RIN-0694-XA37
February1, 2012

Semiconductor Industry Association Comments on Retrospective Regulatory Review Under E.O. 13563

The Semiconductor Industry Association ("SIA") is the premier trade association representing the U.S. semiconductor industry. SIA is made up of over 60 companies that account for nearly 90 percent of the semiconductor production of this country. SIA members are America's top exporting industry, with 82 percent of their sales outside the United States; accordingly, access to growing markets is critical for the viability of the industry.

SIA is pleased to submit the following comments in response to the request for public comments issued by the U.S. Department of Commerce's Bureau of Industry and Security ("BIS") on how the agency should undertake the retrospective review of its regulations.[1]

SIA understands that the BIS is particularly interested in comments directed at improving the wording, requirements and overall structure of the Export Administration Regulations ("EAR"). For most SIA member companies, streamlining and improving export controls can best be achieved through policy changes. Hence, SIA's comments below are targeted at such policy changes.

I. Establishment of Intra-Company Transfer License Exception

Establishment of a streamlined intra-company transfer license exception that is integrated with an exporter's internal control program would greatly facilitate legitimate trade while still protecting national security interests.

SIA member companies operate globally and must contend with repetitive and substantial case-by-case export licensing requirements on an intra-company basis for exports of products, equipment and technology to foreign subsidiaries, suppliers and vendors. Properly structured, an intra-company transfer license exception, including deemed exports, could create a simplified but more effective holistic control system, rather than relying on a transactional approach. To be viable, such a license exception would have to be less onerous and complicated than the current transaction-by-transaction licensing burden.

SIA has long maintained that such an intra-company transfer license exception can be both workable and effective. *See* SIA comments at Attachment 1.

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[1] Retrospective Regulatory Review Under E.O. 13563: Notice of Inquiry, 76 Fed. Reg. 47,527 (Aug. 5, 2011) ("Notice of Inquiry").

II. Creation of a Bulk Deemed Export License

With research and manufacturing facilities spanning the globe, SIA member companies employ large numbers of foreign nationals. In addition, with foreign students at U.S. universities representing over half of masters and over seventy percent of PhD graduates in semiconductor-related fields, foreign nationals comprise a major segment of the pool of prospective employees for U.S. high technology companies.

A single license application should identify the applicable technologies, training, internal control and reporting procedures for all foreseeable deemed exports. Once such a license is approved, it should be possible for individual foreign nationals to be added to the license merely by having BIS scrutinize the relevant information pertaining to that individual.

At minimum, in the absence of an appropriate intra-company transfer license exception, the creation of a bulk deemed export license would provide significant benefits to exporters. It would eliminate the burdensome and unnecessary duplication of time and effort currently associated with the submission of numerous deemed export licenses for the same business venture, while maintaining the appropriate requirement that every foreign national be carefully vetted before being granted access to sensitive information.

III. Improvements to License Exception STA

License Exception STA has the potential to be very helpful to the U.S. semiconductor industry if certain modifications could be implemented. In particular, China should be made an eligible destination for this License Exception. The China market represents the largest single country market in the world for semiconductors. Moreover, during the last decade China's semiconductor market growth has far exceeded that of the rest of the world. The China market is much too extensive and diverse to be wholly excluded from the STA License Exception.

The Commerce Department should adopt measures to make License Exception STA available to all reliable users in China. *See* Attachment 1 for further SIA comments.

IV. Mandated Deadline for Decision on Deemed Export License Application

Currently, the BIS has no firm deadline for acting on deemed export license applications. Accordingly, applicants may have to wait several months for resolution of such applications. Such delays can cause hardships to companies seeking both to comply with the EAR and advance their commercial interests via development of sensitive technologies.

SIA recommends that the EAR be amended to include a provision requiring that the BIS rule on any deemed export license request within 30 days of the license request's

submission. Recognizing that in certain circumstances the BIS may need extra time to resolve particularly complicated matters, the decision date for the license request could be extended to no later than the date 45 days after the license request was submitted, but only if the BIS (i) provides notice to the applicant that such is the case, and (ii) indicates the specific reasons why the delay is required.

Such a provision should provide greater predictability to the current license process.

V. The Appropriate Control Status of Integrated Circuits

The control of integrated circuits should be made consistent with their inherent characteristics and integrated circuits should be subject to control only when they are defined with particularity or they are "specially designed" for the item into which they are incorporated. In summary, SIA has maintained:[2]

- All integrated circuits are necessarily components and so should be controlled exclusively as components on the EAR;
- Only application-specific integrated circuits ("ASICs") should be controlled;
- Export controls on ASICs should be limited only to those ASICs associated directly with the controlled element of an end item enumerated on the EAR; and
- As it pertains to components, the definition of "specially designed" contained in the EAR should be given a clear and common sense meaning and should be aligned with the definition of that term provided by the State Department in its December 2010 Advanced Notice of Proposed Rulemaking.[3]

Adoption of these measures would greatly not only benefit the U.S. semiconductor industry, but also enhance national security.

