

IG-00-018

**AUDIT
REPORT**

**NASA OVERSIGHT OF CONTRACTOR EXPORTS OF
CONTROLLED TECHNOLOGIES**

March 23, 2000



National Aeronautics and
Space Administration

OFFICE OF INSPECTOR GENERAL

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Acronyms

EAR	Export Administration Regulations
ECP	Export Control Program
EOS	Earth Observing System
FAR	Federal Acquisition Regulation
GAO	General Accounting Office
ISS	International Space Station
ITAR	International Traffic in Arms Regulations
NPD	NASA Policy Directive
NPG	NASA Procedures and Guidelines
OIG	Office of Inspector General

W

March 23, 2000

TO: A/Administrator

FROM: W/Inspector General

SUBJECT: INFORMATION: NASA Oversight of Contractor Exports of Controlled Technologies
Assignment Number A9903300
Report Number IG-00-018

The NASA Office of Inspector General (OIG) is conducting an audit of contractor control of sensitive technologies (controlled technologies). During the audit, we found that NASA personnel responsible for managing major programs at the Goddard Space Flight Center, Johnson Space Center, and Marshall Space Flight Center were unable to readily identify the types and amounts of NASA-funded controlled technologies that contractors export.¹ As a result, NASA lacks assurance that contractor export activities are performed in accordance with applicable laws and regulations.

We also identified potential export violations by two of the three NASA contractors we reviewed who were exporting NASA-funded controlled technologies to foreign contractors in furtherance of the International Space Station and Space Shuttle External Tank programs. NASA did not direct or seek these exports. Consequently, the contractors bear responsibility for full compliance with export laws. Nevertheless, we believe that the recommendations agreed upon by NASA will provide some greater insight on contractors' export activities with a NASA nexus. In addition, the agreed upon recommendations will strengthen NASA-directed controlled technology exports.

Background

As a U.S. Government agency on the leading edge of space and aeronautics technological development and international cooperation, NASA must be a responsible exporter in its international activities. NASA's international activities often involve the transfer of commodities, software, or technologies to foreign partners not only by NASA, but also by its contractors. The transfers are generally subject to export control laws and regulations, regardless of whether they occur in the United States, overseas, or in space. Export controls are imposed on such transfers and activities in order to protect the national security and to further U.S. foreign policy objectives.

¹ Exports are transfers of any commodities, software, or technologies to foreign entities and include items such as flight hardware and software, propulsion systems, and spacecraft systems and associated equipment.

The majority of export licenses are governed and controlled by either the Office of Defense Trade Controls at the Department of State or the Bureau of Export Administration at the Department of Commerce. The Office of Defense Trade Controls is responsible for controlling items identified on the U.S. Munitions List² pursuant to the International Traffic in Arms Regulations (ITAR).³ The Bureau of Export Administration controls items that are identified on the Commerce Control List⁴ pursuant to the Export Administration Regulations (EAR).⁵

In 1995, NASA established an Export Control Program, which consists of NASA-wide procedures to ensure that exports to foreign parties in international activities are conducted in accordance with the provisions of the ITAR and EAR. NASA's contractors are responsible for adherence to the same laws and regulations.

Recommendations, Management's Response, and Evaluation of Response

We recommended that management include guidance in either a NASA Federal Acquisition Regulation (FAR) Supplement amendment, Procurement Information Circular, or NASA Procedures and Guidelines that all appropriate NASA contracts require the contractors to deliver (1) a plan for obtaining any required export licenses to fulfill contract requirements, (2) a listing of the contractor licenses obtained, and (3) a periodic report of the exports effected against those licenses. The guidance should state that contractors should provide these deliverables to at least the Center Export Administrator and other appropriate NASA officials as determined by project management. We also recommended revision of the draft NASA Policy Directive 2190⁶ to incorporate the oversight responsibilities of appropriate NASA officials for those cases in which NASA or its contractors obtain export licenses in behalf of a NASA program.⁷

Management concurred with both recommendations. The Agency agreed to provide additional guidance through one or more of the recommended means to assure that appropriate contracts contain requirements related to export controls. Management will also ensure that the forthcoming NASA Procedures and Guidelines on export control will include the responsibilities of NASA officials as they relate to the use of NASA obtained export licenses. Details on the status of the recommendations are in the recommendations section of the report.

[original signed by]

Roberta L. Gross

Enclosure

² U.S. Munitions List, April 1999, identifies items designated by the President to be defense articles and services.

³ The ITAR provide guidance for controlling the export and import of defense articles and services.

⁴ The Commerce Control List, October 1999, identifies "dual-use" items that have military/strategic and civil applications.

⁵ The EAR implement the export and re-export requirements of the Export Administration Act of 1979.

⁶ The draft directive, "NASA Export Control Program," assigns overall responsibility for the Agency's export control program to various NASA officials. Details are on page 5 of the report.

⁷ See Appendix C for situations in which controlled technologies are exported in support of NASA programs.

Final Report on Audit of NASA Oversight of Contractor Exports of Controlled Technologies

FINAL REPORT
AUDIT OF NASA OVERSIGHT OF CONTRACTOR
EXPORTS OF CONTROLLED TECHNOLOGIES

W

March 23, 2000

TO: H/Associate Administrator for Procurement
I/Associate Administrator for External Relations

FROM: W/Assistant Inspector General for Auditing

SUBJECT: Final Report on the Audit of NASA Oversight of Contractor Exports of Controlled Technologies
Assignment Number A9903300
Report Number IG-00-018

The subject final report is provided for your information and use. Our evaluation of your response is incorporated into the body of the report. The corrective actions planned for the recommendations are responsive. The recommendations will remain open for reporting purposes until corrective actions are completed. Please notify us when action has been completed on the recommendations, including the extent of testing performed to ensure corrective actions are effective.

If you have questions concerning the report, please contact Mr. Kevin J. Carson, Program Director, Safety and Technology Audits, at (301) 286-0498, or Mr. Timothy L. Bailey, Auditor-in-Charge, at (301) 286-3355. We appreciate the courtesies extended to the audit staff. The final report distribution is in Appendix H.

