Q&A's on Government Sponsored Research and Fundamental Research

In response to the OIG report, BIS proposes to modify the answer to question D[1] to require a license if, in conducting fundamental research, a foreign graduate student needs access to technology to "use" equipment if the export of the equipment to the student's home country would require a license under the EAR. The EAR now imposes no license requirement for a deemed export of equipment. Moreover, a license requirement to transfer "use" technology would be dependent upon the conditions of the applicable technology ECCN and not upon the conditions of the ECCN governing the equipment export to the foreign national's home country. For example, there is no Wassenaar "use" technology license requirement for seven of ten categories of Wassenaar-controlled commodities and operation technology is excluded from an eighth category. For those few Wassenaar technology ECCNs which cover "use" technology, control is limited to "according to the General Technology Note." Under this Note, there is no license requirement unless the technology is "required," as that word is defined above. It would be most unusual for a graduate student to have need for, or be given, technology which is "peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions" of the laboratory equipment. Indeed, it is virtually inconceivable that the operation portion of "use" technology, which is all that most graduate students would need in order to use lab equipment, would meet the "required" definition.

RPTAC Recommendation:

As discussed in item (2) above, the RPTAC recommends the term "operation" be removed from the definition of "use". This would clarify that licenses are not required for technology which is not responsible for achieving controlled performance levels (e.g., standard product operations manuals). Controls would instead focus on technical data to install, maintain, repair, overhaul, or refurbish equipment which is "required" to achieve the technical characteristics of the equipment which form the basis for its control. In most cases foreign nationals conducting fundamental research would have no need for such technology.

Question A(4) postulates a government contract requiring pre-publication review and asks whether that makes a difference under the Export Administration Regulations. The answer now given is "No." The OIG stated that, according to 734.11, if research is funded by the U.S. government and national security controls are in place to protect any resulting information, the research is subject to the EAR. The notice records BIS concurrence with the OIG opinion. BIS proposes to modify the answer to Question A(4) to state that, if the government sponsor reviewer imposed restrictions on publication of the research, then the technology would continue to be subject to the EAR.

OIG and BIS views recorded in the Federal Register notice are inconsistent with existing regulation 734.11. In 734.11(a), after indicating that the "not subject to the EAR" provision does not permit export in violation of specific national security controls on U.S. Government-funded research, the current regulation states:

> However, any export or reexport of information resulting from the research that is consistent with the specific controls may nonetheless be made under this provision.

Thus, the existing regulation negates "not subject to the EAR" only to the extent that the sponsoring agency actually withholds information from publication. Moreover, deemed export restrictions apply to what the U.S. person releases to a foreign person rather than to the results of the foreign person's work thereafter. Research desired by the Government is often dependent upon inputs from the foreign national rather than from the deemed exporter. Consider the case of Werner Von Braun working in a U.S. university laboratory under a government contract to develop missile technology. The director of the laboratory would have been familiar only with the fundamental research heretofore conducted in that laboratory. No deemed export license would have been required for the lab director to arrange for Von Braun to begin his work, because fundamental research is not subject to the EAR. On the other hand, the government would undoubtedly wish to withhold permission for publication of some of the missile technology which was the expected result of Von Braun's work.

RPTAC Recommendation

RPTAC recommends addition to the EAR of a Q and A explaining that the above quoted sentence from 734.11(a) means that an agency's stated right to withhold permission for publication removes from "not subject to the EAR" only what is eventually actually withheld and, in any event, such a stated right is not relevant to whether a deemed export license is required for a U.S. person to transfer technology to a foreign person.

4. Proprietary Information

At a May 6, 2005, meeting, sponsored by the National Academy of Sciences, representatives from academia expressed the desire for clarification that only proprietary technology required a license. Existing regulation 734.7(b) was intended to remove non-proprietary technology from export controls. 734.7(b) states:

> Software and information is published when it is available for general distribution either for free or at a price that does not exceed the cost of reproduction and distribution.

RPTAC Recommendation

RPTAC recommends addition to the EAR of a Q and A explaining that the above quoted sentence from 734.7(b) means that a license is not required for such non-proprietary technology.

Finally, the RPTAC wishes to point out that the most celebrated "deemed export" case to date involving release of technology to foreign nationals in the United States, Suntek transferred to Chinese nationals technology related to equipment which Suntek shipped to China. The equipment shipment made it obvious that Suntek knew that the technology would in fact be transferred to China. Therefore, assuming the technology required a license for export to China, this would clearly violate General Prohibition Ten (also described as a violation in 15 CFR 764.2.e). Thus, the deemed export rule, which appears elsewhere in the regulations, was superfluous in this case.

Thank you for your consideration of these comments. If you have additional questions, please contact me at 202-378-2517.

Sincerely,

Keith Melchers
RPTAC Chairperson

CC: RPTAC members; Matthew Borman; Eileen Albanese; Hillary Hess; Yvette Springer

From: "Alexander, Mary" <AlexanderMa@us.panasonic.com>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 28, 2005 10:11 AM
Subject: RIN 0694-AD29

Attached are comments from Panasonic R&D Company of America regarding proposed revisions of deemed export related regulatory requirements. We hope you will be able to accept them.

Mary K. Alexander
Group Manager
Office of Government & Public Affairs
Panasonic Corporation of North America
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Phone: (202) 912-3800, Ext. 105
Fax: (202) 912-3810
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June 27, 2005

Regulatory Policy Division
Bureau of Industry and Security
U.S. Department of Commerce
Room 2705
14th and Pennsylvania Avenue, N.W.
Washington, D.C. 20230

ATTENTION: RIN 0694-AD29

Dear Sir or Madam:

I am writing on behalf of Panasonic R&D Company of America (PRDCA), the engineering and technology division of Panasonic Corporation of North America, in response to the May 27th Federal Register notice regarding proposed revisions to deemed export licensing practices. Specifically, one proposal of the Bureau of Industry and Security, as recommended by the Office of Inspector General, would change the deemed export licensing requirements to be based on a foreign national's country or birth, rather than the current residency requirement. While PRDCA understands this proposal is intended to enhance national security interests, which we support in principle, nevertheless, we believe that this change is not advisable.

Panasonic Corporation of North America markets a broad line of digital and other electronics products for consumer, business and industrial use. The company is the principal North American subsidiary of Matsushita Electric Industrial Co., Ltd. of Japan (MEI), and the hub of Panasonic's U.S. marketing, sales, service and R&D operations. MEI is a multinational corporation with operations in over 56 countries. While MEI's engineering headquarters is centered in Osaka, Japan, the company also has 15 major research centers worldwide, including in the United States.

PRDCA has 135 Panasonic employees working in twelve research and development centers across the country, from California's Silicon Valley to Video Valley in New Jersey and the high tech corridor in Massachusetts. Of these employees, we know that 38 are in the U.S. under various visa programs and 24 are permanent resident card holders.

Each one of our twelve laboratories employs 10 to 15 engineers and other staff, all working on a collaborative basis and engaging in technology transfer within the Panasonic group rather than applied research geared toward the sale of products. Those who are not U.S. citizens either are green-card holders or are in the U.S. on a valid worker or student visa. We often also have engineers from our parent company in Japan

who come to our U.S. labs to do research on their own and to obtain technology information from our U.S.-based engineers.

Because of Panasonic's dominance in audio video technologies and the strength of the U.S. A/V market, the work in our laboratories reflects the future trends of the electronics industry. Our projects include digital networking of consumer products in the home and the development of new plasma television technologies, content protection technologies, and material processes, such as 'ultrafast' micro-optic laser technology for blu-ray technology, the next generation of DVDs. Unfortunately, these same technologies developed in our laboratories, often are also considered dual-use technologies, and, thus, are subject to export controls. Laser technology, used in advanced weapons systems, also is the basis for past, current and future audio technologies, and is used in the manufacture of CDs, DVDs and the next generation of blu-ray disks. Optics, also a controlled technology, is used for optical storage or imaging devices in our most advanced printers, copiers and DVD-RAM data storage devices. Encryption technology, used to protect advanced weapons systems and in electronic surveillance, also is used to protect the software content of the recording and motion picture industries. Panasonic is a leader in the development of such copyright protection technologies.

With the nature or our work, the global nature of our industry, and the global knowledge economy, Panasonic's labs in the U.S. are very aware of export control regulations. To be in compliance, we already face a substantial administrative burden that is challenging for the small high tech research labs such as those Panasonic maintains in the U.S.

Further, delaying a project until we have legally determined the country of birth of our current employees plus any new hires would have serious repercussions on our work. For a multinational corporation, this increased administrative burden, plus the added risk of an inadvertent lapse in the more complex compliance requirements, may diminish the usefulness of doing research in the United States.

In addition, we have serious concerns about seeking information regarding a future employee's country of birth. Panasonic is an equal opportunity employer, committed to maintaining a work environment free of any form of discrimination, including by nationality. Therefore, we advise our managers to be sensitive to privacy in the workplace and be educated on what information can and cannot be requested from a potential employee. U.S. law prohibits employers from asking questions regarding a potential employee's nationality or place of birth. In fact, U.S. law also prohibits asking about a potential employee's immigration status. It only allows employers to ask whether a potential employee can legally seek work in the U.S.

The primary argument that we at PRDCA make for continued corporate investment in our U.S. labs is the fact that it is easier for us to attract top quality engineers from all over the world (China, India, Eastern Europe, the EU, Australia) to work here in the U.S. compared to Japan. If we lose this advantage, we fear that the

balance could shift, forcing Panasonic to move more of its R&D operations to other western countries, such as the U.K. or Germany, that are more attractive to foreign researchers – especially with the growing perception that the U.S. is not open to many foreigners. If these trends and considerations continue, they could have a significant impact on the U.S. competitiveness in information technology and the future of U.S. technological leadership.

I appreciate the opportunity to comment on these proposed new deemed export licensing requirements. If you have any questions regarding Panasonic and its U.S. R&D and engineering operations, please feel free to contact Jim French, Executive Vice President for Operations, at 408-861-3970 or e-mail at frenchj@research.panasonic.com.

Sincerely,

Paul Liao

Paul Liao
President, Panasonic R&D Company of North America and Chief Technology Officer, Panasonic Corporation of North America

Panasonic R&D Company of America
550 South Winchester Boulevard
San Jose, CA 95128

From: "Robert D. Mawhinney" <rdm@physics.columbia.edu>
To: <publiccomments@bis.doc.gov>
Date: Tue, Jun 28, 2005 2:57 PM
Subject: RIN 0694-AD29

U.S Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue, N.W., Room 2705
Washington, D.C. 20230

Ladies and Gentlemen:

I am writing to express my concern about the proposed rulemaking for Revision and Clarification of Deemed Export Related Regulatory Requirements. From what I understand to be the intended outcome of these new rules (limitations on access to equipment and knowledge based on a person's country of origin), I am gravely concerned about both the possibility of such tracking and the effect that will have on one of our nation's greatest assets: its research in science and technology.

Science and technology has been a major economic driver in this country and has given our country pre-eminence in many fields. Cutting edge research can only flourish in an open environment with the free exchange of ideas. US research programs in many areas (like physics, where I work) have relied extensively on talented foreign nationals for many years. The proposed export regulations could cripple our ability to do forefront research, which would be very detrimental to US technology strength in the future.

I urge you not to adopt these revisions.

Sincerely,

Robert D. Mawhinney
Associate Professor of Physics
Columbia University

University of Colorado at Colorado Springs

Office of the Chancellor

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719-262-3436
Fax: 719-262-3656

June 28, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Ave. NW, Room 2705
Washington, D.C. 20230

ATTN: RIN 0694-AD29

In response to the March 28, 2005 Advanced Notice of Proposed Rulemaking, the University of Colorado at Colorado Springs would like to address our serious concerns with the Department of Commerce's Report. We realize the importance of protecting sensitive technology. But we feel the current rules and regulations of the Department of Commerce and the Department of State already do an exceptional job in doing so. A change in the rules respecting the "fundamental research" exception will have dire consequences on our ability as a university to do the needed research to help keep our economy strong.

The University of Colorado at Colorado Springs is a comprehensive regional university that has selected Masters and PhD programs. Many of these are solidly in the disciplines most affected by the proposed rule changes. In our Engineering and Applied Science College alone, we annually have at least 70 foreign national graduate students. We estimate that each of them will have access to at least six pieces of sensitive equipment and software packages. That is 420 licenses for just one college for one year. We have 3 other colleges that will have similar numbers. Today each license takes nearly four months to process. If the rule changes go into effect, this time for license approval will undoubtedly increase to two years or more. And we are a relatively small university – what happens when the thousands of other small, medium, and large universities must also apply for tens of thousands of these licenses?