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[2] Letter from the Semiconductor Industry Association to Timothy Mooney Re: Proposed Revisions to Export Administration Regulations, Comments of the Semiconductor Industry Association, RIN 0694-AF17 (Sept. 13, 2011). (Attachment 2.)

[3] Semiconductor Industry Association Comments on Proposed Revisions of U.S. Munitions List Category VII, RIN 1400-AC 96 (Dec. 22, 2011). (Attachment 3.)

SIA appreciates the opportunity to provide these comments on improvements to the EAR and looks forward to continuing its cooperation with the U.S. Government on this subject. Please feel free to contact the undersigned or SIA's counsel, Clark McFadden of Dewey & LeBoeuf LLP, if you have questions regarding these comments.

Cynthia Johnson
Co-Chair, SIA Trade Compliance Committee

David Rose
Co-Chair, SIA Trade Compliance Committee

Attachments

ATTACHMENT 1

SIA | SEMICONDUCTOR INDUSTRY ASSOCIATION

February 7, 2011

Office of Exporter Services
Regulatory Policy Division
Bureau of Industry and Security, Room 2705
U.S. Department of Commerce
Washington, D.C. 20230

ATTENTION: RIN 0694–AF03

Re: Export Control Modernization: Strategic Trade Authorization License Exception (75 Fed. Reg. 76,653)

Ladies and Gentlemen:

The Semiconductor Industry Association ("SIA") is the premier trade association representing the U.S. semiconductor industry. Founded in 1977 by five microelectronics pioneers, SIA unites over 60 companies that account for nearly 90 percent of the semiconductor production of this country.

SIA is pleased to respond to the request for comments on the proposed rulemaking to add the Strategic Trade Authorization ("STA") License Exception to the Export Administration Regulations. SIA supports the Administration's Export Control Reform Initiative and agrees with the view expressed by the Administration that the current export control system is overly complicated, contains too many redundancies and attempts to protect too much.

SIA understands that as part of the export control reform effort, the Commerce Department has proposed the creation of License Exception STA, which would permit the unlicensed export, reexport and transfer abroad of commodities, software and technology to countries that the Bureau of Industry and Security ("BIS") has determined pose little risk of unauthorized use or diversion, if exporters, reexporters and transferors comply with certain requirements.

As a general matter, SIA supports license exceptions that reduce administrative burdens on exporters and add flexible and predictable export, reexport and transport options. However, while License Exception STA might provide benefit to some U.S. industries, SIA does not believe the proposed license exception would offer much value to its member companies principally because of the conditions and limitations it would impose on customers.

Potential Inclusion of Category 3 Items in Tier 1

The proposed rulemaking begins by stating that under a revised export control list structure, Tier 1 items (i.e., items critical to the military or intelligence advantage of the United States) would not be within the scope of License Exception STA. The proposed rulemaking goes on to note that the Administration is focusing on whether the export of items, among others, listed under Export Control Classification Number ("ECCN") 3A001 – the category which identifies a variety of general purpose integrated circuits – should be eligible for License Exception STA.

SIA is concerned about potential placement by the Commerce Department of items in ECCN 3A001 in Tier 1 or a revised Commerce Control List (CCL). An item should not be placed in a tier based upon on its classification under a particular ECCN; instead, the listing of an item in a particular tier should be based on the national security significance or military or intelligence advantage to the United States posed by the item itself. Broadly placing categories of items into Tier 1 is a flawed approach and risks over-controlling large numbers of items for the sake of simplicity or expediency.

In any event, SIA does not believe the items included under ECCN 3A001 should merit inclusion in Tier 1. Semiconductors and integrated circuits are mere components that are incorporated into end items and sub-assemblies and generally merit a lesser level of control than these end items. Indeed, the listing of integrated circuits for purposes of export control should be based on criteria that derive from the special features or characteristics of integrated circuits. On this basis, two principles should apply to the classification of integrated circuits:

1. An integrated circuit should be classified in a subsidiary category to the end item in which it is incorporated; it should not be listed in its own right but only as a component of an end item.

2. An integrated circuit component should have to meet two criteria:

   (i) it is an application specific integrated circuit ("ASIC") or custom integrated circuit and is not a general purpose or general commercially applied component; and

   (ii) it has identifiable technical parameters that are peculiarly responsible for the features that produce the military advantage or national security sensitivity in the end item in which the integrated circuit is incorporated.[1]

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[1] The JEDEC Solid State Technology Association defines an ASIC as: "An integrated circuit developed and produced for a specific application or function and for a single customer."