[Original signed by]

Russell A. Rau

Enclosure

cc:

B/Chief Financial Officer

B/Comptroller

BF/Director, Financial Management Division

G/General Counsel

JM/Director, Management Assessment Division

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NASA Office of Inspector General

IG-00-018

March 23, 2000

Assignment No. A9903300

NASA Oversight of Contractor Exports of Controlled Technologies

Introduction

The NASA Office of Inspector General (OIG) is conducting an audit of contractor control of sensitive technologies (controlled technologies). Our objective related to this report was to assess Government oversight of contractor processes for exporting controlled technologies.⁸ During the audit, we identified an opportunity for NASA to improve its oversight of contractors exporting controlled technologies for various Agency programs.

Appendix A contains further details on the audit objectives, scope, and methodology.

Results in Brief

Contractors are exporting controlled technologies to foreign entities in support of the Agency's international activities. However, NASA personnel responsible for managing major programs at the Goddard Space Flight Center (Goddard), Johnson Space Center (Johnson), and Marshall Space Flight Center (Marshall) were unable to readily identify the types and amounts of NASA-funded controlled technologies that contractors export. As a result, NASA lacks assurance that contractor export activities are performed in accordance with applicable laws and regulations.

Background

As a U.S. Government agency on the leading edge of space and aeronautics technological development and international cooperation, NASA must be a responsible exporter in its international activities. Previous audits by the NASA OIG and the U.S. General Accounting Office (GAO) identified potential problems regarding oversight of exports effected by NASA (see Appendix B).⁹ NASA's international activities often involve the transfer of commodities, software, or technologies to foreign partners not only by NASA, but also by its contractors.¹⁰ The transfers are generally subject to export control laws and regulations, regardless of

⁸ Exports are transfers of any commodities, software, or technologies to foreign entities and include items such as flight hardware and software, propulsion systems, and spacecraft systems and associated equipment.

⁹ NASA OIG Report IG-99-020, "NASA Control of Export Controlled Technologies," March 31, 1999; GAO Report GAO/NSIAD-00-14, "Export Controls – International Space Station Technology Transfers," November 1999.

¹⁰ See Appendix C for situations in which controlled technologies are exported in support of NASA programs.

whether they occur in the United States, overseas, or in space. Export controls are imposed on such transfers and activities in order to protect the national security and to further U.S. foreign policy objectives.

The majority of export licenses are governed and controlled by either the Office of Defense Trade Controls at the Department of State or the Bureau of Export Administration at the Department of Commerce. The Office of Defense Trade Controls is responsible for controlling items identified on the U.S. Munitions List¹¹ pursuant to the International Traffic in Arms Regulations (ITAR).¹² The Bureau of Export Administration controls items that are identified on the Commerce Control List¹³ pursuant to the Export Administration Regulations (EAR).¹⁴ Appendix D contains further details on the U.S. Munitions List and Commerce Control List.

In 1995, NASA established an Export Control Program (ECP), which consists of NASA-wide procedures to ensure that exports to foreign parties in international activities are conducted in accordance with the provisions of the ITAR and EAR. NASA's contractors are responsible for adherence to the same U.S. export laws and regulations.

NASA Oversight of Contractor Exports

Finding. NASA export, program, and contracting personnel at Goddard, Johnson, and Marshall could not readily identify the types and amounts of NASA-funded controlled technologies that contractors export in support of NASA programs. This condition exists because NASA's current export policies do not clearly define the Agency's oversight responsibilities regarding its contractors who export controlled technologies. In addition, NASA has not established contract requirements for contractors to notify NASA when they deem it necessary to obtain an export license in furtherance of a NASA program or when exports are effected against those licenses. Consequently, NASA does not have assurance that contractors are exporting controlled technologies in accordance with applicable U.S. export laws and regulations. The lack of oversight may have also resulted in potential export violations by major NASA contractors.

Current NASA Export Control Guidance

NASA Procedures and Guidelines (NPG) 7120.5A, "Program and Project Management Processes and Requirements," April 3, 1998, requires program teams to ensure that the Agency's planned technology exchange and partnership agreements comply with all laws and regulations regarding the transfer of export-controlled and proprietary technologies.

The "NASA Export Control Program," pamphlet, dated November 1995 (revised October 1998), establishes policies and procedures on an Agency-wide basis to ensure that NASA's exports and

¹¹ U.S. Munitions List, April 1999, identifies items designated by the President to be defense articles and services.

¹² The ITAR provide guidance for controlling the export and import of defense articles and services.

¹³ The Commerce Control List, October 1999, identifies "dual-use" items that have military/strategic and civil applications.

¹⁴ The EAR implement the export and re-export requirements of the Export Administration Act of 1979.

transfers to foreign parties in international activities are consistent with the requirements of the ITAR and EAR. An essential part of the ECP is the establishment of mechanisms within the Agency (including the Centers) that provide checks and safeguards at key steps in program development and implementation, helping to better manage international program initiatives. Such oversight helps to ensure that NASA export personnel ask the right questions to preclude NASA officials and contractors from effecting transfers that may be contrary to U.S. export controls or may be inconsistent with requirements of the ITAR and EAR. Absent an effective ECP, NASA and its employees risk violating requirements of the ITAR and EAR, which may result in suspension of current or future licensing privileges and criminal, civil, or administrative enforcement action against both Government officials and private contractors.

The pamphlet also describes the authorities and responsibilities of applicable NASA Headquarters and Center personnel with regard to export control. The pamphlet requires NASA Program and Project Managers to establish and maintain a list of contractors, approved by the Commerce Department's Bureau of Export Administration, that have authority to effect exports on NASA's behalf for specific projects under the EAR, pursuant to specific NASA direction with adequate safeguards against unauthorized transfers or disclosures. In addition, the Center Export Administrator is responsible for assessing and ensuring compliance of all Center program activities with U.S. export control laws and regulations. However, the ECP pamphlet does not clearly define oversight responsibilities of export, program, or contracting personnel with respect to contractors who export controlled technologies in support of NASA programs.