The tangible administrative and financial burdens on an already stretched university system will be overwhelming. We have neither the staff nor the administrative infrastructure to handle the requirements of the new rule changes. We honestly feel that the current system is more than adequate for the purpose of protecting our sensitive technology.

Sincerely,

Pam Shockley-Zalabak

Pam Shockley-Zalabak
Chancellor

From: <Donellison@aol.com>
To: <PublicComments@BIS.doc.gov>
Date: Thu, Jun 30, 2005 2:02 PM
Subject: RIN 0694-AD29 Deemed Exports

Please accept my comments on the Advanced notice of proposed rulemaking: Revision and Clarification of Deemed Export Related Regulatory Requirements (Federal Register, Vol. 70, No. 58, pp 15607-9). The attachment is in a MS Word format.

CC: <scook@bis.doc.gov>

Government Relations, LLC
Rolling Valley Professional Center
9259 Old Keene Mill Road
Burke, VA 22015-4202
703-644-4557

June 27, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division, Room 2705
14th & Pennsylvania Avenue, NW
Washington, DC 20230

Subject: RIN 0694-AD29

Dear Regulatory Policy Division:

In response to your Federal Register Advanced Notice of Proposed Rulemaking dated March 28, 2005, I would like to make a few comments:

1) I have a U.S. Department of Commerce security clearance, yet I would, potentially, have to obtain a deemed export license to meet your proposed rulemaking;

2) I work with Canadian companies. I may have to terminate my relationship with them because this proposed rulemaking will require the Canadian companies to decide whether they will violate their Canadian laws to provide me the information that I would need to use in order to determine if I need to submit a deemed export license;

3) How do I explain that the U.S. and Canadian Governments have worked hard to establish The Hyde Park Declaration of 1941 and the North American Free Trade Agreement, yet this proposed rulemaking will further establish "red tape" that these two agreements have tried to reduce barriers between our two countries;

4) Why do we not recognize the benefits of sovereign laws like the Canadian Controlled Goods Act;

5) I have a hard time identifying counterfeit U.S. currency, even though I use U.S. currency daily. This proposed rulemaking would require me to recognize counterfeit foreign birth certificates, passports, and other "legal" documents.

6) Furthermore, how does this proposed rulemaking expect me to read Farsi, Russian, Greek, and many other languages;

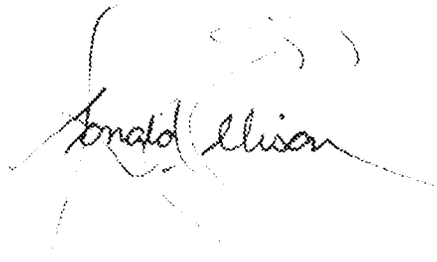
7) Please consider the inflexibility and insensitivity of labeling a person that was born in one country, tortured there, fled the dictatorship, received political asylum, and demonstrated their loyalty to their new homeland. According to this proposed rulemaking the person's birthplace is more important than their new citizenship. This screening mechanism provides a multitude of false positives and does more harm than necessary. There are other methods that would not exclude so many useful people based solely on their country of birth. Country of birth is not strongly correlated to the people that should be blocked from handling U.S. items. This is a quick fix that harms the United States of America;

8) If a controlled item is embedded in equipment that is shipped because of the de minimums rules, then who will inspect and label the equipment, and the controlled item? How does this rulemaking do a better job than current regulations at enforcing itself and preventing the improper "use" of the controlled item;

9) Who pays for the flood of export licenses that we will have to be submitted to protect ourselves from potential violating this proposed rulemaking; and

10) Please recognize that it is in the self-interest of individuals, companies, and universities to guard their proprietary interests plus establish and maintain an effective export control management system. Government and market mechanisms already in place provide motivation for maintaining reasonable control over issues and commodities covered in this proposed rulemaking. The Inspector General Report should not require new and excessive measure.

Sincerely,



Donald E. Ellison

From: Patryk Soika <patryk@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 6/30/2005 1:02:43 PM
Subject: RIN 0694-AD29

Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security:

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities. University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security. I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.
--

Patryk Soika -- 814.865.5707 -- patryk@psu.edu
313 / 2217 Earth & Eng. Sci. Bldg.
University Park, PA 16802-6813
"Sure, the rich are getting richer and the poor are getting poorer. But the great untold story is that the people in the exact middle are becoming a whole lot middler, too."
"I realize that, historically, phrases like 'massive redistribution of wealth' are usually accompanied by rivers of blood. That said, it's about time for a massive redistribution of wealth."

From: " Kultegin Aydin" <k-aydin@psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 06/30/05 09:49AM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security
FROM: Kultegin Aydin
SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

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Subject: Filing RIN 0694-AD29

Mr. Cohen:

Attached is our comment to the ANPRM entitled Revision and Clarification
of Deemed Export Related Regulatory Requirements. Thank you for your help with this matter.

Best regards,
Mark

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BEFORE
THE BUREAU OF INDUSTRY AND SECURITY
U.S. DEPARTMENT OF COMMERCE

COMMENTS ON THE PROPOSED REVISION AND CLARIFICATION OF DEEMED EXPORT RELATED REGULATORY REQUIREMENTS

DOCKET No. 050316075-5075-01
RIN 0694-AD29

BY:

PIERSON & RITTERPUSCH, LLP
On Behalf Of Its Clients:

MTU AERO ENGINES NORTH AMERICA, Inc.;

EADS NORTH AMERICA, Inc.;

WHITE ELECTRONIC DESIGNS CORPORATION; and

NTK TECHNOLOGIES, Inc.

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COMMENTS ON THE PROPOSED REVISION AND CLARIFICATION OF DEEMED EXPORT RELATED REGULATORY REQUIREMENTS

On March 31, 2004, the Bureau of Industry and Security ("BIS") received recommendations from the U.S. Department of Commerce Office of Inspector General ("OIG") regarding the revision and clarification of regulations and requirements related to deemed exports. The recommendations were set forth in a report entitled, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S." (Final Inspection Report No. IPE-16176-March 2004). In furtherance of the OIG's report, BIS has proposed a series of rules which would affect the existing requirements and policies for deemed export licenses.

Pierson & Ritterpusch, LLP, on behalf of itself and its clients: (1) MTU Aero Engines North America, Inc. ("MTU"); (2) EADS North America, Inc. ("EADS NA"); (3) White Electronic Designs Corporation ("WEDC"); and (4) NTK Technologies, Inc. ("NTK"), submits these comments in response to the Advanced Notice of Proposed Rulemaking ("ANPRM") published by BIS in the Federal Register on March 28, 2005, inviting public comment on the proposed rulemaking. MTU, EADS NA, WEDC, and NTK (hereinafter, collectively "we") oppose the rule change, as proposed, because the proposed rule change will result in significant financial cost to us (which we note will spread across the entire high-technology sector in the United States) and the financial cost to industry will be substantially greater than any potential benefit that may result from the proposed rule changes.

I. Executive Summary

In this age of increased international business and international interdependence it has become clear that American businesses need the ability to employ persons of various nationalities and with various skill sets (including the ability to speak multiple foreign languages) in order to compete in the global marketplace. With multinational development projects and global customer bases, it is vital for American firms in the high-technology sector to be able to hire foreign nationals in a straightforward process that is not overly burdensome.

The rules that have been proposed by BIS are not straightforward. Furthermore, the proposed rules significantly alter the existing regulatory framework in a way that makes the ability to hire foreign nationals for certain high-technology positions particularly difficult. In the current marketplace, there is not a sufficient number of skilled workers in the United States to fulfill the various technical requirements of the U.S. high-technology industry. The pool of skilled workers in the United States that industry can hire freely to work on high-tech projects would be significantly reduced if the proposed rules are implemented.

Of course we support the need to protect vital national security interests of the United States, which is the stated goal of the ANPRM and the underlying OIG report. However, we fear that the proposed rule changes will put U.S. industry at a competitive disadvantage to foreign firms with whom we compete in the global marketplace. Moreover, we believe that the proposed rules are over-reaching, regulating more than is necessary to protect U.S. national security interests.

II. BACKGROUND

A. The Current Deemed Export Rules under the EAR

The U.S. Department of Commerce, Bureau of Industry and Security regulates the licensing of deemed exports. A "deemed export" is the "release"[1] in the United States of technology or source code subject to the Export Administration Regulations ("EAR") to a foreign national. See, Section 734.2(b)(2)(ii) of the EAR. A release of "technology"[2] is "deemed" to be an export to the home country of the foreign national. In addition, the current rules state that a foreign national is subject to the "deemed export" rule, *unless* the foreign national (1) is granted permanent residence, as demonstrated by the issuance of a permanent resident visa (i.e., "Green Card"); or (2) is granted U.S. citizenship; or (3) is granted status as a "protected person" under 8 U.S.C. 1324b(a)(3). See, Section 734.2(b)(2)(ii).

Per BIS "deemed export" guidelines, generally, U.S. entities must apply for an export license under the deemed export rule when both of the following conditions are met: (1) they intend to transfer controlled technologies to foreign nationals in the United States and (2) the transfer of the controlled technologies to the foreign national's home country would require an export license.

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[1] "Release" is defined in Section 734.2(b)(3) of the EAR as: "(i) Visual inspection by foreign nationals of U.S.-origin equipment and facilities; (ii) Oral exchanges of information in the United States or abroad; or (iii) The application to situations abroad of personal knowledge or technical experience acquired in the United States."

[2] "Technology" is defined in Part 772 of the EAR as specific information necessary for the "development," "production," or "use" of a product. The information takes the form of "technical data" or "technical assistance".

Controlled "technology" is defined in the General Technology Note (Supplement No. 1 to part 774 of the EAR), which states in pertinent part that the "export of technology is controlled according to the provisions of each Category." The General Technology Note further provides that "technology required for the development, production, or use of a controlled product remains controlled even when applicable to a product controlled at a lower level."

B. The Changes Proposed in BIS' March 28, 2005 Notice

In the March 28, 2005 ANPRM, BIS has proposed to amend its "deemed export rules" through: (1) the extension of the definition of "use" technology subject to the EAR; (2) the expansion of the definition of a foreign national's country of origin, to include the foreign nationals' country of birth and the foreign national's prior citizenship (if any); and (3) the modification of the regulatory guidance on the licensing of technology to foreign nationals working with government-sponsored research and research conducted in universities.

Of the three proposed rule changes, we believe that rule changes (1) and (2), above, will have the greatest impact upon our business affairs (and will spread across all sectors of the high-technology industry in the United States). As a result, within these comments, we have elected to restrict our discussion to the effects of proposed rule changes (1) and (2), above.

In particular, within rule change (1), BIS has proposed to expand the scope of the definition of "Use" under the EAR to the following:

> All aspects of 'use,' such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, or refurbishing.

In rule change (2), BIS has proposed to expand the definition of a foreign national's country of origin (i.e., country of destination for the purpose of determining whether the deemed export requires a license). Proposed rule change (2), if issued by BIS would require U.S. entities to apply for deemed export licenses for foreign nationals who have access to dual-use controlled technologies at their facilities, based on: (1) the country were the foreign national was born; (2) any country that the foreign national has ever been a citizen of; and (3) the foreign national's current country of permanent residence.

C. **General Effects of the Proposed Rule Changes**

In Fiscal Year ("FY") 2004, BIS reviewed 15,534 license applications covering transactions valued at approximately $15.3 billion. Overall, BIS approved 13,058 license applications worth $13.8 billion, returned 2,181 applications worth $1.3 billion without action, denied 272 applications worth $162 million, and revoked 23 licenses worth $154,532,454. In FY 2004, BIS reviewed 2101 more licenses than in FY 2003, approximately a 16% increase.

Of the 15,534 licenses received in FY 2004, 995, or approximately 6.5% were for deemed exports, an increase of almost 20% over FY 2003.[3] Along with the increase in the number of deemed exports that were filed between FY 2003 and FY 2004, we note that we fully expect that the number of filed deemed export license will increase even more from FY 2004 to FY 2005, in light of the ever-increasing security controls that have been implemented within the high-technology sector in the United States and the growing need for American firms to employ non-U.S. nationals. In addition, we note that it has been our experience over the past year that it takes BIS between sixty (60) and seventy-five (75) days to complete its review of new, deemed export license applications.

We believe that the rules, as proposed, will considerably increase the scope of applications that come before BIS. In turn, license applications requiring review by BIS will substantially increase, thereby increasing review times, culminating in considerable burdens on U.S. industry's ability to employ appropriate personnel for its time-sensitive projects. The increased time for license disposition, which would clearly result from the promulgation of the ANPRM as currently proposed, would lead to significant business inefficiencies, resulting in

[3] Bureau of Industry and Security Fiscal Year 2004 Annual Report.

losses of time and money, and, quite possibly, the loss of business to foreign competitors in the high-technology sector.