License Exception STA Is not Likely To Be an Attractive Option for Semiconductor Exporters

Notwithstanding whether License Exception STA will be available for the export or reexport of semiconductor components controlled under ECCN 3A001, SIA has a number of concerns regarding the requirements for use of the proposed license exception:

- License Exception STA would impose significant requirements on exporters, reexporters, transferors and consignees. These burdens are of particular significance with respect to customers. Customers in allied nations rely on license exception Additional Permissive Reexports (APR) so they can proceed under the law and regulation of their home country in their export and transfer activities. Most will find it objectionable in principle to have to submit instead to the extra-territorial jurisdiction of the United States. Moreover, it is often difficult to get foreign customers to agree to sign documents subjecting them to U.S. export controls. Antagonizing customers is simply too great a risk in order to avoid the administrative burdens of export licenses. In such circumstances, U.S. companies would likely prefer to apply for a validated export license than use License Exception STA.
- The requirement for a completely new destination control statement for only those transactions undertaken pursuant to License Exception STA is unnecessary. All consignees who are party to such a transaction are already required to agree in writing to abide by U.S. export control laws and regulations. The requirement for the use of a different destination control statement for those items exported, reexported or transferred under License Exception STA introduces more complexity into an export control system that is already overly complicated and contains too many redundancies.
- The requirement that the Export Control Classification Numbers for items shipped pursuant to License Exception STA be included on all export control documents for a given transaction adds an information burden that does not affect the existing obligations of the parties to the transactions.
- The absence of the People's Republic of China ("PRC") as an eligible destination under the proposed License Exception STA greatly reduces the value of the license exception to SIA member companies. According to a recent PricewaterhouseCoopers report, in 2009, the PRC's $93 billion semiconductor market represented 41 percent of the world market while the $38 billion U.S. market was the world's second largest market. The report found that "China's semiconductor consumption market has grown many times faster than the worldwide market as a result of two driving factors: the continuing transfer of worldwide electronic equipment production to China and the above-average semiconductor content of that

equipment" due to its large participation in mobile markets such as cell phones.

Intra-company Transfer License Exception

A far more constructive and attractive license exception than STA would be an Intra-company Transfer ("ICT") License Exception. SIA has long urged the Commerce Department to create an intra-company transfer license exception that authorizes U.S. companies to provide access to export-controlled technology, products and equipment within the perimeters of their global operations.

SIA acknowledges that BIS previously considered the creation of an ICT license exception and published a proposed rule in the *Federal Register* in October 2008 (Establishment of License Exception Intra-Company Transfer (ICT), 73 Fed. Reg. 57,554). Unfortunately, the proposed License Exception ICT would have imposed a substantial application process as well as a number of time-consuming and continuing administrative tasks. These measures would have greatly impeded any streamlining benefits that the license exception might have offered over existing licensing alternatives. Indeed, the proposed rule looked less like a license exception and more like today's burdensome Special Comprehensive License with additional requirements.

SIA member companies operate globally and must contend with substantial case-by-case export licensing requirements on an intra-company basis. This activity spans "deemed exports" of technology to controlled country foreign nationals as well as actual exports and reexports of commodities and technologies to foreign subsidiaries. It is generally characterized by multiple, repetitive, low risk transactions that require an inordinate amount of export licensing activity and resources.

Deemed export license applications have resulted in major complications affecting the employment and treatment of foreign nationals in the United States and in overseas facilities. Since foreign nationals comprise over half of masters and three quarters of Ph.D. graduates from U.S. universities in semiconductor related fields, foreign nationals are an important segment of the existing and prospective employees for U.S. high technology companies. The need for global companies to have a global workforce and the attractiveness of working for world-class U.S. technology companies also drives this situation. Unfortunately, the history of the deemed export rule is one in which U.S. high technology companies often must ask their newly-hired foreign national employees to sit idle during the lengthy process of obtaining a deemed export license. This is harmful to the company and the employee. It has a disproportionately negative effect on the ability of SIA member companies to attract and retain highly-skilled workers.

SIA member companies are heavily invested in the United States, but also operate substantial production, R&D and other facilities around the world. This global reach frequently requires companies to transfer equipment, technology and other items to their foreign sites that require individual validated licenses. The process necessitates case-by-

case filing of license applications as well as requests for license renewals and upgrades. It also entails having to contend with license conditions that range from technology limitations to specified operating procedures to record keeping requirements. The need to obtain transaction-by-transaction licenses for actual intra-company exports can negatively affect the operations of foreign sites or subsidiaries. Delays in the issuance of a license can slow production, research and other activities; similarly, license conditions can constrain the activities of U.S. subsidiaries in ways that limit productivity and innovation. At the same time, there is no compelling reason to believe that the current transactional approach would protect U.S. security interests with any greater efficacy than a holistic intra-company license exception.

SIA member companies need flexibility to operate within their global subsidiaries and to organize and rationalize their global workforces. This is essential to their global competitiveness and their global leadership in technology development. Current U.S. export licensing requirements fall short of providing the needed flexibility.

SIA views the creation of an appropriate ICT license exception as a needed step to minimize some of the unnecessary problems associated with the rules for deemed and actual exports. Like License Exception STA, however, the degree to which exporters could actually benefit from any license exception will depend in large part on whether it can, in fact, reduce effort, delay and uncertainty relative to the current licensing alternatives.