The Director of the NASA Office of External Relations, Assessments and Technology Division informed us that each time NASA obtains an export license for one of the Centers, the Center receives a cover letter with the license. The letter contains guidance on the use of the license and directs the recipient organization to keep the Assessments and Technology Division apprised of exports effected against the license.

The Federal Acquisition Regulation (FAR), Subpart 1.602, "Contracting Officers," states that contracting officers have authority to enter into, administer, or terminate contracts and make related determinations and findings. Contracting Officers are also responsible for ensuring performance of all necessary actions for effective contracting, ensuring compliance with the terms of the contract, and safeguarding the interests of the United States in its contractual relationships.

Identification of NASA Contractors Exporting Controlled Technologies

NASA personnel could not readily identify the specific contractors exporting controlled technologies in support of NASA programs. During our visits to the Centers, we requested export, program, and contracting personnel at Goddard, Johnson, and Marshall to identify the contractors under their cognizance exporting controlled technologies in support of NASA programs. However, the Centers do not maintain that information, and only Goddard procurement personnel provided a listing of the Center's major contractors that export controlled technologies, subsequent to our request.

Because export information on contractors was not available, we judgmentally selected three NASA programs (see Appendix E) for review that potentially had exports because of international involvement. Overall management of the individual programs selected was the responsibility of Goddard, Marshall, and Johnson. The programs and the respective contractors were:

- Earth Observing System (EOS) Common Spacecraft/TRW
- Space Shuttle External Tank/Lockheed-Martin
- International Space Station (ISS)/Boeing

We determined that each of the three contractors regularly exported controlled technologies in support of their respective NASA program. The technology was exported using export licenses obtained by NASA or the contractor from either the Department of State or Department of Commerce. Although the contractors effected exports in support of NASA programs, NASA export, program, and contracting officials provided no oversight of the contractors for compliance with applicable laws and regulations.

Lack of NASA Oversight of Contractor Export Activities

Current Agency export guidance such as the NASA Export Control Program pamphlet does not require contractors to report information such as export license applications and exports effected against those licenses, even though the Agency's international activities often involve the export of controlled technologies by contractors to foreign entities. Without a requirement to identify and report information related to export-controlled technologies, the Agency lacks assurance that contractor export activities are effected in accordance with applicable U.S. export laws and regulations.

NASA program and contracting personnel responsible for the EOS Common Spacecraft, the Space Shuttle External Tank, and ISS programs told us that they did not review the respective contractors' export control programs to determine whether they were in compliance with U.S. export laws and regulations because current NASA export control guidance does not address oversight responsibilities for contractor exports. As a result, NASA is relying on its contractors to ensure that their exporting activities are compliant.

Specific Guidance Lacking on Oversight Responsibilities

NASA is not providing oversight of contractor exports of controlled technologies because specific guidance requiring such oversight does not exist. For example, the Export Control Program pamphlet does not explicitly state that its provisions apply to NASA contractors effecting exports of controlled technologies on behalf of NASA programs. The pamphlet states only that "oversight helps ensure that the right questions are being asked to preclude NASA officials and contractors from effecting transfers that may be contrary to U.S. export controls or inconsistent with requirements under the ITAR and EAR."

The NASA FAR Supplement does not identify standard contract clauses requiring contractors to notify contracting officers when contractors apply for an export license in behalf of a NASA program or when contractors effect exports against those licenses. NASA published a proposed change to the NASA FAR Supplement in the October 28, 1999, Federal Register, to include a standard clause in all NASA contracts for export controlled technologies. The proposed clause has been published in the Federal Register as a Final Rule and requires contractors to be responsible for exporting controlled technologies in accordance with applicable laws and regulations, but does not require reporting of information such as export license applications and exports effected against those licenses. The proposed clause also states that NASA should not be relied upon to obtain export licenses. Requiring contractors to periodically report on licenses applied for NASA programs and on the actual exports effected against those licenses can further strengthen this clause in the NASA FAR Supplement. The Center Export Administrators could use this information to augment their efforts to assess and ensure compliance of all NASA program activities with applicable export laws and regulations.

NASA also issued a proposed change to the NASA FAR Supplement in July 1999 concerning risk management as part of the acquisition process. The purpose of this change is to emphasize considerations of risk management, including export control, as part of the acquisition process. The change proposes that acquisition planning teams include representatives from the Center offices responsible for matters such as safety and mission assurance and export control to ensure that NASA acquisitions are structured in accordance with Agency policy in these areas.

In September 1998, NASA began drafting NASA Policy Directive (NPD) 2190, “NASA Export Control Program.” The draft NPD states:

It is NASA policy to ensure that exports and transfers to foreign parties and related entities of commodities, software, or technical data are carried out in accordance with U.S. export control laws, including the EAR and the ITAR, and approved international practices and procedures. Further, such practices must be consistent with U.S. foreign policy objectives and national security interests.

The NPD assigns overall responsibility to various NASA officials for the Agency’s export control program. Under Section 2, “Applicability,” the NPD identifies all NASA activities and the Jet Propulsion Laboratory (to the extent specified in its contract). The NPD does not address NASA’s oversight responsibilities regarding contractor export controls for NASA-funded controlled technologies. NPD 2190 should be updated to clearly define oversight responsibilities for NASA export, program, and contracting officials. In addition, any future NPG related to export controls should provide specific guidance on how the oversight should be accomplished.

Potential Export Violations by NASA Contractors

The lack of Government oversight has also resulted in potential export violations by two of the three NASA contractors we reviewed. Specifically, the Boeing Company and Lockheed-Martin

Corporation may have inappropriately exported controlled technologies to foreign entities in support of the ISS and Space Shuttle External Tank programs without obtaining proper export licenses.