II. Extension of the Definition of "Use" Technology under the March 28, 2005 ANPRM

Section 772.1 of the EAR currently defines "Use" of a technology as:

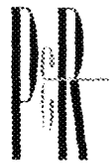
> Operation, installation (including on-site installation), maintenance (checking), repair, overhaul, and refurbishing.

BIS proposes to expand the scope of the definition of "Use" to the following:

> All aspects of 'use,' such as: operation, installation (including on-site installation), maintenance (checking), repair, overhaul, or refurbishing.

The ostensible rationale for the proposed rule change is to construct a disjunctive rather than a conjunctive definition in order to repudiate the interpretation by a substantial percentage of industry in the U.S. that all of the listed activities must be undertaken for "use" technology to be transferred.

The proposed extension of the definition of "use" is exceedingly overbroad. First, OIG concluded and BIS purports to adopt the conclusion that the inclusion of the word "and" in the definition of "use" is necessary to provide a full range of use for an export of a commodity, but that such "use" did not apply to deemed exports. Moreover, OIG concluded, and BIS purports to adopt the conclusion that it would be unlikely that one individual would have the responsibility or capability of accomplishing all of the enumerated tasks that together constitute "use" under the current definition. OIG and BIS are concerned with the transmittal of use or other information or instruction constituting "technology" when equipment is used by foreign nationals. As such, BIS' proposed rule would cover a foreign national's "operation" of a



controlled commodity, even if there is no release of design, engineering or functionality technology or know-how to the foreign national.

With "technology" being defined under Part 774 of the EAR as "specific information necessary for the development, production, or use of a specific product", it would follow that through the expansion of the definition of "use" under the EAR, BIS's proposed rule, as presently constructed, would require industry to file deemed export licenses for a very large number of foreign nationals working in the U.S. who operate machinery or other controlled commodities.

The rule, as proposed, will require U.S. firms to even apply for deemed export licenses for employees who simply operate machinery or other equipment controlled for export under the EAR, but: (1) who never receive any actual technical information about the commodities being manufactured or repaired through their operation of the controlled machinery and (2) who do not understand what makes the equipment they operate work. In other words, BIS's proposed rule change will result in BIS's licensing of deemed exports to foreign nationals, even when there is no true technology being transferred to the foreign national—since the mere operation of a controlled product does not in every instance release the requisite controlled *technology* under the EAR.

We believe that if the proposed rule changes are adopted, the number of applications that BIS would be required to process each year would be vastly expanded, thereby delaying the review and ultimate disposition of all export applications. In addition, we believe that a large number of foreign nationals presently working in the United States would be forced to immediately cease their activities and remain idle pending the approval of licenses for the

foreign nationals to operate certain controlled commodities. This would result in work stoppages across the entire high-technology sector. Customers affected by these stoppages will likely have very little recourse against the suppliers because most contracts provide excuses for timely performance of milestones in the event of changes in regulatory regime. This could very well force U.S. companies to shift their procurement of high-tech components to foreign suppliers, who do not need to deal with overly-burdensome foreign national hiring issues.

Finally, we understand that it is the intent of OIG and BIS to protect U.S. national security. However, we believe that the means that they have chosen extends beyond the scope of their intent and will negatively impact U.S. industry.

III. Extension of the Definition of a Foreign National's Country of Origin under the March 28, 2005 ANPRM

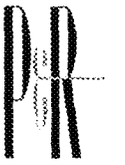
Current BIS deemed export license requirements are based on a foreign national's most recent citizenship or permanent residency. OIG has recommended and BIS has proposed the modification of the existing rule to require U.S. entities to apply for deemed export licenses for employees or visitors who are foreign nationals, who have access to dual-use controlled technologies at their facilities, and who were born in a country where the technology transfer in question is EAR-controlled. These licenses would need to be applied for regardless of the foreign national's most recent citizenship or permanent resident status. We believe that the proposed modification, as presently constructed, is overbroad.

Additionally, we believe, based on the OIG report and the ANPRM, that the proposal to expand the definition of "foreign person" under the EAR is ambiguous. In our opinion, the OIG recommendation and the BIS ANPRM could be read to require deemed export licenses for transfer of technology to U.S. permanent residents (i.e., "green card" holders) who retain

citizenship in countries to which the transfer of pertinent technology is export restricted, considering that U.S. permanent residents retain their citizenship status and hold passports from the countries from which they emigrated. As such, under the proposed change to the rules, it would appear that U.S. permanent residents would be considered foreign nationals. We do not believe that either OIG or BIS intended for the EAR to strip U.S. permanent residents of an essential privilege of their permanent residency. However, we note that BIS should be exceedingly careful in ensuring that a proposed rule change does not extend to U.S. permanent residents.

Neither BIS nor OIG fully articulated an explanation for the proposed modification of the deemed export license requirements. We understand the extension of the rule, to a degree; however, we believe that the proposed rule change is too broad and otherwise ambiguous with respect to its application to persons who emigrate from one country to another.

In particular, we recommend that BIS amend its ANPRM to propose the establishment of a specific bright-line test based on the age of the foreign national at the time of his emigration from country X to country Y. The new rule would be that: if a person is a foreign national of country X and had emigrated to that country (from country Y) before the age of 21, then he should be considered a national of country X only (and not country Y as well, as is currently being proposed). Alternatively, if that national had emigrated to country X from country Y *after* age 21, then he could be considered, for the purposes of the EAR, to be a foreign national of *both* X and Y.



Should a bright-line test not be feasible in the instant case, we suggest that in the alternative BIS adopt a standard of a case-by-case examination of the facts to determine whether a foreign national should be considered a national of country X or a foreign national of country X and country Y (the "facts and circumstances test"). In the application of the "facts and circumstances test", BIS should allow for consideration of the actual relationship of the foreign national to his/her country of origin to determine whether any factor exists which would necessitate BIS to consider the foreign national as a citizen of both country X and country Y.

In addition to the bright-line test or the "facts and circumstances" test, we recommend that BIS adopt a reasonable procedure whereby foreign nationals who emigrate from one foreign country to another foreign country after the age of 21 are given the opportunity to renounce their citizenship of countries other than their current country of residence or citizenship. Even though the BIS procedure surely would not have a binding effect on the other countries, a formal declaration from a person to the U.S. government that he has renounced his citizenship of country X, Y, or Z should be considered in the case of determining whether a deemed export license is needed for that person. Under U.S. law, this renunciation happens through the operation of law: an emigrant who has become a citizen of the Unites States automatically repudiates his previous citizenship. In this sense, from that moment an emigrant utters the oath of loyalty, he ceases to be a citizen of the country from which he came, at least in the eyes of the United States government. Emigrants to other countries should at least be given a similar grant of recognition of their intent to be citizens of their new country and be allowed to formally repudiate their previous citizenships.

We believe that by establishing a bright-line age rule or a "facts and circumstances" test, in conjunction with creating a process for foreign nationals to certify the renouncement of their prior citizenship, BIS will be able to effectively tailor its rules to protect vital U.S. national security interests without over-burdening U.S. industry. Tailoring the licensing requirement to persons who may have a stronger connections to the countries of their birth and/or persons who have a propensity to return to that country would more effectively accomplish the intent of the rule.

IV. Conclusions

In accordance with the foregoing, we believe that BIS's proposed rule changes are exceedingly overbroad. We believe that the proposed rules, as currently structured, would extend the scope of the deemed export rules to foreign nationals (and possibly U.S. persons) who were not intended to be subject to deemed export licensing. First, the extension of the deemed export rules to the operation of a controlled commodity is misplaced because the mere operation of a product does not convey any controlled technology to the operator. Second, basing the deemed export requirements on the foreign national's country of birth would subject citizens of certain unrestricted countries to restriction, regardless of their ties, or lack thereof, to their country of birth. We understand the premise of the recommended rule changes; however, we do not believe that the proposed changes have been narrowly tailored to meet the goal of preventing unauthorized transfers or re-transfers of EAR-controlled technology. Finally, we believe that the proposed rules will release a flood of unnecessary applications to BIS resulting in greater backlogs and very real potential loss of U.S. business to foreign competitors.

V. Recommendations

In summary, we recommend the following:

- In a broad sweep, we recommend that BIS not amend its definition of "use" under the EAR. If amendment is absolutely necessary, we would have the "operation" element of the "use" definition separated from the others. We would have it that mere "operation" of an export-controlled technology not rise to the EAR definition of "use" of that technology, as very little technical information may be gleaned by mere operation, while it is conceded that overhaul, repair, and the like may result in transfer. This seems obvious: operation of a machine does not generally reveal *why* that machine works, merely that it does. In the same sense, turning on a lamp reveals only the space it illuminates and not how that lamp produces light.
- We recommend that BIS adopt a bright-line test regarding foreign nationals who have emigrated from one country to another. We feel a narrowly-tailored rule that recognizes that an emigrant younger that 21 has less connection to that country from which he came, while an emigrant over the age of 21 may have more pronounced connections. Thus, we would have BIS recognize a quasi "dual citizenship" in that emigrant who had come to his host country from another after age 21; in the alternative, we recommend that BIS adopt a "facts and circumstances" test to evaluate a foreign national's actual relationship to his or her country of origin to determine whether the foreign national has retained a sufficient amount of contact with his or her country of origin to be considered a national of that country as well as a national of their country of residence.

- We further recommend that, if BIS must amend its rules, that BIS permit those emigrants from one country to another be allowed to certify to the U.S. government the repudiation of their citizenship in the country of their birth (as well as any other citizenships they may have). This certification process would allow for efficiencies and would treat those citizens of countries we recognize as our allies with respect.
- We recommend that BIS carefully consider the extent to which proposed amendments to the EAR could have effect on naturalized U.S. citizens, as the proposed rules could be read to encompass those U.S. citizens who have come from "countries of concern" to the Untied States and who deserve all of the rights and privileges attendant to them, including the right to be treated as though such person is a full citizen as one born within our borders.

By: /s/

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From: "Darryl Farber" <dfarber@engr.psu.edu>
To: <publiccomments@bis.doc.gov>, <scook@bis.doc.gov>
Date: Tue, Jul 5, 2005 8:02 AM
Subject: Revision and Clarification of Deemed Export Related Regulatory Requirements

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security

FROM: Darryl Farber, Assistant Professor-Science, Technology, and Society Program

Penn State University

SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the Federal Register on March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is essential, I am concerned that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What may result is an extremely conservative approach by both government officials and universities that on net may have greater costs than benefits for our nation.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. Additionally, the distinction between basic and applied research is not always clear cut. This research engine is fueled in large measure by the expertise and creativity of foreign graduate students and postdoctoral scientists, who in my experience are some of the top performing students Penn State trains. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which may take several months to complete.

Crucially, word quickly spreads in the global research community and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. Recognizing that other countries would more than welcome an import of valuable knowledge capital, this development could prove much worse for both our national security and long-term global competitiveness.

I recommend that the Department of Commerce rethink this rulemaking and involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue. The problem that the Department of Commerce is attempting to address is a deep and profound one in a world where advanced technologies may be used for evil or good. It is vitally important to act wisely.

CC: "John R. McKee" <JRMDO@engr.psu.edu>

From: "Amy A. Northcutt" <anorthcu@nsf.gov>
To: <publiccomments@bis.doc.gov>, "'scook@bis.doc.gov'" <scook@bis.doc.gov>
Date: Tue, Jul 5, 2005 8:06 AM
Subject: RIN 0694-AD29

The National Science Foundation's Comments to ANPR RIN 0694-AD29 are attached.

<<NSF Comment to RIN 0694-AD29.doc>>

Amy Northcutt
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CC: "Amy A. Northcutt" <anorthcu@nsf.gov>

June 24, 2005

The following constitutes the National Science Foundation's Comment to the Advance Notice of Proposed Rulemaking (ANPR), RIN 0694-AD29, "Revision and Clarification of Deemed Export Related Regulatory Requirements". With an annual budget of approximately $5.5 billion, The National Science Foundation is the funding source for approximately 20 percent of all federally supported basic research conducted by America's colleges and universities. In many fields such as mathematics, computer science and the social sciences, NSF is the major source of federal backing.

The National Science Foundation understands the importance of guarding against the release of controlled technology and source code to individuals who could pose a threat to our national security. We are confident that the United States can establish a deemed export policy that ensures national security and competitiveness through both sustaining our nation's research enterprise and protecting against the release of controlled technology. The Foundation appreciates the opportunity to express concerns regarding the changes proposed in the ANPR.

General Concerns

The newly published BIS position that the fundamental research exemption does not extend to controlled "use" technology significantly narrows the coverage of NSDD – 189.