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SIA appreciates the opportunity to comment on the proposed rule and looks forward to continuing its cooperation with BIS on these issues. Please feel free to contact the undersigned if you have questions regarding these comments.

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ATTACHMENT 2

SIA | SEMICONDUCTOR INDUSTRY ASSOCIATION

RIN-1400-AC96
December 22, 2011

Semiconductor Industry Association Comments on Proposed Revision of U.S. Munitions List Category VIII

The Semiconductor Industry Association ("SIA") is the premier trade association representing the U.S. semiconductor industry. SIA is made up of over 60 companies that account for nearly 90 percent of the semiconductor production of this country. SIA members are America's top exporting industry, with 82 percent of their sales outside the United States; accordingly, access to growing markets is critical for the viability of the industry.

SIA is pleased to submit the following comments in response to the request for public comments issued by the U.S. Department of State on proposed revisions to Category VIII of the U.S. Munitions List ("USML") ("Proposed Revisions").[1]

I. Summary

SIA's concerns regarding the State Department proposal are focused on the treatment of components generally and ICs in particular. The Proposed Revisions do not address some of the key export control anomalies for integrated circuits ("ICs"), such as their treatment as end items rather than components. However, the Proposed Revisions do offer a useful definition of "specially designed" – a term that surely will have a far-reaching impact on the export control treatment of ICs.

SIA maintains that the export control status of ICs should be determined in accordance with one overarching principle and two control criteria: The overarching principle is that each IC's control status should be determined entirely by the control status of the end item into which the IC is to be incorporated. ICs have no utility or impact standing alone and, by definition, are not end items. The two control criteria for ICs are (1) only ICs that are designed or developed to be employed in a specific application should be controlled, and (2) only application-specific ICs that are tied directly to a controlled element of an end item should be controlled.

The draft definition of "specially designed" put forward by the State Department in the Proposed Revisions is largely consistent with the above principle and control criteria and for that reason can serve as a good point of departure for any unified definition of that term in the Administration's export reform initiative. The State Department definition is straightforward and tied directly to the common understanding of the words "specially designed." To be sure, certain minor modifications and clarifications to the State Department definition are needed (including specific

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[1] Amendment to the International Traffic in Arms Regulations: Revision of U.S. Munitions List Category VIII, 76 Fed. Reg. 68,694 (Nov. 7, 2011) ("Proposed Revisions").

clarifications for ICs), but the basic structure of the definition is sound and should be employed to develop a unified definition of the term "specially designed" for both the USML and the Commerce Control List ("CCL").

In any event, the State Department definition is more reasonable and practical than the definition recently announced by the Commerce Department. [2]

Lastly, ICs alone should not be classified as defense articles and hence subsection (d) of Category XV of the USML setting forth certain radiation hardened ICs should be eliminated.

II. Introduction

The Administration's initiative to remove items currently listed on the USML that no longer warrant control under the International Traffic in Arms Regulations ("ITAR") is welcome. Effective reform of export controls for integrated circuits ("ICs") will facilitate U.S. leadership in information technology to the benefit of national security and U.S. growth and prosperity.

The Advanced Notice of Proposed Rulemaking ("ANPRM") emphasized that the most significant of the proposed revisions is that it establishes a positive list for parts and components with the only exceptions pertaining to certain "specially designed" parts and components.[3] SIA agrees with the State Department that, as a general matter, a positive listing of controlled components should be the norm. However, since no ICs are identified on a positive list for Category VIII of the USML – and this is likely to be the case with most other USML categories -- SIA will focus its comments on the definition of "specially designed."

SIA agrees with the State Department that the agency should employ "specially designed" as a control criterion only under exceptional circumstances. Nevertheless, SIA recognizes (as does the State Department) that there is likely to be a need for a residual, "catch all" category of controlled components that cannot be included on any positive listing of controlled items. It is with respect to this residual listing of components that the definition of "specially designed" will be critical.

In addressing export controls applicable to ICs, the State Department should keep in mind that the underlying technology associated with such devices and the most advanced applications to which ICs are put are now driven overwhelmingly by consumer products. While utilizing semiconductor technology, the defense sector accounts for only a small fraction of U.S. semiconductor output, and military items rarely utilize the most advanced semiconductor technology.

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[2] Proposed Revisions to the Export Administration Regulations (EAR): Control of Items the President Determined No Longer Warrant Control Under the United States Munitions List (USML), 76 Fed. Reg. 41,958 (July 15, 2011) ("Commerce Proposed Revisions").

[3] Revisions to the United States Munitions List, 75 Fed. Reg. 76,935 (Dec. 10, 2010) (Advanced Notice of Proposed Rulemaking) ("ANPRM").

III. The Appropriate Control Status of Integrated Circuits

As a preliminary matter, all ICs are necessarily components. ICs have no utility or impact standing alone and can serve only as components to other items. Their functionality and impact depend entirely upon the item to which they are connected or incorporated. The derivative nature of ICs means that they should not be set forth on a control list as independent defense articles or dual use end items. Instead, the export control status of ICs should attach to that of the end items in which they are to be incorporated.