- **Boeing.** Boeing Missiles and Space Division has potentially committed export violations as defined by the EAR. Specifically, Boeing shipped controlled technologies to foreign entities without obtaining export licenses. The Missile and Space Division's Export Compliance Manager informed us that Division personnel inadvertently shipped berthing mechanisms for ISS components to foreign entities. The EAR, Part 736.2, states:

You may not, without a license or license exception, export any item subject to the EAR to another country or re-export any items of U.S.-origin if each of the following is true:

- (i) The item is controlled for a reason indicated in the applicable Export Control Classification Number, and
- (ii) Export to the country of destination requires a license for the control reason as indicated on the Country Chart at part 738 of the EAR.

During the course of this audit, Boeing Missiles and Space Division made a voluntary disclosure of the potential export violations to the Commerce Department's Office of Export Enforcement.

- **Lockheed-Martin.** Lockheed-Martin's Michoud Space Systems may have violated the terms of its export license the State Department granted to Lockheed under the ITAR. The license permitted Lockheed-Martin to ship specific quantities of aluminum alloy materials that met specific monetary thresholds to a German contractor. These exports were effected in support of the Space Shuttle External Tank Contract. The materials were shipped to the German contractor for use in manufacturing dome caps for the external tank. Our review of export files maintained by the company's Export Compliance Coordinator showed that Lockheed-Martin shipped aluminum alloy material that exceeded the amounts the export license authorized by 73,971 pounds and by \$292,311. The ITAR, Part 127.2., "Violations and Penalties" states:

It is unlawful to use any export or temporary import control document containing a false statement or misrepresenting or omitting a material fact for the purpose of exporting any defense article or technical data or the furnishing of any defense service for which a license or approval is required by this subchapter. For the purpose of this section, export or temporary import control documents include the following: (1) an application for a permanent export or temporary import license and supporting documentation, (2) shipper's export declaration, (3) invoice, (4) declaration of destination, (5) delivery verification, (6) application of temporary export, (7) application for registration, (8) bill-of-lading, and (9) airway bill.

The Department of State will make the determination as to whether Lockheed-Martin violated the provisions of ITAR with regard to exporting controlled technologies in excess of the amounts authorized by the export license.

The lack of oversight of contractor export control programs by NASA export, program, and contracting officials may have contributed to these potential export violations. An effective

oversight program will provide the Agency with assurance that controlled technologies are exported in accordance with applicable laws and regulations and not in an unauthorized or unlicensed manner.

Recommendations, Management's Response, and Evaluation of Response

1. The Associate Administrator for Procurement, in conjunction with the Associate Administrator for External Relations, should include guidance in either a NASA FAR Supplement amendment, Procurement Information Circular, or NASA Procedure and Guidelines to include requirements in all appropriate NASA contracts that contractors deliver (1) a plan for obtaining any required export licenses to fulfill contract requirements, (2) a listing of the contractor licenses obtained, and (3) a periodic report of the exports effected against those licenses. Included in the guidance will be instructions that these deliverables be provided to at least the Center Export Administrator and any other appropriate NASA officials as determined by the project manager.

Management Response. Concur. NASA will provide guidance through one or more of the recommended means to assure that appropriate contracts include the requirement for contractors to provide the necessary information on their export activities. The complete text of management's response is in Appendix F.

Evaluation of Management's Response. Management's planned actions are responsive to the recommendation. The recommendation is resolved, but will remain undispositioned and open for reporting purposes until corrective actions are completed. We address management's comments on the finding in Appendix G.

2. The Associate Administrator for External Relations should revise the NASA Export Control Program pamphlet and the draft NPD 2190 to incorporate the oversight responsibilities of the appropriate NASA officials for those cases in which NASA or its contractors obtain export licenses in behalf of a NASA program.

Management Response. Concur. The forthcoming NPG on export control will include the responsibilities of NASA officials as they relate to the use of NASA obtained export licenses. The NPG will replace the current NASA Export Control Program pamphlet and will address the new NASA FAR Supplement and the responsibilities of NASA officials for contractor obtained licenses (see Appendix F).

Evaluation of Management's Response. The actions planned by management are responsive to the recommendation. The recommendation is resolved, but will remain undispositioned and open for reporting purposes until corrective actions are completed.

Appendix A. Objectives, Scope, and Methodology

Objectives

Our objective was to assess NASA oversight of contractor processes for exporting NASA-funded controlled technologies. The remaining objective of the audit, which will be addressed in a separate report, is to determine whether major contractors have established adequate controls over NASA's controlled technologies to preclude unauthorized or unlicensed transfers.

Scope and Methodology

We obtained an overall understanding of NASA's current export control program plan and how it relates to NASA's oversight of contractor exports. We also reviewed export policies and procedures for selected contractors to determine contractor compliance with the International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR). During the audit, we:

- Identified and reviewed NASA and selected contractors' export policies and procedures, in addition to the ITAR and EAR.
- Reviewed export licenses, applications, and supporting documentation dated from 1992 through 1999, at both NASA and contractor locations.
- Interviewed personnel in NASA's Office of External Relations and program, contracting, and export officials at Goddard, Johnson, and Marshall.
- Interviewed program, contracting, and export officials at Lockheed-Martin, Boeing, and TRW.
- Interviewed personnel with the Defense Contract Management Command at Lockheed-Martin, Boeing, and TRW.

Management Controls Reviewed

We reviewed the following management controls relative to NASA oversight of contractor processes for control of sensitive technologies:

- NASA Policy Pamphlet, "NASA Export Control Program," November 1995 (revised October 1998).
- International Traffic in Arms Regulations, April 1999
- U.S. Export Administration Regulations, January 1998

Appendix A

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- NASA Procedures and Guidelines (NPG) 7120.5A, “NASA Program and Project Management Processes and Requirements,” April 3, 1998.
 - NASA FAR Supplement, Subpart 1825, “Foreign Acquisition.”

Management controls are not adequate relative to Agency oversight of contractor processes for exporting NASA-funded controlled technologies as discussed in the finding.