The Bureau of Industry and Security (BIS) is now interpreting the National Policy on the Transfer of Scientific, Technical and Engineering Information (National Security Decision Directive-189), so narrowly that even without implementing the changes proposed in the March 28 ANPR BIS is reducing the scope of protection offered to fundamental research. In its March 17, 2004 Response to the Commerce OIG's February 25, 2004 Draft Report, BIS wrote, "(Our) outreach efforts will make clear that technology for the "use" of controlled equipment is subject to licensing requirements even if the research being conducted with that equipment is fundamental". The ANPR proposed change to the Answer to Question D (1) confirms this dramatic shift in BIS's interpretation of NSDD-189.

NSF requests BIS to revisit its interpretation of NSDD-189. That Directive provides that "No restrictions may be placed upon the conduct ... of federally-funded fundamental research that has not received national security classification." If a determination has been made that use technology for a particular instrument could be detrimental to our national interest, that use technology should be classified; otherwise, the use technology should be available to individuals conducting federally-funded fundamental research. NSF encourages BIS to seek public comment on its recently published view that the NSDD-189 fundamental research exemption does not extend to controlled use technology. A shift of this magnitude is not adequately addressed by seeking comment on the proposed change to answer D (1).

Implementation of the proposed changes would not move this country's deemed exports program toward an approach compatible with an open research environment.[1]

Historically, the ability to attract and welcome students, scientists, and engineers from around the world has been an essential characteristic of the U.S. research enterprise. America's top professors direct and oversee research, with graduate students and postdoctoral staff typically conducting the actual experiments and data collection. As a result, the quality of research at the nation's universities depends significantly on the ability to attract the very best and most promising students, including foreign nationals. More than half the graduate students in every field of engineering are foreign nationals, and they account for more than half of graduate engineering degrees awarded. Of 5,265 doctorates in engineering awarded by U.S. universities in 2003, 2,909 were awarded to non-U.S. citizens with temporary visas. Foreign students also accounted for 379 out of 806 doctorates in computer science in 2003. The changes in visa policies over the past three years have resulted in substantial reductions in both applications and enrollments by foreign graduate students in U.S. universities. At the same time, foreign enrollments in Europe have increased.

It is highly likely that the proposed changes in deemed export regulations would further discourage applications and enrollments by foreign graduate students by adding additional real or perceived barriers to participation in research. The effects on applications by postdoctoral researchers could be even greater, since any required deemed export licenses would need to be in place before postdocs arrive on campus.

If adopted, the proposed changes and consequent additional effort required to manage deemed export issues will increase the administrative and financial cost of conducting research in this country. If there were evidence that this increased cost would be offset by a meaningful increase in national security, the cost could be well worth it. Instead, universities are being asked to bear a significant new burden in response to an assertion that the U.S. government should seek to "more effectively prevent the transfer of sensitive technology to foreign nationals from countries or entities of concern while they are in the United States." (From March 31, 2004 Memorandum for Kennith I. Juster, Undersecretary for Industry and Security from Johnnie E. Frazier, Department of Commerce Inspector General.) The NSF looks forward to the Bureau of Industry and Security's assessment of the risks presented by current BIS practice as compared to the asserted effectiveness of the proposed protocol.

By contributing to an overly burdensome regulatory regime, the proposed changes could contribute to a loss of U.S. leadership in some areas of research. Increasing administrative impediments to research in the U.S. increases the attractiveness of other countries to top scientists and engineers, making it more difficult for U.S. universities to compete for faculty members. Absent an analysis of the anticipated increase in security

[1] NSF is aware that BIS asserts that the proposed deemed export program would not prove unduly burdensome to the academic research community. NSF defers to the academic community to offer specific data regarding the true costs of complying with a deemed export program that does not extend the fundamental research exemption to controlled use technology and that implements the proposed changes.

that is to result from the proposed changes, NSF is very concerned that the added expense of complying with a new regulatory protocol will consume funds that would otherwise support research. The changes may have a disproportionate effect on smaller institutions, where administrative staff experienced in dealing with such issues are rare, and where dependence on foreign students is often even more pronounced.

The proposed deemed exports protocol puts the U.S. at a disadvantage in a global economy and thereby threatens our national security.

A free exchange of people and ideas beyond national borders is essential to assuring our preeminence in science and engineering -- and ultimately, our national security. The Foundation urges BIS to recognize one of the risks presented by pursuing the objective of "protecting" unclassified technology: in identifying the technology as the asset to be protected, BIS puts at risk our national asset of the free exchange of people and ideas. Placing this asset at risk should not be done lightly, yet no showing has been made for the need to make the proposed changes.

Conclusion

The ability to classify research protects the national interest by securing information that, if made available to foreign nationals, could put our country's national security at risk. Imposing additional restrictions on unclassified federally-funded fundamental research is not in keeping with NSDD-189 and threatens our national security by impeding the free flow of ideas and information -- the foundational element of our nation's preeminence in science and engineering.

Specific Responses to Particular Proposals

Definition of "Use" Technology
NSF encourages BIS not to adopt the proposed change. In the alternative NSF encourages BIS to consider removing "operation" from the definition of "Use".

Answer to Question D (1)
NSF urges BIS not to adopt the proposed revision. The current Answer to Question D (1) is accurate and consistent with NSDD 189.

Alternate Suggestion:

NSF encourages the Bureau of Industry and Security to convene a working group of representatives from industry, the academic and national security communities to fashion an approach entirely consistent with NSDD-189 that will protect our national interest in a research workforce that welcomes foreign nationals while safeguarding against the export of controlled technologies to countries of concern.

From: "Carrie Wolinetz" <cwolinetz@faseb.org>
To: <publiccomments@bis.doc.gov>
Date: Wed, Jul 6, 2005 10:29 AM
Subject: Fwd: RIN 0694-AD29

Carrie D. Wolinetz, Ph.D

Associate Director for Communications

Office of Public Affairs

Federation of American Societies for Experimental Biology

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FASEB

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Federation of American Societies for Experimental Biology

----Quality Life Through Research----

July 6, 2005

United States Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th and Pennsylvania Avenue NW – Room 2705
Washington, DC 20230

ATTN: RIN 0694-AD29

The Federation of American Societies for Experimental Biology (FASEB) appreciates the opportunity to comment on the Advance Notice of Propose Rulemaking (ANPR) on Revision and Clarification of Deemed Export Related Regulatory Requirements [70 FR 15607]. FASEB is a coalition organization made up of 22 scientific societies, whose members number more than 65,000 biomedical researchers in a diverse range of biological disciplines. The mission of FASEB is to enhance the ability of biomedical and life scientists to improve, through their research, the health, well-being and productivity of all people.

FASEB strongly concurs with our colleagues at the American Society for Microbiology (ASM), the Association of American Medical Colleges (AAMC) and the Council on Government Relations (COGR) that the adoption of such rules will be severely detrimental to the U.S. scientific enterprise, particularly in regard to our nation's academic research centers. Although we would like to emphasize several issues of concern (below) we would strongly endorse the comments submitted by these organizations, and would urge the Inspector General (IG) to carefully consider their recommendations.

The innovations and technologies that safeguard our health and our nation are made possible only through establishment of a foundation of basic (used interchangeably with "fundamental") research. We support the reaffirmation of National Security Decision Directive 189, which states that classification should be the mechanism of control for sensitive research areas. Moreover, FASEB wholeheartedly agrees with the statement cited in the Office of the Inspector General (OIG) report that "The key to maintaining U.S. technological preeminence is to encourage open and collaborative basic research. The linkage between the free exchange of ideas and scientific innovation,

prosperity, and U.S. national security is undeniable." Clearly, the fundamental research exemption currently outlined in the Export Administration Regulations (EAR) is in recognition of this very principle.

We believe that the interpretation, used by academic research universities and centers for years, that equipment used in the course of fundamental research is exempt from control is appropriate, and join AAMC in disagreeing with the IG's conclusion that "technology relating to controlled equipment – regardless of how that use is defined – is subject to the deemed export provisions (and the requirement to license foreign nationals having access to that equipment) even if research conducted with that equipment is fundamental." Such a statement displays a lack of understanding of the essential nature of basic research, whose pathway of discovery is often unpredictable, and which requires an open and accessible academic environment. There is no evidence to show that restricting the ability of foreign scientist working in the U.S. to pursue the scientific question at hand by placing burdensome licensing requirements on common laboratory equipment does anything to improve the security of our nation. However, there is little doubt that imposing such restrictions would be immensely disruptive to the highly successful U.S. scientific enterprise.

1. Foreign Nationals Contribute to U.S. Scientific Progress

The American scientific enterprise benefits enormously from the contributions of international scientists who travel here to study and exchange knowledge. It is here that they meet future collaborators; it is here that their mentors guide them in the ethical conduct of research; and it is here that they contribute to U.S. innovation. We maintain our edge as the world leader in science and technology because we welcome the international scientific community to share their skills and ideas through our research institutions.

FASEB is seriously concerned that adoption of the recommendations in the OIG report would negatively impact foreign nationals conducting research or studying in U.S. laboratories. Not only would such a burdensome control regime discourage institutions from attracting and retaining foreign scientists, but it sends a clear message of distrust and unwelcome to the international scientific community that is in direct contradiction to our nation's long tradition of fostering international scientific talent and collaboration. Such a perception could have not only a detrimental effect on our scientific progress, but also on the security of our homeland. As Maura Harty, Assistant Secretary for Consular Affairs at the Department of State stated in September, 2004 letter to FASEB (attached), "[S]cientifc and academic exchanges underpin U.S. national security as surely as border protection against overt threats to the U.S..."

In addition, FASEB has grave misgivings about the IG's recommendation that deemed export controls consider a foreign national's place of birth regardless of the person's current citizenship or residency status. We support AAMC's assertion that "the legal implications of such a regulatory move should be analyzed carefully." Academic institutions do not currently collect such information nor does the SEVIS system require it. Requiring that research institutions retroactively determine the nation of birth of all current foreign students and visitors and then cross-reference that information with the geographical location of all equipment whose use might be controlled is an almost ludicrous proposal and would constitute an enormous undertaking. The cost and time associated with such an endeavor is staggering, and could seriously harm the academic research community.

2. Proposed Regulations are Infeasible in Academic Environment

The success of U.S. science and technology is due in large part to the robust research enterprise contained on university campuses. Fundamental research thrives in an environment of free exchange of ideas, spontaneous changes of research direction, and open collaboration among colleagues in different laboratories or disciplines. Scientists frequently share equipment and information in their pursuit to understand the underlying principles that lead to expanded knowledge and technological advancements. Inhibiting foreign scientists' ability to participate in the commonplace exchanges of academic science will have a crippling effect on U.S. research.

Furthermore, we would again direct you to the concerns of AAMC and COGR, who outline the tremendous burden that would be placed on universities in trying to comply with deemed export control regulations as proposed in the OIG report. The broad and ambiguous definition of "use", the reclassification of foreign nationals based on country of origin, and the requirement to track thousands of individual pieces of equipment that might be subject to EAR as the bare minimum of the work that would need to be done present a staggering challenge that may be infeasible. At the very least, such an endeavor would require a large investment in resources by academic institutions that would come at the expense of ongoing research and educational programs, causing irreparable harm to our scientific enterprise.

3. Licensing Requirements are Redundant with Visa Screening Process

While FASEB agrees the U.S. government has every right, and perhaps a mandate, to assess foreign nationals in order to protect our nation and its citizens, we believe this is already accomplished by the rigorous screening process involved in visa processing. If the federal government allows a foreign visitor to enter the country, following the review process in which the State Department, Department of Homeland Security, and other federal agencies are involved, that individual should be allowed to become a fully functional member of the scientific community, without appurtenant obstacles. Extensive background checks, including the Visas Mantis process, are typically conducted on applicants seeking to study science or conduct research at U.S. institutions; these checks already incorporate concerns about access to sensitive technologies.

Using the deemed export regulations as a secondary screening process for foreign nationals is both redundant and unnecessary. We stand with our colleagues at COGR and AAMC in stating that if the Department of Commerce feels that there is something lacking in the visa security assessment process, such concerns should be addressed in a manner consistent with our national security interests and efficiency in processing visas. Solving any such problems via deemed export licensing will have destructive, unintended consequences to the academic research community.

In conclusion, FASEB respectfully asks that the Bureau of Industry and Security (BIS) not proceed with the rulemaking process and reassess the need to revise existing regulations and / or procedures. Should BIS determine some sort of revision is necessary, it should consider the impact of such revisions on the vitality of the U.S. scientific enterprise.

As discussed previously, the proposed changes would pose an impossible regulatory burden on the academic research institutions that are the nexus of our global leadership in science and technology. While there appears to be little evidence to justify the necessity of the OIG's recommendations, by contrast history has shown that national security is best served when academic freedom and open dissemination of fundamental scientific knowledge is permitted, unhindered by needless regulatory barriers.