This approach to the control of ICs is wholly consistent with the principles of the export reform effort and the Administration's interest in making the control lists more focused and positive. By linking an IC to the end item in which it is to be incorporated, and in particular to the objective criteria of the end item that has led to the end item's inclusion on the USML, the State Department will not only gain a much stronger nexus between the control of ICs and national security sensitivity, but also clarify the USML and permit exporters to better and more easily determine the export control classification of ICs.

Consistent with establishing the necessary connection between a component and the end item into which it is incorporated, the definition of "specially designed" applicable to ICs should consist of two elements: (1) only ICs that are designed or developed to be employed in a specific application should be controlled, and (2) only application-specific ICs that are tied directly to a controlled element of an end item should be controlled.

A. Only ASICs Should Be Export Controlled

Export controls on ICs should be limited to custom-made or application-specific ICs ("ASICs"). In contrast to a general purpose IC, an ASIC or a custom-made IC is dedicated to a specific application, and, hence, has a compelling connection to the end item in which it is incorporated. The characteristics of an ASIC assure that there will be a distinct relationship between the IC and the end item.[4]

B. Export Controls on ASICs Should be Limited to Those ASICs Associated Directly With the Controlled Element of the End Item

An IC should be captured on a control list only if it is directly associated with enabling a military advantage or national security sensitivity of an end item as described in and through the objective criteria of the control list. Through imposition of a strict criterion related to the controlled technical parameters of end items, ASICs that provide benign functions that are separate from or contribute only indirectly to the functionality

[4] The longstanding definition of the JEDEC Solid State Technology Association for an ASIC is relevant and appropriate: "An integrated circuit developed and produced for a specific application or function and for a single customer." This definition captures a custom IC designed particularly to conform to a single customer's unique requirements. By utilizing existing industry terminology, exporters will have a clear basis upon which to classify an IC.

of a defense article, such as routine communications or memory capabilities, will not be captured as controlled components.

Application of this second control criterion will also assure that the control of an ASIC is based on the function or the utility of the IC as it relates to the controlled features of an end item, not merely on the form or fit of the IC. While end items have many specific requirements for ICs, including size, weight, pin-count, buses and connectors, such peripheral requirements are usually related to form and fit, and do not capture the actual function of the IC.

IV. The State Department's Definition of "Specially Designed" Is Reasonable and Serves As a Good Baseline for a Unified Definition of That Term

A. The State Department Definition

In its ANPRM,[5] the State Department made several points with which SIA agrees. First, SIA agrees with the State Department that the use of a Positive List for controlled items is preferable to the current situation and as a general matter will serve both the U.S. Government and exporters quite well.

Second, SIA agrees that it is difficult to construct a Positive List for all components, especially for a category as complex and diverse as ICs. Therefore, a Positive List will likely need to be supplemented with a residual, "catch-all" category of items that will be described qualitatively, rather than listed explicitly.

Third, SIA agrees that, in developing the residual category of controlled items that is parallel to but separate from the Positive List, the use of the term "specially designed" as a control criterion should occur only "when required by multilateral obligations or when no other reasonable option exists."[6]

Finally, SIA agrees with the State Department that in those situations in which "specially designed" must be employed because "no other reasonable option exists," that term must be given a definition that is consistent with the meaning of the words of the term, is readily understandable and effectively captures the relevant national security sensitivities. Subject to these caveats, all of which SIA supports, the State Department in the ANPRM put forward a definition of "specially designed."[7]

The definition of "specially designed" in the Proposed Revisions, which replicates the draft definition of "specially designed" provided in the December 2010 ANPRM, is as follows:

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[5] ANPRM at 76,939.

[6] Id.

[7] Id.

> *. . . the term "specially designed" means that the end item, equipment, accessory, attachment, system, component, or part (see ITAR §121.8) has properties that (i) distinguish it for certain predetermined purposes, (ii) are directly related to the functioning of a defense article, and (iii) are used exclusively or predominantly in or with a defense article identified on the USML.*[8]

While it could and should still be improved, this definition comes close to capturing the appropriate control criteria for components outlined above. What's more, the definition is eminently reasonable and practicable. Accordingly, this definition should serve as the foundation on which a final, unified definition of "specially designed" is built.

Unlike the "specially designed" definition proposed by the Commerce Department earlier this year,[9] the ANPRM definition is straightforward, meaningful, and relatively easy to apply. Furthermore, the definition of the term derives from the meaning of the words themselves.

B. **Required Modifications to the State Department Definition**

As noted above, any viable definition of "specially designed" applied to components must limit the applicability of that term to components that are application-specific (e.g., in the case of ICs, ASICs). The requirement that a component's design and development be specific to the end item in which it is to be incorporated for the component to be controlled is based upon the plain meaning of the word "specially." A component must be more than merely "designed" for an end item. Its design must have specific or extraordinary features that are distinct for the end item.