Audit Field Work

We conducted field work from May through November 1999, at NASA Headquarters, Goddard, Johnson, and Marshall. We visited contractor locations in Huntsville, Alabama; New Orleans, Louisiana; Houston, Texas; and Huntington Beach and Redondo Beach, California. We performed the audit in accordance with generally accepted government auditing standards.

Appendix B. Summary of Prior Audit Coverage

NASA Office of Inspector General

“NASA Control of Export Controlled Technologies,” IG-99-020, March 31, 1999. The report states that NASA has not identified all export-controlled technologies related to its major programs and does not maintain a catalog of classifications for transfers of export-controlled technologies. Also, Agency oversight of and training for personnel in the Export Control Program need improvement. Specifically, annual audits of each NASA Center’s export control systems were not adequately performed, and NASA personnel lack training in controlling and documenting export-controlled technologies. The report contains six recommendations to assist NASA in addressing export-controlled technologies. Management concurred with all recommendations.

General Accounting Office (GAO)

“Export Controls – International Space Station Technology Transfers,” GAO/NSIAD-00-14, November 1999. The House of Representatives Committee on Science requested that GAO review NASA’s implementation of Federal export regulations. The Department of Commerce has issued nine validated licenses to NASA to export specific items and one special comprehensive license. The special comprehensive license allows NASA to export certain preapproved items without seeking Commerce’s approval each time NASA needs to export them for the ISS program. The special comprehensive license has been used only once, even though its purpose was to preclude the need for individual licenses.

The GAO also determined that NASA erroneously authorized the export of radiation-hardened electronic parts to a Russian firm in 1997 without obtaining a license from the Department of State. Further, NASA’s internal and external reviews of Agency export control activities have identified weaknesses. The GAO made one recommendation aimed at improving the quality of NASA’s internal audits.

Appendix C. Situations in Which Controlled Technologies are Exported

Situation 1: NASA exports controlled technologies for its behalf. NASA exports controlled technologies on its behalf, usually for in-house programs and projects. In this situation, NASA is the authority of export. NASA is responsible for administration and oversight of the export licenses obtained from either the Department of State or Department of Commerce.

Situation 2: NASA granted license exemptions (Department of State only). In some cases, NASA can grant contractors authorization to export controlled technologies without the contractor having to obtain licenses from the Department of State. As a Government agency, NASA is entitled to certain license exemptions not available to industry. NASA, in turn, utilizes its exemptions to authorize contractors to export controlled technologies for NASA programs. In this situation, the contractor is the authority of export and does not have to obtain approval from the Department of State.

Situation 3: NASA obtains export license and the exporting authority is consigned to contractors. NASA obtains export licenses and consigns the authority to effect the export to contractors. For certain programs, such as the ISS, NASA can obtain a single or special comprehensive export license from the Department of Commerce. This process enables the contractor to export controlled technologies to NASA's international partners pursuant to NASA contract direction. In this situation, NASA typically will obtain the export licenses for those programs with heavy international involvement. NASA is the authority of export and is responsible for administration and oversight of the license.

Situation 4: Contractor obtains export license from the Departments of State or Commerce for NASA funded programs. Contractors directly obtain the export licenses for controlled technologies to be transferred to foreign entities. In this situation, the contractor is the authority of export. The contractor is also responsible for administration of the export license.

Situation 5: Contractor obtains export license from the Departments of State or Commerce for NASA-funded technologies exported commercially. For certain programs such as the ISS, the contractor has authority to commercially market ISS hardware and software containing NASA-funded controlled technologies. In this situation, the contractor obtains the export license, is the authority of export and is responsible for administration of the export license.

Appendix D. Laws, Regulations, and Guidance Relating to Controlled Technologies

Arms Export Control Act, 22 U.S.C. § 2778. The Arms Export Control Act authorizes the President to control the export of defense articles and services. This authority has been delegated to the Department of State, which implements the Act through the ITAR. Defense articles and services subject to the Act are identified in broad categories on the United States Munitions List. Violations of the Act are punishable by debarment; fines of up to \$500,000; and imprisonment for up to 10 years.

Export Administration Act of 1979, as amended, 50 U.S.C., Appendix 2401-2420. The Export Administration Act is a legal authority underlying the Export Administration Regulations.

U.S. Export Administration Regulations (EAR), 15 Code of Federal Regulation (CFR), Part 730. The Commerce Department's Bureau of Export Administration issues the EAR under laws relating to the control of exports and re-exports. The EAR were designed to implement the Export Administration Act of 1979. The term "dual-use" distinguishes the types of items covered by the EAR from those covered by regulations of certain other U.S. Government departments and agencies with export licensing responsibilities. The term dual-use also distinguishes EAR-controlled items that can be used both in military and other strategic uses and in civil applications from those that are weapons and for military-related use or designs and are subject to the controls of the Department of State. The export items are classified in at least 1 of the 10 categories of the Commerce Control List:

- Category 0 - Nuclear Materials, Facilities and Equipment, and Miscellaneous
- Category 1 - Materials, Chemicals, Microorganisms, and Toxins
- Category 2 - Materials Processing
- Category 3 - Electronics
- Category 4 - Computers
- Category 5 - Telecommunications and Information Security
- Category 6 - Lasers and Sensors
- Category 7 - Navigation and Avionics
- Category 8 – Marine
- Category 9 – Propulsion Systems, Space Vehicles, and Related Equipment

International Traffic in Arms Regulations (ITAR), 22 CFR, Parts 120-130. The Bureau of Political-Military Affairs, Office of Defense Trade Controls, Department of State, issues the ITAR to control the export and import of defense articles and defense services. The President shall designate the articles and services deemed to be defense articles and services. These defense articles and services constitute the U.S. Munitions List, a subpart of the ITAR. The intended use of the article or service after its export is not relevant in determining whether the article or service is subject to the controls of the ITAR. The defense articles or services fall into 1 of the 21 categories of the U.S. Munitions List:

- Category 1 - Firearms
- Category 2 - Artillery Projectors
- Category 3 - Ammunition
- Category 4 - Launch Vehicles, etc.
- Category 5 - Explosives, Propellants, Incendiary Agents, and Their Constituents
- Category 6 - Vessels of War and Special Naval Equipment
- Category 7 - Tanks and Military Vehicles
- Category 8 - Aircraft and Associated Equipment
- Category 9 - Military Training Equipment
- Category 10 - Protective Personnel Equipment
- Category 11 - Military Electronics
- Category 12 - Fire Control, Range Finder, Optical and Guidance and Control Equipment
- Category 13 - Auxiliary Military Equipment
- Category 14 - Toxicological Agents and Equipment and Radiological Equipment
- Category 15 - Spacecraft Systems and Associated Equipment
- Category 16 - Nuclear Weapons Design and Related Equipment
- Category 17 - Classified Articles, Technical Data, and Defense Services Not Otherwise Enumerated
- Category 18 - Reserved
- Category 19 - Reserved
- Category 20 - Submersible Vessels, Oceanographic, and Associated Equipment Category
- Category 21 - Miscellaneous Articles

Appendix E. Contracts Selected for Review

Because export information on contractors was not readily available, we randomly selected the following three contracts for review that had potential international involvement.

Contractor/Contract Number	Description/Value	Location of Performance	Cognizant NASA Center
Boeing Missiles and Space Division, NAS5-10000	International Space Station Alpha Program \$7.1 billion	Houston, TX Huntington Beach, CA Huntsville, AL Canoga Park, CA	Johnson
TRW, NAS5-32954	EOS Common Spacecraft \$396 Million	Redondo Beach, CA	Goddard
Lockheed-Martin Michoud Space Systems, NAS8-36200	Space Shuttle External Tanks \$3.7 billion	New Orleans, LA	Marshall

Appendix F. Management's Response

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



MAR 13 2000

Reply to Attn of

ID

TO: W/Assistant Inspector General for Auditing

FROM: I/Associate Administrator for External Relations

SUBJECT: Agency Comments to Draft Report on the Audit of NASA
Oversight of Contractor Exports of Controlled Technologies (Assignment
#A9903300)

Thank you for the opportunity to comment on the subject draft report. NASA completely agrees that it is essential that its contractors understand and comply with U.S. export laws and regulations. It was with that thought in mind that the Agency recently created Section 1825.1103-70 to the NASA FAR Supplement, entitled "Export control" to highlight that responsibility. As your report states in the last sentence of the section entitled "Background", "...NASA's contractors are responsible for adherence to the [] U.S. export laws and regulations. ...".

All NASA contractors are answerable to the regulatory agencies charged with overseeing export compliance; namely the Departments of State and Commerce, and many have their own internal compliance programs.

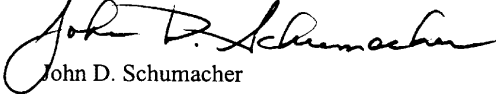
Export compliance is for the most part self-policing by the exporter; i.e., it is the individual exporter's responsibility to adhere to applicable laws and regulations. To enhance NASA's own knowledge of and compliance with these laws and regulations, the NASA Export Control Program was established in late 1995. Such an internal program was and is a requirement of obtaining approval for Department of Commerce Special Comprehensive Licenses.

While NASA has no specific oversight role in export licenses obtained directly by its contractors, there are certain instances where NASA does take on an export role involving its contractors. This can happen where NASA authorizes a contractor to use a license exemption, or in instances where NASA authorizes a contractor to effect exports using a NASA obtained license; e.g., the International Space Station, Special Comprehensive License and certain licenses wherein a contractor is identified by NASA as the consignor. In such circumstances NASA has specific knowledge of what is to be exported, to what entity and for what purpose. In general, it is only in such circumstances that NASA takes on an "oversight" role beyond that of the regulatory agencies themselves.

Appendix F

Our comments to the report in general, and our response to the two recommendations, are enclosed.

I would also like to commend the members of your staff that worked on this audit for their professionalism and cooperation. If you have any questions, please contact me or Mr. Robert Tucker at 202-358-0330.



John D. Schumacher

Enclosure

**NASA Response to the Recommendations of the Inspector Generals Draft Report on
the Audit of NASA Oversight of Contractor Exports of Controlled Technologies
(Assignment #A9903300)**

Recommendations for Corrective Action:

1. The Associate Administrator for Procurement, in conjunction with the Associate Administrator for External Relations, should include guidance in either a NASA FAR Supplement amendment, Procurement Information Circular, or NASA Procedure and Guidelines to include requirements in all appropriate NASA contracts that contractors deliver (1) a plan for obtaining any required export licenses to fulfill contract requirements, (2) a listing of the contractor licenses obtained, and (3) a periodic report of the exports effected against those licenses. Included in the guidance will be instructions that these deliverables be provided to at least the Center Export Administrator and any other appropriate NASA officials as determined by the project manager.

NASA Response: Concur

NASA recently created Section 1825.1103-70 titled "Export control" in the NASA FAR Supplement (NFS) specifically for the purpose of highlighting contractor responsibilities in this area. NASA supports the idea of knowing when its contractors deem it necessary to obtain export licenses in furtherance of the contract and supports the inclusion of a contract requirement to obtain this information, including periodic reporting of exports effected against those licenses. NASA will provide guidance through one or more of the recommended means to assure that appropriate contracts include the requirement.

Corrective Action Officer: Code HK/P. Flynn and Code ID/R. Tucker
Corrective Action Closure Official: HK/S.Thompson and I/L. Cline
Projected Corrective Action Closure Date: 3/8/01

The Associate Administrator for External Relations should:

2. Revise the NASA Export Control Program pamphlet and the draft NPD 2190 to incorporate the oversight responsibilities of the appropriate NASA officials for those instances where NASA or its contractors obtain export licenses in behalf of a NASA program.