Sincerely,

Bruce Bistrian, M.D., Ph.D.
FASEB President

From: "Suzanne Mohney" <mohney@ems.psu.edu>
To: <publiccomments@bis.doc.gov>
Date: 07/07/05 10:38PM
Subject: RIN 0694-AD29

TO: Alex Lopes, Director, Deemed Exports, Bureau of Industry and Security
FROM: Suzanne Mohney, Professor of Materials Science and Engineering, The Pennsylvania State University
SUBJECT: RIN 0694-AD29

I am responding to the request for comments published in the Federal Registeron March 28, 2005, regarding the "Revision and Clarification of Deemed Export Related Regulatory Requirements" proposed by the U.S. Department of Commerce, Bureau of Industry and Security (BIS). While the security of our nation is paramount, I am worried that the proposed changes as currently worded are too broad and too open to speculation and interpretation. What will necessarily result will be extremely conservative approaches by both government officials and universities.

University fundamental research conducted in an open environment helps keep our nation's economy strong through the creation of new knowledge and new technologies. This research engine is fueled in part by the expertise and creativity of foreign graduate students and postdoctoral scientists. The changes to Export Administration Regulations, as they are currently proposed, will either keep them from participating in highly advanced research programs or put the brakes on their research while export licenses are sought, which in my university's experience takes several months to complete. Word will spread in the global research community, and if international students sense that their careers will be impeded by these rules, they will likely turn their talents to assisting other countries. That development could prove much worse for our national security.

I recommend that the Department of Commerce take a step back, involve the Office of Science and Technology Policy (OSTP) and the academic research community in more dialogue, and come up with an approach that will protect our competitive edge in advanced technologies while at the same time protecting the research enterprise that has helped build it.

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July 15, 2005

U.S. Department of Commerce
Bureau of Industry and Security
Regulatory Policy Division
14th & Pennsylvania Avenue NW, Room 2705
Washington, DC 20230

Attn: RIN 0694-AD29

The rule changes to the Export Administration Regulations (EAR) proposed by the Office of the Inspector General will have significant negative impacts on University of Alaska Fairbanks research and teaching programs in the following areas:

- faculty and student recruitment;
- student involvement in research (foreign national students and U.S. students of foreign faculty);
- students opportunities for "real world" experience;
- financial burden of making export determinations for all existing university research equipment;
- cost of segregating and securing controlled resources in a constantly changing system (i.e. would have to be re-evaluated at least every semester);
- avoidance of specific research topics by researchers, and therefore reduced progress in those areas; and
- limitations on collaborations and discussions with peers

If adopted the proposed changes will create two classes of individuals within the university system (those with full access and those with limited access to university resources) based solely on country of birth. The application of additional background check requirements will place an enormous regulatory burden on universities, increase the cost of doing research, slow research progress and impede the free exchange of ideas necessary for rapid technological growth. Adding the requirement that universities determine the country of birth for foreign national staff, students and faculty unnecessarily duplicates the existing Visa Mantis system used to clear individuals from most countries prior to entry into the U.S.

There should be no difference between formal and informal instruction in the university setting. Current regulations exempt public dissemination (i.e. in research publications, open conferences, catalog courses and associated teaching laboratories of academic institutions) of controlled information from the EAR. Providing the same information to a foreign national in an informal educational setting (i.e. as part of a collaboration or faculty-student mentoring relationship) is considered an unauthorized export and is at odds with the both the intent of

export control regulations and the mission of universities to disseminate knowledge. Formal and informal exchanges of ideas are essential to the education and research missions of colleges and universities and should not be subject to export controls.

The EAR should not be more restrictive than the Department of State's International Traffic in Arms Regulations (ITAR). The ITAR, which deals with technology that is predominantly military in nature, specifically allows disclosures of unclassified technical data (which by definition includes operating information) in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees provided the conditions of 22 CFR 125.4(b)(10) are met. Rather than expanding controls on dual-use technology, items and information requiring more stringent controls should be classified.

In conclusion, I ask that BIS not adopt these proposed changes to the Export Administration Regulations.

Sincerely,

Stephen B. Jones
Chancellor
University of Alaska Fairbanks

JMN/jml

cc: Paul B. Reichardt, Provost
J. Mark Neumayr, Vice Chancellor Administrative Services
Wayne Marr, Chancellor's Director of Economic Development and SOM Dean
Kelly Hochstetler, Manager

REGULATIONS.GOV

Agency : INDUSTRY AND SECURITY BUREAU
Title : Revision and Clarification of Deemed Export Related Regulatory Requirements
Subject Category : Export administration regulations: Deemed export licensing practices; clarification and rev
Docket ID : 050316075-5133-02
CFR Citation : 15 CFR 734, 772
Published : May 27, 2005
Comments Due : June 27, 2005
Phase : PROPOSED RULES

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retain a copy of your comment, print out a copy of this document for your files.

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Regulations.gov #: EREG - 5 **Submitted Jun 09, 2005**

Author : Dr. Gerald Epstein
Organization : Center for Strategic and International Studies
Mailing Address :
Attached Files : C:\Documents_and_Settings\Jerry\My_Documents\iFolder\gepstein\CSCANS\CSCANS_

Comment : As project director for the Center for Strategic and International Studies' Commission on
and National Security, I am submitting the White Paper "Security Controls on Scientific In
of Scientific Research" on behalf of the Commission in response to this Federal Register

Since my organization's address does not appear to be accepted by this website, I includ

Center for Strategic and International Studies
Homeland Security Program
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Security Controls on Scientific Information and the Conduct of Scientific Research

A White Paper of the Commission on Scientific Communication and National Security

Homeland Security Program
Center for Strategic and International Studies

June 2005

CONTENTS

Statement of the problem

In the 21st century, neither geographical isolation, agricultural productivity, natural resources, nor military manpower can suffice to "provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity." Scientific and technological accomplishments – and a workforce trained to exploit them – are necessary to defend the nation and enhance its quality of life.

However, know-how that is generated in the course of scientific research is available to anyone participating in that research. If the results of that research are published openly, they become available to all—including to those who may seek to use those results maliciously. Therefore, policies to limit the ability of terrorists to access and exploit scientific research may gain approval which have the effect of constraining participation in, and dissemination of, that research.

Such limitations do not come without cost. Open communication and participation are fundamental to the conduct of high-quality research, so constraints on that openness can have serious repercussions for the quality of that research, for the health of research and educational institutions, and ultimately for the societal objectives that research and education serve: national and homeland security, economic prosperity, health, environmental protection, and quality of life. Moreover, given the global nature of the scientific and technical enterprise, unilateral national policies to control scientific and technical information may have little prospect of effectively doing so. Information controls should not be imposed unless they can be shown to be effective and worth the penalties that they impose.

Current U.S. government policy

It has been the policy of the United States since the Truman Administration that fundamental scientific research should be conducted without government restrictions on participation by researchers or publication of results unless a formal process has led to a determination that access to the work should be limited, for specific national security reasons, to individuals with the proper security clearances – in other words, that the research has been classified. Current U.S government policy is set out in National Security Decision Directive 189 (NSDD-189), issued in the Reagan Administration, which provides that "to the maximum extent possible, the products of fundamental research remain unrestricted."[1] This directive recognized, as had its predecessors, that the United States' "leadership position in science and technology is an essential element in our economic and physical security," and that "the strength of American science requires a research environment conducive to creativity, an environment in which the free exchange of ideas is a vital component." Accordingly, the Directive specifies that "where the national security requires control, the mechanism for control of information generated during federally-funded fundamental research in science, technology and

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[1] National Security Decision Directive 189, "National Policy on the Transfer of Scientific, Technical, and Engineering Information," September 21, 1985.

engineering at colleges, universities and laboratories is classification." It goes on to direct that to the extent consistent with U.S. Statutes, "no restrictions may be placed upon the conduct or reporting of federally-funded fundamental research that has not received national security classification."

The Directive has remained in effect through subsequent Administrations, and it was explicitly reaffirmed as recently as November 1, 2001 by Dr. Condoleezza Rice, then Assistant to the President for National Security Affairs. Dr. Rice confirmed in a letter to Dr. Harold Brown, co-chairman of the CSIS Council on the Future of Technology and Public Policy, that "the policy on the transfer of scientific, technical, and engineering information set forth in NSDD-189 shall remain in effect, and we will ensure that this policy is followed."

This Directive does not assert that the open dissemination of unclassified research is without risk. Rather, it says that openness in research is so important to our own security – and to other key national objectives – that it warrants the risk that our adversaries may benefit from scientific openness as well. And even though today's adversaries differ from the ones we faced during the Cold War, the world's scientific and technological landscape has also evolved. Science and technology are global enterprises, and our ability to constrain their adverse application by unilaterally restricting their dissemination is if anything even poorer today than it was when NSDD-189 was issued.

Recommendations with respect to current U.S. government policy

- *The Commission recommends that NSDD-189, reflecting policy that has been in effect in generally the same terms since the Truman Administration, should continue to be the central principle governing security controls over fundamental research. NSDD-189 makes a strong statement about openness in the conduct and dissemination of unclassified fundamental research and represents a careful balance between the needs of research institutions and the requirements of national security.*

- *The Commission recommends further that NSDD-189 be implemented carefully with an eye to avoiding incursions on openness. This paper examines the administration of current U.S. policy and makes recommendations with respect to current and proposed implementation of information control mechanisms.*

The underlying issue: the importance of openness

When research and education are not free to draw on the world's brightest minds, to invite any and all to critique and validate research results, and to foster the dynamic and often serendipitous interactions from which successive innovations can arise, excellence will suffer. Practices that limit the open interchange of ideas or open participation in research and educational activities – in other words, policies that compartmentalize ideas, findings, or research approaches and limit their access to certain categories of student or researcher – will limit the effectiveness of our research and educational system, impairing its ability to serve national needs.

Open participation. Scientific talent is distributed worldwide, without regard to national borders. Laboratories that hope to compete at the top of their fields must therefore be free to recruit the brightest researchers, wherever they may be found. Excellence is self-perpetuating: top-quality research institutions recruit and retain professional staff by offering the chance to work with the best students and junior researchers – who, in turn, seek to join those institutions where the most exciting research is already underway. Arbitrary limitations on who can attend a school, join a laboratory, or participate in a research project may cut off contributions from valuable potential participants. Limits on participation in research activities are particularly problematic for research universities, whose research and educational missions are interdependent, and which are physically ill-prepared and philosophically unwilling to segregate facilities or discriminate on the basis of national origin. Institutions that cannot – or that are not allowed to – engage the best prospective students and researchers will be unable to remain competitive in a dynamic global environment that offers these individuals many alternatives.

The United States no longer holds a monopoly on scientific preeminence in today's highly competitive and thoroughly globalized research environment; there are first-rate laboratories all over the world. By imposing unnecessary barriers on the research activities of U.S. institutions, an overly zealous or inflexible export control system will make it impossible for U.S. researchers to keep abreast of technical activity conducted outside the United States, and the United States will necessarily fall behind. Given the importance of science and technology to national security and economic well-being, such restrictions on the United States research enterprise threaten to put this nation's security and quality of life at risk.

Open communication. The progress of science depends on independent review and validation of research results by all who are able to judge the work's quality, assess its significance, and build upon it. These reviews take place through a variety of formal and informal mechanisms – conversations within a laboratory; presentations at professional meetings; informal circulation of a manuscript prior to submission to a publisher; formal peer reviews of manuscripts as part of the publication process; and validation and verification of work by subsequent investigators after research has been published. Moreover, science is cumulative. Research results can make possible future advances only if those results are known to others.

Limiting the dissemination of research necessarily constrains the ability of independent experts to verify or extend it. Attempts can be made to circulate results within a restricted community, or in some cases on a classified basis. However, history is replete with examples of research for which the most significant applications have been made by individuals whose contribution could never have been predicted in advance, and who would never have been included in a restricted list of reviewers. Limiting dissemination of results restricts the opportunity for such interaction. Moreover, limiting the detail with which experimental procedures are specified similarly impedes the ability of independent researchers to validate the work, precluding the acceptance of those results as scientific findings and imperiling their ability to underpin future research.

Caveats. Note that advantages of openness, as weighed against the risks of transfer to dangerous recipients, may differ for fundamental research (activity motivated by the quest for understanding, the results of which typically have diverse, diffuse, or indeterminate application) as compared to technology development (activity intended to solve specific problems, the applications of which can be more directly envisioned, at least initially). Indeed, NSDD-189 refers specifically only to the former, implying that the case for controls is stronger for the latter. However, the distinction between "fundamental research" and "technology development" is not necessarily clear – or even, in some cases, meaningful. Many fundamental scientific advances have been closely associated with applications. Instead of considering the quest for understanding and the quest for application as opposite ends of a one-dimensional continuum, they can be considered to lie along perpendicular axes that divide the space of scientific and technical activity into four quadrants. One of these quadrants represents work that is both fundamental and motivated by application – as exemplified by Louis Pasteur, whose microbiological research was motivated both by the desire to understand disease processes at a very fundamental level and by the desire to cure those diseases.[2] Therefore, for the purposes of applying NSDD-189, the fact that research may be motivated by a particular application should not imply that it cannot be "fundamental."