The ANPRM definition of "specially designed" stipulates that for an item to be "specially designed" it must have "properties that distinguish it for certain predetermined purposes." That requirement goes some distance to capturing the essence of SIA's first control criteria for ICs. However, in the context of components, "specially designed" should be ascribed only to items that are particular and specific to a certain application and not general purpose or multifunctional. In the case of ICs, this means ASICs or custom-made ICs. In the context of the ANPRM definition, it should be made clear that the "purpose" for which the component is designed is narrow and specific (such as reentry telemetry), rather than broad and generic (such as computing or navigation). Furthermore, items that are simply capable of being employed for a certain purpose should not be controlled unless they are actually designed with distinguishing features for that purpose.

The limitation of the "specially designed" designation to those items employed for "certain predetermined purposes" is appropriate and meaningful only to the extent that this is a true limitation. If this criterion captures only ASICs and custom-made ICs, then it is appropriate. Alternatively, if this criterion instead captures all devices employable to

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[8] Proposed Revisions at 68,695 – 68,696.

[9] Commerce Proposed Revisions at 41,980 – 41,981.

perform computing or navigation, then it is far too open-ended and will likely result in the inappropriate application of export controls on ICs that are multifunctional and generic. For that reason, the language of this element of the ANPRM definition should be tightened.

The second requirement for "specially designed" contained within the ANPRM definition – that an item must possess properties that are "directly related to the functioning of a defense article" -- is logical and reasonable. It is certainly the case that a component must possess qualities that are directly related to a controlled end item for the component to be worthy of control. Like the first criterion, this requirement could be usefully refined. A component that is "directly related" to a marginal or peripheral dimension of a defense article should not be deemed "specially designed" for the functionality of the defense article. For example, while it would be appropriate to place controls on an ASIC that is directly related to the firing mechanism of a tank, it would not be appropriate to place controls on an ASIC that is directly related to a simple gage for monitoring oil pressure.

Like the first and second elements, the third element of the ANPRM definition – that an item must possess properties that are "used exclusively or predominantly in or with a defense article" to be "specially designed" for that defense article – could benefit from further clarification. First, introducing a criterion based on use, rather than design *per se*, is unnecessary. An effective definition of "specially designed" should not have to go beyond design-based criteria. In many instances a use-based criterion is a poor proxy for design-based criterion. This is especially true when use is largely dependent upon the control status of an item. Various components that are currently incorporated into defense articles could easily and without modification be incorporated into purely commercial end items, yet the use of the components in non-defense articles is precluded by the simple fact that the components are export controlled. In short, a use-based criterion often can be self-reinforcing and circular.

A subservient, but still significant, problem with the third element of the ANPRM definition is the use of the term "predominantly." Insofar as "predominant" may be interpreted to mean "more than in any other," it is possible that this requirement could capture items that are used in a defense article in a minority or quite small proportion of the total applications.[10] Only if a component is incorporated into a defense article well over half of the time should the component be worthy of control.

In order to forestall these problems, the State Department should replace "used" with "designed" in the third element of the "specially designed" definition.[11] Alternatively, the agency could replace "predominantly" with "overwhelmingly."

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[10] If a component has four uses and the shares of those uses are 10%, 20%, 30% and 40%, then is possible that one could determine that the use accounting for 40% of total use is "predominant."

[11] It should also be emphasized that for ICs design is not simply an expression of intent. On the contrary, for ICs design is a tangible and objective layout of materials and circuits than can be assessed in the same way as the product itself.

In its Proposed Revisions, the State Department notes that it and the Commerce Department intend to develop a definition of "specially designed" that "would be common to the USML and the CCL." SIA strongly supports the adoption of a single, cross-cutting definition of "specially designed" for both the USML and the CCL. Maintaining two distinct definitions for the same term would needlessly undermine alignment of the two control lists and would be unnecessarily confusing. A single, unified definition of "specially designed" for both the USML and the CCL would avoid confusion and second-guessing on the part of both the U.S. Government and industry representatives as the process of moving items from the USML to the CCL progresses.

The ANPRM definition of "specially designed" set forth in the Proposed Revisions is logical and represents a sound foundation on which the State Department and the Commerce Department may build a final, unified definition of "specially designed." As SIA has previously indicated, the "specially designed" definition proposed by the Commerce Department earlier this year at least with respect to components is woefully deficient and flawed,[12] and hence that definition should not form the basis for any unified "specially designed" definition.