NASA Response: Concur

The forthcoming NASA Procedures and Guidelines (NPG) document on export control will include the responsibilities of NASA officials as they relate to the use of NASA obtained export licenses. This will mainly be a formal documentation of the existing practice of providing direction from NASA Headquarters to Center Program/Project Managers on the use of, and reporting requirements associated with, NASA obtained licenses. To the extent that contractors are authorized to use the license, these reporting requirements flow through to the contractor.

The NPG will also address the new NASA FAR Supplement 1825.1103-70 and responsibilities of NASA officials for contractor obtained licenses within the context of our response to recommendation 1 above. As discussed with the IG's representatives, we would not intend to include this information in the draft NASA Policy Directive 2190, or amend the NASA Export Control Program pamphlet. NPD 2190 is intended to be a brief statement of policy with the details of implementation being left to the accompanying NPG, and the NASA pamphlet is being replaced by the forthcoming NPG.

Corrective Action Officer: Code ID/R. Tucker
Corrective Action Closure Official: I/L. Cline
Projected Corrective Action Closure Date: 3/8/01

See
Appendix G,
OIG
Comment 1

See
Appendix G,
OIG
Comment 2

**Specific NASA Comments to the Draft Report on the Audit of NASA Oversight of
Contractor Exports of Controlled Technologies
(Assignment #A9903300)**

Page 2 & 7, Findings:

It is the NASA position, based on U.S. law and regulation, that contractors are separately responsible for their own export compliance and that broad NASA oversight of that compliance is neither required nor an appropriate Agency function. The recent creation of Section 1825.1103-70 titled "Export control" in the NASA FAR Supplement (NFS) was specifically promulgated for the purpose of highlighting a contractor's responsibility in this area. Contractors must submit license applications to the appropriate regulatory agency and must maintain required records. The principal agencies charged with broad export review and compliance are the Departments of State and Commerce.

The finding further states that the perceived lack of Agency oversight may have resulted in potential export violations by major NASA contractors. This statement, and the subsequent discussion pertaining to it in the draft report, omits two essential facts. First, any export control violation by a NASA contractor, unless specifically directed by the Agency, results from the contractor's own acts or omissions. This is a fundamental precept of the export control laws - that each entity effecting exports is responsible for its own compliance - and is not vitiated by a contractual relationship to a Government agency. See, e.g., 15 CFR §§ 736.2(b), 764.2; 22 CFR §§ 123.1, 125.2, 127.1. Second, the potential contractor violations cited in the draft report pertain to exports made by the contractors on their own accord, as part of their own business practices, without NASA having sought or directed the exports. In the Boeing case the transaction was a private commercial transaction not involving a NASA contract. Therefore, the statement that "[t]he lack of Government oversight has also resulted in potential export violations by two of the three NASA contractors we reviewed" is without basis.

Appendix G. OIG Comments on Management's Response

NASA management provided the following comments in its response to our draft report. Our responses to the comments are also presented.

Management's Comment. NASA management stated that it is the NASA position, based on U.S. law and regulation, that contractors are separately responsible for their own export compliance and that broad NASA oversight of the compliance is neither required nor an appropriate Agency function. The recent creation of NASA FAR Supplement Section 1825.1103-70, "Export control," was specifically promulgated for the purpose of highlighting a contractor's responsibility in this area. Contractors must submit license applications to the appropriate regulatory agency and must maintain required records. The principal agencies charged with broad export review and compliance are the Departments of State and Commerce.

1. OIG Comments. We agree that NASA contractors are responsible for ensuring that their export activities are in compliance with U.S. export laws and regulations. However, NASA officials should be aware of the types and amounts of controlled technologies that contractors are exporting in support of NASA programs and that such exports are accomplished in accordance with applicable laws and regulations. Our position on this matter is further strengthened by a request made to the NASA Inspector General by the Senate Committee on Appropriations.¹⁵ Specifically, the Committee requested that NASA, in conjunction with the NASA Inspector General, conduct an annual assessment and report to the Congress on all procedures, protocols, and policies governing the export or transfer of NASA-related technologies and to determine the extent to which NASA and NASA contractors are carrying out activities in compliance with Federal export control laws. We believe that it is clearly intended by this request and its specific mention of contractors that NASA bears some responsibility in ensuring that contractors are exporting controlled technologies in accordance with applicable laws and regulations.

Management's Comment. The finding further states that the perceived lack of Agency oversight may have resulted in potential export violations by major NASA contractors. This statement, and the subsequent discussion pertaining to it in the report, omits two essential facts. First, any export control violation by a NASA contractor, unless specifically directed by the Agency, results from the contractor's own acts or omissions. Second, the potential contractor violations cited in the report pertain to exports made by the contractors of their own accord, as part of their own business practices, without NASA having sought or directed the exports. In the Boeing case, the transaction was a private commercial transaction not involving a NASA contract. Therefore, the statement that "the lack of Government oversight has also resulted in potential export violation by two of the three NASA contractors we reviewed" is without basis.

¹⁵ The request was contained in Senate Report 106-161 on the Departments of Veteran Affairs and Housing and Urban Development, and Independent Agencies Appropriations Bill for fiscal year 2000.

2. OIG Comments. While we agree that the examples cited in the report occurred without NASA having sought or directed the exports, the Agency should be concerned that in some cases, its contractors have potentially violated export laws in exporting controlled technologies developed under NASA contracts to commercial foreign entities. For example, the two contractors cited in the report, Boeing and Lockheed-Martin, were exporting NASA-funded controlled technologies to foreign contractors in furtherance of the ISS and Space Shuttle External Tank programs.

While we acknowledge that Boeing's potential violations occurred as part of a private commercial transaction not involving a NASA contract, the items exported were identical to those Boeing was also exporting on NASA's behalf as part of the ISS contract. As the prime contractor for the U.S. portion of the ISS, NASA granted Boeing the authority to act on the Agency's behalf to export NASA-funded controlled technologies through the use of NASA-obtained export licenses.