Mechanisms to control conduct and dissemination of research

Five principal mechanisms have been considered for limiting the conduct and dissemination of research and development in situations when open participation and communication is thought to be contrary to the national interest. They all have a role for some types of scientific and technical activity, but not all are appropriate for fundamental research:

- classification on national security grounds denies access to anyone without a government-issued security clearance and a demonstrated "need-to-know" the information;
- export controls regulate the transfer of certain information (and possibly access to certain equipment) to foreign nationals and therefore constrain who can participate in associated research and educational activities;
- some provisions in federal research contracts can specify results to be "sensitive but unclassified," restrict publication, or provide for advance government review or approval of who can perform the research;
- statutes control the conduct of certain types of research; and
- self-governance by the scientific community restricts, or requires advance review of, research proposals or publications.

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[2] "Donald Stokes, "Completing the Bush Model: Pasteur's Quadrant," talk given at a conference "Science: The Endless Frontier 1945 – 1995;" December 9, 1994; available online at http://cspo.org/products/conferences/bush/Stokes.pdf (last accessed May 27, 2005). See also Donald Stokes, *Pasteur's Quadrant : Basic Science and Technological Innovation* (Washington, DC: Brookings Institution, Press 1997).

1. Classification

The most stringent national security restriction that can be put on scientific and technical information is classification. With rare exceptions, only information that is owned by, produced by or for, or is under the control of the U.S. government is eligible to be classified.[3] Only designated government officials have the authority to classify information, and classification decisions are supposed to be made in accordance with guidelines that specify the damage that might result if that information were made public.[4]

Current U.S. classification policy explicitly provides that "scientific, technological, or economic matters relating to the national security" can be classified, but that policy goes on to state that "basic scientific research information not clearly related to the national security shall not be classified."[5] Security classification makes little sense for information that can readily be derived independently; after all, withholding the results of a given experiment does not destroy the underlying reality, which remains available to be rediscovered by others. In some cases, such as when experimental capabilities are limited by technical barriers that are suddenly lifted with the development of new tools, many researchers may be in a position to perform a given experiment, and classification of some such work would do little to constrain the rest. In other cases, however researchers with unique equipment, novel experimental approaches, clear vision, or simply serendipity may obtain research results that would not likely soon be independently repeated. Even in these cases, research results may be sufficiently distant from application (beneficial or malicious) that classification would also be inappropriate.

In those areas of research where classification might be appropriate – for example, where "government-supported research demonstrably will lead to military products in a short time," to quote a landmark 1982 National Academy of Sciences report[6]– it will come at a cost. Most universities do not conduct classified research on campus because the associated constraints are incompatible with their educational mission,[7] although several have associated off-campus research facilities that perform classified research. Moreover, only individuals who have been issued security clearances by the government

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[3] The exceptions are certain categories of nuclear-weapons related information, which are considered "born secret" under the Atomic Energy Act no matter how they were generated, and secrecy orders that can be imposed by the government on patent applications under the Invention Secrecy Act.

[4] Executive Order 13292, issued on March 25, 2003, establishes Bush Administration policy on the classification of national security information.

[5] E.O. 13292, sections 1.4(e); 1.7(b)

[6] Panel on Scientific Communication and National Security, Committee on Science, Engineering, and Public Policy, *Scientific Communication and National Security* (Washington, DC: National Academy Press, 1982), p. 5; available online at http://www.nap.edu/books/0309033322/html/ (last accessed May 27, 2005).

[7] In 2002, the Massachusetts Institute of Technology reviewed and reaffirmed its policies against classified research on campus. See *In the Public Interest: Report of the Ad Hoc Faculty Committee on Access to and Disclosure of Scientific Information*, Massachusetts Institute of Technology, June 12, 2002. http://web.mit.edu/faculty/reports/publicinterest.pdf (last accessed May 27, 2005).

are permitted access to classified work. Therefore, security classification limits both the institutions and the personnel who are in a position to contribute to research activities.

When government agencies sponsoring technical activity believe that the results of that activity will need to be reviewed for possible security classification, they have the responsibility to conduct that activity in institutions that are appropriately equipped to handle classified information. Technical activity not conducted in such institutions would presumably not be expected to raise classification questions. However, most government grants for unclassified technical activity specify that if the grantee believes the results of that work warrant classification, the grantee has the responsibility to limit the dissemination of that work and to contact the appropriate U.S. government agency that would have the authority to classify it. In such extraordinary cases, the initiative to seek classification rests with the grantee, not the government.

Recommendations with respect to classification

- *The Commission recommends that classification remain the mechanism by which research results requiring national security protection be controlled. Procedures involving the classification and declassification of information are well-defined, and in principle, they can be consistently applied in ways that take the costs and the benefits of controls into account.*

- *The Commission concurs with existing policy that fundamental scientific research that is not clearly relevant to national security remain unclassified.*

- *The Commission recognizes the responsibility of researchers doing nominally unclassified research to call their results to the attention of the relevant government agencies in the extraordinary event that they believe those results to warrant classification.*

2. "Deemed Export" Controls

At present, the United States regulates the export of defense-related goods and services as well as the export of "dual-use" goods and services that have legitimate civilian use but that can also assist the proliferation of weapons of mass destruction, facilitate terrorism, or interfere with important U.S. foreign policy objectives. Controls on defense-related goods and services are administered by the State Department's Directorate of Defense Trade Controls and on dual-use goods and services by the Commerce Department's Bureau of Industry and Security. Corporations, individuals, or other entities seeking to export such items must apply to the government for an export license, and those shipping controlled items out of the country without a license risk civil and criminal penalties.

Both the State Department and the Commerce Department control systems regulate the export of *information* that pertains to controlled goods or services. Exports include not only shipping controlled goods, services, or information out of the country, but also conveying them or otherwise making them available to foreign nationals within the United States. Such transactions are "deemed" to be exports, and they similarly require

export licenses. Export license applications are evaluated on the basis of the particular goods, services, or information to be exported and the identity of the prospective recipient.

Proposed extensions of export controls. Consistent with NSDD-189, the export control regulations of both the State Department and the Commerce Department exempt fundamental research from controls so long as the research is "ordinarily published and shared broadly within/in the scientific community."[8] However, despite the fact that NSDD-189 also states that the "conduct" of unclassified, federally funded, fundamental research should not be restricted, except as provided in U.S. statutes, these export control regulations do not explicitly address whether licenses may be required for access to export-controlled equipment that is used in the conduct of fundamental research. In practice, research universities have acted as if licenses were not required.

Certain specialized areas of fundamental research, however, are affected by the more stringent State Department munitions controls. For example, scientific research satellites are explicitly treated as a military, and not a dual-use, technology for export control purposes. Therefore, universities conducting space-based research have had to obtain export licenses from the State Department before allowing certain foreign researchers to work on aspects of those projects. Although the universities agreed they needed to comply with legal obligations, they found export control requirements in these cases difficult to reconcile with university policies requiring open participation and open publication, as well as with NSDD-189. Responding to Congressional direction,[9] the White House (beginning in the Clinton Administration and continuing into the Bush Administration) worked with the State Department to review its regulations and relax their impact on these university space-based research programs. As a result, the State Department amended its export control regulations in March 2002 and narrowed somewhat – but did not eliminate – the set of countries for which licenses would be required to have their citizens participate in this research.[10]

The assumption that the fundamental research exemption broadly covered at least those areas of research that did not fall under State Department controls was challenged by a series of reports issued in early 2004. Every year, as required by law, a set of federal agency Inspectors General (IGs) prepares a coordinated set of reports on some aspect of

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[8] Export Administration Regulations, Part 734.8(a) (using "within") and International Traffic in Arms Regulations (22 CFR Ch. 1 section 120.11(8) (using "in")

[9] The conference report for the FY 2000 Appropriation Bill for the Departments of Veterans Affairs and Housing and Urban Development, and for Sundry Independent Agencies, Boards, Commissions, Corporations, and Offices for the Fiscal Year Ending September 30, 2001 (House Report 106-988) found that recent legislative changes had had the unintended byproduct of subjecting university-based fundamental research programs to "overly restrictive and inconsistent ITAR [International Traffic in Arms Regulations] direction." This report directed the White House Office of Science and Technology Policy "to work jointly with the National Security Council, in consultation with the NASA Administrator and the Secretary of State, to expeditiously issue clarification of ITAR that ensures that university collaborations and personnel exchanges, which are vital to the continued success of federally-funded research, are allowed to continue as they had under the long-standing fundamental research exception in the Export Administration Regulations."

[10] The Federal Register, Vol. 67, no. 61, March 29, 2002, pp. 15099-15101.

export controls. The 2003 reports included compliance by research institutions and universities. The Commerce Department IG's report[11] contained several recommendations which, if accepted by the Commerce Department, could severely limit the fundamental research exemption.

The report included a section titled "BIS [Commerce Department Bureau of Industry and Security, which implements dual-use export controls] Regulations and Policies Could Enable Foreign Nationals from Countries and Entities of Concern to Access Otherwise Controlled Technology,"[12] which repeated findings from earlier Commerce Department Inspector General reports. Although no evidence was presented that any security breaches had resulted, this section questioned (either explicitly or implicitly) whether a number of existing export control exemptions were overly broad, permitting foreign nationals from "countries and entities of concern" to access "otherwise controlled technology." However, the report also noted that BIS could not address these exemptions by itself, and no specific recommendations on these points were made. Specifically mentioned in this section were:

- Exempting from control work "intended" for publication, which would permit access to research that might not in fact be published (possibly because of security concerns that led the researcher to forego publication) and questioning whether intent to publish alone was a sufficient determinant of whether research should fall under the fundamental research exemption;
- Exempting from control educational information conveyed through "catalog courses and associated teaching laboratories of academic institutions"; and
- Exempting from control information conveyed to foreign nationals with permanent resident status.

The report went on to raise security concerns that had not been addressed in the earlier reports, and it recommended dealing with these concerns by tightening deemed export regulations in two ways:

- Broadening the conditions under which the use of controlled technology by foreign nationals would require an export license, and informing research institutions that deemed export controls would apply in such circumstances "even if the research being conducted with that equipment is fundamental," [13] and
- Requiring that export licenses be obtained for foreign nationals on the basis of their country of birth, regardless of their country of citizenship.[14]

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[11] U.S. Department of Commerce, Office of the Inspector General, "Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.," Final Inspection Report No. IPE-16176, March 2004 (http://www.oig.doc.gov/oig/reports/2004/BIS-IPE-16176-03-2004.pdf ; last accessed May 27, 2005).

[12] Ibid., pp. 10-13

[13] Ibid., pp. 15

[14] "Foreign nationals" in this context do not include permanent residents or citizens of the United States or members of certain legally protected categories such as asylum seekers.

The first of these recommendations could have the effect of significantly narrowing the fundamental research exemption, and it is discussed in greater detail below. The second recommendation would not expand the set of controlled activities, but it could increase the number of people doing already-controlled activities for which licenses would be necessary. To the extent that fundamental research remains exempt from deemed export controls, the second recommendation does not affect it.

Inconsistency with NSDD-189. The Inspector General's report contains only a passing reference to NSDD-189, and that discussion deals only with the *results* of fundamental research; it makes no mention of the Directive's parallel discussion of the *conduct* of such research. Perhaps for this reason, the IG report does not address the apparent inconsistency between its recommendation to expand deemed export controls and NSDD-189's direction that "no restrictions may be placed upon the conduct ... of [unclassified] federally-funded fundamental research."[15] Admittedly, the same inconsistency can be found in the position of the Commerce Department's Bureau of Industry and Security, which according to the IG report asserts that "technology relating to controlled equipment ... is subject to the deemed export provisions *even if the research being conducted with that equipment is fundamental.*"[16] Nevertheless, the Bush Administration's reaffirmation of NSDD-189 can be interpreted to mean that deemed export controls should not be applied at all to fundamental research, much less expanded.

Difficulty of administering "use" controls in fundamental research. Beyond – or perhaps because of – their inconsistency with NSDD-189, the changes recommended by the Inspector General regarding access to or use of controlled equipment could have serious implications for fundamental research undertaken at academic institutions.[17]

1. Ambiguity of controls. From a practical point of view, it may be very difficult to determine, from the export control regulations themselves, exactly which pieces of laboratory equipment would be subject to licensing, and at what point exposure to or use of controlled technology would constitute a transfer of knowledge sufficient to be deemed an export requiring an export license.[18] The Commerce Control List (which specifies those dual-use items for which export is controlled) is hundreds of pages long and far from clear, and tremendous effort on the part of

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[15] The qualifying language "except as provided in applicable U.S. Statutes" that follows the quoted language in NSDD-189 does not change this conclusion. Deemed export controls are provided in regulation, not in statute.