At the same time, the ANPRM definition, while certainly headed in the right direction, does need some important modifications and clarifications prior to adoption on a unified basis. Specifically, SIA recommends that the following modifications be made to the ANPRM definition:

> *. . . the term "specially designed" means that the end item, equipment, accessory, attachment, system, component, or part (see ITAR §121.8) has properties that (i) distinguish it for* ***a*** *certain predetermined* ~~*purposes*~~ ***and specific application****, (ii) are directly related to the functioning of a defense article* ***or end item enumerated on the CCL****, and (iii) are* ~~*used*~~ ***designed*** *exclusively or predominantly* ~~*in or with*~~ *for a defense article identified on the USML* ***or an end item enumerated on the CCL.***

In addition, SIA recommends that the following Note addressing ICs in particular be added to this definition:

> *Note: With respect to integrated circuits, this definition is intended to capture custom or application-specific integrated circuits ("ASICs"), as distinct from general or multipurpose devices.*

If these adjustments and IC-specific clarification are made, then the revised ANPRM definition of "specially designed" will capture the essence of SIA's control criteria for ICs outlined above, and will serve as a coherent and effective definition that can be applied uniformly throughout the USML and the CCL.

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[12] Letter from SIA to U.S. Department of Commerce, RIN 0694-AF17 (Sept. 12, 2011).

V. Radiation Hardened ICs Should Be Controlled Only to the Extent That They Meet the Revised Definition of "Specially Designed" Provided Above and Should Be Moved from the USML to the Commerce Control List

Despite SIA's long established protest that ICs can serve only as components (not end items), the U.S. Government continues to control all radiation hardened ICs as defense articles or major end items under the ITAR. The treatment of radiation hardened ICs on the USML is misguided and should be corrected. There is no compelling reason why radiation hardened ICs should be treated any differently than all other types of ICs.

A. Radiation Hardened ICs, Like Other Types of ICs, Should Have Their Control Status Determined Entirely by Their Relationship to the End Items in Which They Are Incorporated

As is the case with all other types of ICs, radiation hardened ICs should have their export control status determined exclusively by the relationship between the ICs and the end items in which they are incorporated.

While the term radiation hardened initially may have been a design characteristic of USML items only, that is not the case today. The normal civilian manufacturing process for ICs has evolved whereby ordinary ICs simply from the process of scaling or getting smaller now exhibit some of the same radiation hardness characteristics that were a unique attribute 30-40 years ago in specially designed military circuits. The change in commercial technology is an unavoidable feature of technological progress. As circuit sizes shrink and civilian technologies advance, many commercial ICs are on a collision course with the outdated parameters of Category XV(d) of the USML.

In these circumstances, there is no compelling reason why radiation hardened ICs should be treated any differently than other types of ICs. If a radiation hardened IC is an ASIC that is dedicated to one of more of the control characteristics associated with an end item, then that it is appropriate for export controls to be associated with the radiation hardened IC. However, if an IC, whether radiation hardened or not, is not an ASIC that is dedicated to one of more of the control characteristics associated with an end item, then no export controls should be associated with that IC. That a device is radiation hardened should be irrelevant to its control status. Only device characteristics tied directly and inextricably to the controlled characteristic(s) of the end items in which the radiation hardened IC is incorporated should be relevant to the device's control status.

B. Even if the Definition of "Specially Designed" Proposed Above Is Not Adopted, Radiation Hardened ICs Should Not Be Listed as Defense Articles on the USML

Continuing progress in semiconductor technology has brought certain advanced civilian ICs close to some or all of the radiation hardness ("rad hard") parameters laid out in Category XV (d) of the USML, thereby potentially subjecting such devices to munitions controls. In July 2007, certain technical parameters in the USML were

adjusted to prevent civilian, general purpose integrated circuits from being controlled as defense articles.

While necessary and helping to maintain the competitiveness of the U.S. semiconductor industry, the July 2007 amendment has only prolonged the arrival of the day when high volumes of mass market ICs will once again qualify as defense articles. Thus, due to the march of technology yet another adjustment to the rad hard parameters of the USML will become necessary.

Continually adjusting the technical parameters of the USML is shortsighted and ineffective. It is shortsighted because it maintains a treadmill for control changes that are unrelated to national security concerns, driven instead by civilian technology trends. It is ineffective because civilian technology trends are not the basis for incorporation of components into defense articles for military or space applications. A permanent solution is required.

Instead of adjusting the technical parameters of the USML every few years, this last remaining aberration where ICs are treated as defense articles should be eliminated. The control of ICs on the USML, like the CCL, should be determined by a "specially designed" definition tied to the particular defense articles in which the IC is incorporated.

* * * * *

SIA appreciates the opportunity to comment on the Proposed Revisions and looks forward to continuing its cooperation with the U.S. Government on this subject. Please feel free to contact the undersigned or SIA's counsel, Clark McFadden of Dewey & LeBoeuf LLP, if you have questions regarding these comments.