In addition to these licenses, Boeing also maintains an ISS commercial program that essentially allows Boeing to market similar and sometimes identical technologies developed under the NASA ISS contract to foreign partners involved in the ISS program. Boeing obtains the licenses when exports are effected in this manner. The potential violations by Boeing involved the shipment of items containing NASA-funded controlled technologies without the benefit of NASA or contractor export licenses. Boeing shipped an ISS component called a Common Berthing Mechanism to private companies located in Japan and Italy without first obtaining export licenses, a clear violation of the Export Administration Regulations.

While we agree that contractors are responsible for ensuring that their export activities are in compliance with U.S. Export Laws and Regulations, NASA should also be concerned that technology developed under a NASA contract is being exported to foreign entities under a contractor's commercial program in potential violation of the law.

Appendix H. Report Distribution

National Aeronautics and Space Administration (NASA) Headquarters

A/Administrator
AE/Chief Engineer
AF/Chief Technologist
AI/Associate Deputy Administrator
B/Chief Financial Officer
B/Comptroller
BF/Director, Financial Management Division
G/General Counsel
H/Associate Administrator for Procurement
I/Associate Administrator for External Relations
ID/Director, Assessments and Technology Division
IM/Director, Resources Management Office
J/Associate Administrator for Management Systems
JM/Director, Management Assessment Division
L/Associate Administrator for Legislative Affairs
M/Associate Administrator for Space Flight
P/Associate Administrator for Public Affairs
R/Associate Administrator for Aero-Space Technology
S/Associate Administrator for Space Science
U/Associate Administrator for Life and Microgravity Sciences and Applications
Y/Associate Administrator for Earth Science
Z/Associate Administrator for Policy and Plans

NASA Centers

Director, Ames Research Center
Center Export Administrator, Ames Research Center
Center Export Counsel, Ames Research Center
Procurement Office, Ames Research Center
Director, Dryden Flight Research Center
Center Export Administrator, Dryden Flight Research Center
Center Export Counsel, Dryden Flight Research Center
Procurement Office, Dryden Flight Research Center
Director, John H. Glenn Research Center at Lewis Field
Center Export Administrator, John H. Glenn Research Center at Lewis Field
Center Export Counsel, John H. Glenn Research Center at Lewis Field
Procurement Office, John H. Glenn Research Center at Lewis Field
Director, Goddard Space Flight Center
Center Export Administrator, Goddard Space Flight Center
Center Export Counsel, Goddard Space Flight Center

NASA Centers (Cont.)

Director, Jet Propulsion Laboratory
Center Export Administrator, Jet Propulsion Laboratory
Procurement Office, Jet Propulsion Laboratory
Director, Lyndon B. Johnson Space Center
Center Export Administrator, Lyndon B. Johnson Space Center
Center Export Counsel, Lyndon B. Johnson Space Center
Procurement Office, Lyndon B. Johnson Space Center
Director, John F. Kennedy Space Center
Center Export Administrator, John F. Kennedy Space Center
Center Export Counsel, John F. Kennedy Space Center
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Director, Langley Research Center
Center Export Administrator, Langley Research Center
Center Export Counsel, Langley Research Center Director
Procurement Office, Langley Research Center Director
Director, George C. Marshall Space Flight Center
Center Export Administrator, George C. Marshall Space Flight Center
Center Export Counsel, George C. Marshall Space Flight Center
Procurement Office, George C. Marshall Space Flight Center
Director, John C. Stennis Space Center
Center Export Administrator, John C. Stennis Space Center
Center Export Counsel, John C. Stennis Space Center
Procurement Office, John C. Stennis Space Center

Non-NASA Federal Organizations and Individuals

Assistant to the President for Science and Technology Policy
Deputy Associate Director, Energy and Science Division, Office of Management and Budget
Branch Chief, Science and Space Programs Branch, Energy and Science Division, Office of Management and Budget
Associate Director, National Security and International Affairs Division, Defense Acquisition Issues, General Accounting Office
Professional Assistant, Senate Subcommittee on Science, Technology, and Space

Chairman and Ranking Minority Member - Congressional Committees and Subcommittees

Senate Committee on Appropriations
Senate Subcommittee on VA, HUD, and Independent Agencies

Senate Committee on Commerce, Science, and Transportation
Senate Subcommittee on Science, Technology, and Space

Appendix H

Chairman and Ranking Minority Member - Congressional Committees and Subcommittees (Cont.)

Senate Committee on Governmental Affairs

House Committee on Appropriations

House Subcommittee on VA, HUD, and Independent Agencies

House Committee on Government Reform and Oversight

House Subcommittee on Government Management, Information, and Technology

House Subcommittee on National Security, Veterans Affairs, and International Relations House

Committee on Science

House Subcommittee on Space and Aeronautics

Congressional Member

Honorable Pete Sessions, U.S. House of Representatives

NASA Assistant Inspector General for Auditing Reader Survey

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Report Title: Final Report on the Audit of NASA Oversight of Contractor Exports of Controlled Technologies

Report Number:

Report Date:

Circle the appropriate rating for the following statements.

	Strongly Agree	Agree	Neutra l	Disagre e	Strongl y Disagre e	N/A
1. The report was clear, readable, and logically organized.	5	4	3	2	1	N/A
2. The report was concise and to the point.	5	4	3	2	1	N/A
3. We effectively communicated the audit objectives, scope, and methodology.	5	4	3	2	1	N/A
4. The report contained sufficient information to support the finding(s) in a balanced and objective manner.	5	4	3	2	1	N/A

Overall, how would you rate the report?

EXCELLENT

FAIR

VERY GOOD

POOR

GOOD

If you have any additional comments or wish to elaborate on any of the above responses, please write them here. Use additional paper if necessary. _____

How did you use the report? _____

How could we improve our report? _____

How would you identify yourself? (Select one)

- | | |
|---------------------|--|
| Congressional Staff | Media |
| NASA Employee | Public Interest |
| Private Citizen | Other: _____ |
| Government: _____ | Federal: _____ State: _____ Local: _____ |

May we contact you about your comments?

Yes: _____ **No:** _____

Name: _____

Telephone: _____

Thank you for your cooperation

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