[16] U.S. Department of Commerce, Office of the Inspector General, *op cit.*, footnote 11 above, p. 15 (emphasis added).

[17] See July 30, 2004 letter of from Alice Gast, MIT Vice President for Research, and 11 other senior university research officials, to Undersecretary of Commerce Kenneth I. Juster; see also September 9, 2004 letter from MIT President Charles Vest and 21 other university presidents to senior White House officials.

[18] The Commerce Department has requested public comment on how the revisions in deemed export regulation proposed by the Inspector General would affect research-performing institutions in the United States, and in particular is requesting information on the number of foreign nationals who would require licenses and the impact of compliance with new licensing requirements. *Federal Register*, March 28, 2005 (Volume 70, Number 58), pp. 15607-15609; Docket No. 050316075-5075-01

universities may be required to ascertain what, if any, equipment or material available in university labs is subject to export controls.

2. Discrimination on the basis of nationality. Export license requirements depend on the nationality of the recipient. These controls involve singling out individual students, scholars, or researchers who would not be able to have access to equipment (although their work would be entirely unclassified) that others working on the same research would be able to use.[19] Just as in the case of the current "no fly lists," there potentially may be serious difficulties involved in singling out individuals, especially in certain cultures where many names may be identical. Moreover, many leading research universities have made it clear that they have neither the human resources nor the will to selectively segregate their research facilities in this fashion.

3. Difficulty in controlling access. Because scientific equipment can be shared by several laboratories or moved from one to another, an institution could not readily determine which students and researchers would require licenses to work in which laboratories. Moreover, depending on the degree of exposure to controlled equipment that is warranted to require a license, physical controls may have to be installed to prevent unlicensed individuals from accessing laboratories with such equipment. In many cases, such equipment is in use—or, at least, accessible for use—24 hours a day, meaning that access would have to be controlled on a "24/7" basis.

4. Lack of Timeliness and Inflexibility. Given the length of time needed to secure export licenses and the fluid and unpredictable nature both of university research programs and of laboratory equipment purchases, timely license processing for foreign students and scholars will be difficult to achieve. Without sufficient lead time, the probability increases that foreign nationals will either be turned away when they apply or will be deterred from applying to work in the United States in the first place.

Adverse aspects of "use" controls in fundamental research. In addition to practical implementation difficulties, there are other important adverse aspects of a control regime that holds out the prospect of requiring license applications for foreign students and scholars in research and educational institutions.

1. The security benefits are modest. United States export controls have no effect on constraining the access of adversaries to technology that is available from uncontrolled sources *outside* the United States. In today's globalized scientific and technical enterprise, United States universities and research institutions compete for talent against equivalent institutions all over the world. To remain competitive, many of these foreign institutions procure sophisticated experimental equipment on world markets and develop advanced instrumentation domestically.

[19] Technology transferred in catalog courses of instruction is exempt from controls, but information and technology transfers in the process of conducting research could constitute export-controlled transactions.

However, few of them are required by their own governments to limit the participation of non-citizens in state-of-the-art research.[20] Foreign students and researchers who consider coming to United States have an ever-widening array of alternative options outside the United States that are not subject to U.S. deemed export controls. Therefore, unless U.S. controls are restricted to the use of technologies that are truly unavailable outside the United States or other countries with equivalent levels of control, they provide little or no security benefit, and will serve only to damage the U.S. research enterprise.

Moreover, the operation, maintenance, installation, and even repair of controlled equipment do not convey the ability to reproduce that equipment in another setting—after all, auto dealers cannot make cars. Acquiring the equipment itself from the United States would require a license, providing a layer of protection that is independent of controls on the technical knowledge.

2. Important discoveries may be hindered. The rapid and dynamic nature of state-of-the-art research makes it hard to predict exactly the disciplines in which a researcher will work; the colleagues or labs he or she will join or collaborate with; the equipment to which he or she may require access; and the modifications which may have to be made to that equipment. Licensing requirements, and their concomitant delays, can eliminate the spontaneous discoveries that arise from serendipitous interactions and spur-of-the-moment collaborations. During a conversation or a seminar, a researcher may realize that his or her laboratory apparatus is well-configured to solve a colleague's problem. If export licenses are required to use that apparatus, or even to share technical exchanges about the possible application, the opportunity may be lost.

3. Research talent may be lost. The mere possibility that certain researchers may necessitate export licenses will introduce delays and uncertainties that may discourage the best foreign researchers from coming to the United States (i.e., the so-called "chilling effect")—researchers from whom this country not only benefits, but upon whom we increasingly depend to maintain our scientific and technical base.[21] Such licensing requirements will also force universities and research institutions to discriminate among their students or staff on the basis of characteristics other than academic merit, skills, and expertise – a further disincentive to foreign researchers that is inconsistent not only with many publicly stated institutional policies but also with a number of principles and policies fundamental to the US polity.

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[20] France, Russia, and the United Kingdom are the only major research powers that have anything like a "deemed export" regime.

[21] The dependence of the United States science and technology base on foreign-born scientists and engineers has been extensively documented. One of the most recent studies on this topic is The National Academies, *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States* (Washington, DC: The National Academies Press, 2005), available online at http://books.nap.edu/catalog/11289.html (last accessed May 31, 2005). See statistics listed on p. 1.

4. Contact with the leading edge of science may be reduced. Inhibiting foreign interchange, in turn, inhibits the ability of U.S. researchers to stay abreast of scientific and technological developments outside this country. There is also the possibility that other governments may seek to retaliate in some fashion.

An alternate approach. Despite the inappropriateness of imposing an overall deemed export control regime on the conduct of fundamental research, it may nevertheless be appropriate for the government to require that deemed export licenses be obtained for transfers of technology to specifically identified individuals *if specific adverse information exists about that individual.* U.S. export control regulations already contain a feature that provides the authority to prevent any U.S. entities from assisting foreign programs or entities that are developing weapons of mass destruction, regardless of whether that assistance otherwise violates export control regulations and regardless of whether that assistance can be obtained elsewhere. This feature is in the form of a requirement to apply for an export license—which would then be denied—for any transaction that the seller knows, or has reason to know, is destined for a foreign WMD program. If the U.S. government has information revealing that a pending sale is intended for use in a WMD program, it can inform the seller of that fact, thereby triggering the licensing requirement. Such an approach cannot be assured of depriving the target WMD program of those goods or assistance, which may be available from suppliers outside the scope of U.S. controls, or may be indigenously developed. (Note that embargoing U.S. technologies related to nuclear weapons from North Korea has not prevented that country from developing nuclear weapons.) However it does serve a political objective of "keeping U.S. hands clean," and it may complicate the WMD weapons programs' procurement activities.

Such an "individually targeted" provision might be used if the U.S. government needed a mechanism to exclude specific individuals who are known to be affiliated with proscribed foreign activities or institutions (e.g., affiliated with WMD programs or with hostile intelligence agencies) from accessing certain technologies or gaining certain scientific or technical "know how." However, this situation should rarely come to pass. If the United States had such information, it would likely be used in visa and border reviews to deny such an individual entry to the United States. Nevertheless, if such an individual were admitted anyway, or if adverse information were obtained later that did not rise to the level of warranting expulsion, this option would provide a basis for denying that individual access to certain technologies without having to establish a licensing regime for an entire university campus that would target individuals on the basis of broad categorizations such as nationality or employer. Note that the existing Student and Exchange Visitor Information System indicates each foreign student or exchange visitor's host institution, and if the government wanted to establish this level of control for a specific visitor, it would be able to notify that host institution accordingly.

Recommendations with respect to export controls

- *The Commission recommends that, consistent with NSDD-189, no general "deemed export" controls be placed on the use of research equipment in the conduct of fundamental research at U.S. universities and research institutions.*

- *The Commerce Department IG's proposed threshold – which would require an export license for any one of the following activities: operation, installation, maintenance, repair, overhaul, **or** refurbishing" of commercially available equipment – is neither practical nor required to protect U.S. interests.*

- *In exceptional cases where the government possesses adverse information about a specific foreign national, but the information does not warrant that individual's expulsion from the country, the Commission recommends that the government have the option to notify that individuals' host institution that a deemed export license may be required before that individual is given access to certain technologies.*

- *The Commission recommends that the State Department and Commerce Department work closely with members of the academic and research community before making any changes to regulations governing deemed exports associated with fundamental research. Sustained engagement will be required for any control system to be both effective and to minimize adverse impact on U.S. research institutions.*

3. Federal Research Contract Provisions

Both governmental and industrial sponsors have proposed for inclusion in research contracts with academic research institutions clauses that would curtail openness in fundamental research. The Association of American Universities (AAU) and the Council on Governmental Relations (COGR), key associations of research universities, conducted a study in 2003 of the frequency with which such clauses were introduced.[22] This study explored two types of provision – one that gives the government rights of prior review of proposed research publications, and another that gives the government the authority to restrict the participation of foreign nationals in particular research projects. Both types of provision are harmful to fundamental research institutions for the reasons discussed above.

These provisions appear to be based on the self-protective instincts of lower level contracting officials rather than on articulated national policy. These provisions, when applied to fundamental research outside the context of classification, are not consistent with NSDD 189. Although some universities have accepted these clauses, several others have sought to negotiate them out of the contracts. These negotiations often succeeded with government agencies, but negotiating with industrial contracting offices was harder. Even though the specific work that industrial sponsors were seeking at universities might have qualified as fundamental research were the government to have contracted for it directly, industrial sponsors apparently believed that they were required to pass on restrictions that were imposed on their own prime contracts.

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[22] A Report of the AAU/COGR Task Force "Restrictions on Research Awards: Troublesome Clauses," Julie T. Norris, Chair; Massachusetts Institute of Technology; http://www.aau.edu/research/Rpt4.8.04.pdf (last accessed May 27, 2005)

The AAU/COGR study pointed out that most research institutions have policies precluding research contracts that restrict publication rights. It also found that a lesser number, but still a majority, of research institutions refuse to restrict the participation of foreign nationals in campus research. In addition to the direct consequences of constraining university openness, the imposition of a requirement for pre-publication security review by the sponsor means that the resulting research is no longer considered to be intended for open publication, and that it therefore no longer qualifies for the fundamental research exemption. Therefore, imposing a pre-publication security review requirement can mean that export licenses will be required for foreign nationals participating in that research.

Recommendations with respect to federal research contract provisions

- *The Commission recommends that NSDD-189's proscription of restrictions on either the conduct or the reporting of unclassified fundamental research be respected, and that no requirements for pre-publication review of research or for approval of foreign nationals be included in government contracts involving fundamental research.*

- *The Commission recommends that the same policy "flow down" to institutions that perform fundamental research for the government as subcontractors. That is, if industrial prime contractors subcontract for fundamental research, they should not pass down to their subcontractors any pre-publication review requirements or approval authorities over foreign nationals that may derive from non-fundamental research provisions in their own contracts.*

4. Statutory requirements for the conduct of specific types of biological research

Legislation implemented in the wake of the 9/11 attacks imposed licensing and access control requirements on institutions that possess certain pathogenic organisms. The USA PATRIOT Act (2001) and the Public Health Security and Bioterrorism Preparedness and Response Act (2002) establish criteria that must be met by anyone with access to certain dangerous biological organisms, denoted as "select biological agents," and that require the Attorney General to certify whether individuals meet those criteria. Among other criteria, no citizen of a country designated by the Secretary of State as state sponsor of terrorism may have access to these organisms. Research institutions have had to implement access control procedures that exclude all uncertified personnel from areas where they might gain access to these agents.

When these access restrictions were being considered by Congress, the researchers most affected by them – microbiologists – supported them, agreeing that "some people should not have access to select agents."[23] Although the subsequent regulations have forced changes in laboratory design and operation and imposed costs and delays, universities and other research institutions have for the most part managed to implement them. As of

[23] See testimony by Ronald M. Atlas, Ph.D., President-Elect of the American Society for Microbiology and Co-chair of the Task Force on Biological Weapons Control, before the Senate Judiciary Subcommittee on Technology, Terrorism and Government Information, November 6, 2001, available online at http://www.asm.org/Policy/index.asp?bid=5463 (last accessed May 27, 2005)

December 2004, 9,350 personnel have been cleared by the U.S. government to work with, or have access to or control over, these agents.[24]

Implementing select agent restrictions, however, should not be taken as a precedent for the research community's ability to implement a much more general "deemed export" regime as described in section 2 of this White Paper. Both the list of controlled items (agents), and the set of criteria specifying who is allowed access to them, is far more objective and specific for select biological agents than it appears they would be for export-controlled technologies. Moreover, whether or not a researcher will require access to controlled materials is likely to be far more predictable in the case of biological organisms than in the case of restrictions on export-controlled research hardware.

Controls on access to select agents are imposed by statute and therefore the policy in NSDD-189 does not apply.[25] However, there is concern, and some anecdotal information, that these restrictions may drive experienced researchers and laboratories out of select agent research.[26] At the same time, a large influx of research funding in select agent research is drawing researchers into the field. The long-term implications of these regulations on the field, including the effects of these inflows and outflows on research quality, are not yet known.

Recommendations with respect to legislative controls

- *The Commission recommends that the consideration of any proposed legislation that would impose controls on the transfer of scientific information be informed by the testimony at hearings by universities and research institutions, and that executive branch implementation of any such legislation be accomplished by government agencies working closely with members of the academic and research community. Sustained engagement will be required for any control system to be both effective and to minimize adverse impact on U.S. research institutions.*

- *The Commission recommends that the select agent control system not be considered as a precedent for a regime to govern access to export-controlled technologies.*

5. Self-regulation

Self regulation by the academic community is an effective way to achieve the government's underlying security goals. In the case of information generated in the

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[24] Personal communication, Janet Shoemaker, Director of Public Affairs of the American Society for Microbiology, April 18, 2005

[25] The operative language of NSDD-189 prohibits restrictions on the conduct or reporting of federally-funded unclassified fundamental research "except as provided in applicable U.S. Statutes."

[26] Even with the more predictable, objective, and limited nature of select agent controls as opposed to other mechanisms to restrict unclassified research, an MIT faculty committee concluded that select biological agent controls "are not consistent with MIT's principles." The Committee expressed concern that at some future time, MIT may legitimately decide that research subject to these controls "is no longer in its interest. MIT Ad Hoc Faculty Committee on Access to and Disclosure of Scientific Information, *op cit.*, footnote 7 above, p. iii.

course of fundamental biological research, a group of scientific publishers, editors, scientists, and policy analysis recognized that "there is information that, although we cannot now capture it with lists or definitions, presents enough risk of use by terrorists that it should not be published."[27] Indeed, exactly what information falls in this category still eludes definition. Consistent with NSDD-189, the journal editors rejected a formal government role in making this determination – but in return, they assumed part of this burden themselves. Their statement of February 2003 pointed out that "an editor may conclude that the potential harm of publication outweighs the potential societal benefits," and that "under such circumstances, the paper should be modified, or not be published."[28] This responsibility is also shared, of course, by the researchers themselves.

While this statement was being drafted, a panel of the National Academy of Sciences (NAS) was meeting to come up with ways to minimize the risk that advanced fundamental biological research would be misapplied to create novel, and ever more dangerous, biological weapons. This panel's final report, named the Fink Report after the study chair, Gerald Fink, ultimately emphasized the importance of self-governance, individual responsibility, and institutional review in exercising security responsibilities.[29] In addition to reaffirming the journal editors' statement with respect to scientific publishing, the NAS panel went on to recommend that a screening process be established through which local review committees, operating under nationally derived guidance, would review proposals to conduct research in any of seven "areas of concern."[30] These reviews would seek to identify and mitigate issues that might arise from the research.

The federal government, in turn, has moved to implement the NAS panel's recommendations by establishing a National Science Advisory Board for Biosecurity (NSABB). According to its charter,[31] this Board will work with the scientific community to establish the voluntary screening process recommended by the NAS panel for certain categories of dual-use life sciences research. It also has the following responsibilities:

- Raise the awareness of scientists with respect to the security implications of their work;
- Help develop of a code of conduct for life sciences researchers;

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[27] "Statement on Scientific Publication and National Security," Journal Editors and Authors Group, *Science* vol. 299, 21 February 2003, p. 1149. Available online at http://www.sciencemag.org/feature/data/security/statement.pdf (last accessed May 27, 2005).

[28] Ibid.

[29] Committee on Research Standards and Practices to Prevent the Destructive Application of Biotechnology, Development, Security, and Cooperation, National Research Council, *Biotechnology Research in an Age of Terrorism* (Washington, DC: National Academy Press, 2004). Available online at http://books.nap.edu/catalog/10827.html (last accessed May 27, 2005).

[30] These areas include research that would demonstrate how to render a vaccine ineffective; confer resistance to therapeutically useful antibiotics or antiviral agents; enhance the virulence of a pathogen or render a nonpathogen virulent; increase transmissibility of a pathogen; alter the host range of a pathogen; enable the evasion of diagnostic/detection modalities; or enable the weaponization of a biological agent or toxin. *Ibid*, p. 5

[31] At www.biosecurityboard.gov (last accessed May 27, 2005). As of the same date, the Board's membership had not been announced.

- Recommend education and training programs in biosecurity;
- Advise on policy concerning the publication, communication, and dissemination of "dual-use" biological research; and
- Recommend strategies for coordinated international oversight of dual-use research.[32]

As of this writing, the NSABB had still not been empanelled, although its first meeting has been scheduled for June 30-July 1, 2005.

Concerns about the security sensitivity of unclassified fundamental scientific research are particularly salient in the life sciences, but they are not limited to that field. Similar issues have risen, for example, in the area of critical infrastructure protection. In one recent example, a graduate student at George Mason University, near Washington, DC, assembled public domain and publicly available information to derive a fine-grained, geospatial database that mapped out the nation's critical infrastructures. National and homeland security officials expressed alarm that the resulting product, which could be used as a targeting tool, was not classified; however, because it was a privately generated compilation of public domain information, it was not eligible for classification.[33] Recognizing the security sensitivities involved – and working closely with government officials – the student, his faculty research advisor, and university officials agreed that the actual database would be very tightly controlled, and that any published version would speak in only the most general terms about the underlying database.[34]

Recommendations with respect to self-regulation

- *The Commission recommends that the NSABB be empanelled promptly so that it can carry out its assigned mission.*

- *The Commission recommends that each university and research institution establish a committee or other group made up of senior scholars that is responsible for informing faculty and researchers and promoting understanding with respect to classification, export controls, federal research contract provisions, statutory requirements on information control, and self-regulation. This entity would regularly assess compliance with same. By doing a better job at understanding their obligations to comply with export control legislation, universities will help to avoid government decisions that could hurt national interests more than they help. Innovative mechanisms to educate faculty, administrators, and general counsels as to their export control compliance responsibilities must be developed, particularly if the recommendation above to forego the use of deemed export controls to regulate the conduct of fundamental research is not adopted.*

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[32] *Ibid.*, NSABB Charter, March 4, 2004

[33] Laura Blumenfeld, "Dissertation Could Be Security Threat: Student's Maps Illustrate Concerns About Public Information," *The Washington Post*, July 8, 2003, p. A1

[34] "George Mason University at Forefront of Homeland Security Efforts and Developing Models of Public and Private Cooperation," *The CIP Report*, vol. 2, No. 3," July 2003, pp. 7-8 http://techcenter.gmu.edu/programs/cipp/cip_report/cip_report_2.1.pdf (last accessed May 27, 2005).

- *The Commission commends actions taken by members of the life sciences and critical infrastructure protection communities, among others, to consider the security implications of their own work and to take responsibility to implement self-governance mechanisms. Further thought and analysis are needed to formulate procedures regarding the dissemination of scientific information in these contentious areas; and to raise the education and awareness of practitioners. As one example, the existing requirement for National Institutes of Health-supported graduate students to have some training in ethics could provide a mechanism for this purpose.*

- *The Commission recommends that individual researchers pay careful attention to their responsibility, while doing nominally unclassified research, to call their results to the attention of the relevant government agencies in the extraordinary event that they believe those results warrant classification.*

Annex I: Members of the Commission on Scientific Communication and National Security

Co-Chairs

Harold Brown
Counselor & Trustee, CSIS;
Former Secretary of Defense

David Baltimore
President, Caltech;
Nobel Laureate for Physiology or Medicine

Members

William F. Ballhaus, Jr.
President and CEO, The Aerospace Corporation;
Former Director, NASA Ames Research Center

Paul Berg
Robert W. and Vivian K. Cahill Professor in Cancer Research, Stanford University;
Nobel Laureate for Chemistry

Alfred R. Berkeley III
Chairman of the Board of the Community of Science, Inc.
Former President and Vice Chairman, The NASDAQ Stock Market, Inc.

D. Allan Bromley (deceased February 2005)
Sterling Professor of the Sciences, Yale University;
Former Assistant to the President for Science and Technology Policy

Jared L. Cohon
President, Carnegie Mellon University

France Cordova
Chancellor, University of California, Riverside;
Former Chief Scientist, NASA

Charles B. Curtis
President and COO, Nuclear Threat Initiative;
Former Deputy Secretary, Department of Energy

James J. Duderstadt
President Emeritus and Professor of Science and Engineering, University of Michigan

Gerald R. Fink
Professor of Genetics, MIT;
Founding member and Former Director, Whitehead Institute for Biomedical Research

John Gage
Chief Researcher and Director of the Science Office, Sun Microsystems

Robert Gates
President, Texas A & M University;
Former Director of Central Intelligence

M.R.C. Greenwood
Provost and Senior Vice President - Academic Affairs, University of California;
Former Associate Director, White House Office of Science and Technology Policy (OSTP)

Margaret A. Hamburg
Senior Scientist and Former Vice President, Biological Programs, Nuclear Threat Initiative;
Former Assistant Secretary, Planning and Evaluation, Department of Health and Human Services

John P. Holdren
Heinz Professor of Environmental Policy, Kennedy School, Harvard University;
Former Member President's Committee of Advisors on Science and Technology (PCAST)

B.R. Inman
Lyndon B. Johnson Centennial Chair in National Policy, University of Texas at Austin;
Former Director, NSA; Former Deputy Director, CIA

Adel A. F. Mahmoud
President, Merck Vaccine Division

Richard A. Meserve
President, Carnegie Institution of Washington;
Former Chairman, Nuclear Regulatory Commission

Judith Miller
Partner Williams and Connelly;
Former General Counsel, Department of Defense

John S. Parker
Senior Vice President, SAIC;
Former Commanding General, United States Army Medical Research and Materiel Command

Elizabeth Rindskopf Parker
Dean, University of the Pacific – McGeorge School of Law;
Former General Counsel, NSA; Principal Deputy Legal Adviser, Department Of State; General Counsel, CIA

Phillip A. Sharp
Institute Professor, MIT; Director, McGovern Institute for Brain Research;
Nobel Laureate in Physiology or Medicine

Deanne Siemer
Managing Director, Wilsie Co. LLC
Former General Counsel, Department of Defense; Former special counsel to the President

George Terwilliger III
Attorney, White & Case, LLP;
Former Deputy Attorney General of the United States

Charles Vest
President Emeritus and Professor of Mechanical Engineering, Massachusetts Institute of Technology;
Member, President's Committee of Advisors on Science and Technology (PCAST)

Mitchel B. Wallerstein
Dean, Maxwell School of Citizenship and Public Affairs, Syracuse University;
Former Deputy Assistant Secretary of Defense for Counterproliferation Policy

Philip Zimmermann
Founder, Phil Zimmerman & Associates

Annex II: About the Commission on Scientific Communication and National Security

In partnership with CSIS, the National Academies in 2003 established the *Roundtable on Scientific Communication and National Security*, a deliberative body that represented a broad cross-section of the national security and scientific communities. The Roundtable provided a structured opportunity for the identification and discussion of the challenges posed by the potential conflicts between openness in science and requirements needed for enhanced national security. The roundtable format—a neutral discussion forum—enabled members of diverse and sometimes opposing institutions to engage in a continuing dialogue, and it provided them with the opportunity to build ongoing relationships that could, over time, facilitate collaboration. Consonant with policy and practices of the National Academies, the Roundtable did not make policy recommendations.

At the same time, the *Commission on Scientific Communication and National Security* (CSCANS) was created at CSIS with the same membership. Acting independently of the Roundtable, the Commission had the objective of generating actionable recommendations for public policy. This paper is a product of the CSIS Commission.

Goals

The CSIS-National Academies collaboration convened four times over a two-year period to discuss and study these issues as well as other urgent and ongoing issues associated with the central relationship between advancements in science and the preservation of security. The specific aims of the collaboration were:

- To foster dialogue between the science and technology and security communities as part of the process of formulating national policies regarding scientific collaboration and communication;
- To establish a focal point for unbiased and deliberative consideration of solutions to the dilemmas posed by balancing the need for open scientific communication with the need for protecting national and homeland security; and
- To propose policy-relevant research and analysis in this area.

Meeting these challenges is not a responsibility of the scientific community or the national security community alone; it requires an integrated effort. Science and security efforts must inform and support each other in order to successfully improve both the security and welfare of the United States.

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