Cynthia Johnson
Co-Chair, SIA Trade Compliance Committee

David Rose
Co-Chair, SIA Trade Compliance Committee

ATTACHMENT 3

SIA | SEMICONDUCTOR INDUSTRY ASSOCIATION

September 13, 2011

Mr. Timothy Mooney
Regulatory Policy Division
Bureau of Industry and Security
U.S. Department of Commerce
14th Street Pennsylvania Ave., N.W.
Washington, D.C. 20230

ATTENTION: RIN 0694-AF17

RE: Proposed Revisions to Export Administration Regulations: Control of Items the President Determines No Longer Warrant Control under United States Munitions List (Federal Register Notice of July 15, 2011)

Dear Mr. Mooney:

The Semiconductor Industry Association ("SIA") is the premier trade association representing the U.S. semiconductor industry. Founded in 1977 by five microelectronics pioneers, SIA unites over 60 companies that account for nearly 90 percent of the semiconductor production of this country.

SIA is pleased to submit the following public comments in response to the request for public comments issued by the Commerce Department's Bureau of Industry and Security ("BIS") on proposed revisions to the Export Administration Regulations ("EAR") to incorporate items deemed no longer necessary of control on the U.S. Munitions List ("USM:L") ("Proposed Revisions").[1]

SIA supports President Obama's initiative to conduct a broad-based review of the U.S. export control system, and strongly agrees with former Secretary of Defense Gates' conclusion that fundamental reform of the U.S. export control system is necessary to enhance national security. Such reform can offer the additional advantage of eliminating regulation at its bureaucratic worst: imposing significant costs on government and industry with no benefit to national security or other U.S. interests.

I. Summary

The Administration's initiative to remove items currently listed on the USML that no longer warrant control under the International Traffic in Arms Regulations ("ITAR") is long overdue. Real reform of export controls for integrated circuits ("ICs") will

[1] Proposed Revisions to the Export Administration Regulations (EAR): Control of Items the President Determined No Longer Warrant Control Under the United States Munitions List (USML), 76 Fed. Reg. 41,958 (July 15, 2011) ("Proposed Revisions").

facilitate U.S. leadership in information technology to the benefit of national security and U.S. growth and prosperity.

SIA's concerns are focused on the treatment of components generally and ICs in particular. The Department's proposal does not address some of the key export control problems for ICs, such as their treatment as end items rather than components. It would also fundamentally alter the treatment of components as a result of a new definition of "specially designed." Unfortunately, this definition falls far short of what is needed and does not meet the standards of being "single, clear, and objective" and "easily understood and applied by exporters" that the Department itself established for the definition.

SIA maintains that the export control status of ICs should be determined entirely by the control status of the end items into which those components are to be incorporated. Insofar as ICs have no utility or impact standing alone and, by definition, are not end items, it is illogical and counterproductive for ICs have their control status determined independently of the control status of the end items into which the ICs are to be incorporated. Only ICs possessing both of the following characteristics should be subject to export controls:

- The IC was designed or developed to be employed in a specific application that is controlled; and

- The IC is peculiarly responsible for one or more of the controlled elements of the end item for which it was designed or developed and into which it is to be incorporated.

This simplified treatment of ICs would mean removing a single item from the USML (radiation hardened ICs, listed in Category XV(d)). Changes to the Commerce Control List ("CCL") would need to be more extensive, including elimination of much of categories 3 and 5 of the CCL, but would constitute more focused control with much less complexity.

If the Administration is not ready at this time to adopt such fundamental reform of the export control regime with respect to ICs, then the Department should make the following revisions to address the principal flaws in the proposed definition of "specially designed:"

1. Include within paragraph (d) (1) all "minor components" that cannot be disassembled without destruction or material impairment, as such components are functionally the same as "parts;"

2. Remove from paragraph (d)(3) the requirement that only components of end items in "serial production" be eligible for the exclusion, as serial production needlessly excludes other important types of production;

3. Delete "form" and "fit" from paragraphs (d)(3) and (d)(4), as these terms unavoidably introduce marginal and non-substantive considerations that should not define the exclusion;

4. Delete Note 2, as maintaining two distinct terms for what is essentially the same concept is contrary to the goal of alignment of export control regimes and is unnecessarily confusing;

5. Add a new Note to the "specially designed" definition stating that to qualify as "specially designed, "an integrated circuit must be (i) designed and/or developed for a specific application or function and for a single customer, and (ii) peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions of an enumerated end item in which it is to be incorporated; and

6. Include within Note 1 to the definition a definitive statement that "specially designed" does not mean "capable of use in" or "capable of use for," in order to preclude continued disagreement (and potential litigation) over that issue.

A threshold goal of the Proposed Revisions is to ensure that no item will be subject to greater export control after the implementation of the Proposed Revisions. However, the proposed "specially designed" definition will result in many ICs currently classified as EAR99, or falling within another current ECCN that is subject only to anti-terrorism controls (e.g., 3A991), qualifying under the definition of "specially designed" and hence subject to more stringent export controls. This result alone should prompt the Department to refrain from implementing the new definition of "specially designed" for components. By making the revisions outlined above, the Department can avoid such "re-control."

II. Introduction

SIA welcomes the opportunity to respond to the request for comments on the proposed revisions to the EAR to incorporate items deemed no longer necessary of control on the USML. The export control reform initiative launched by the President and conducted under the auspices of the National Security Council ("NSC") is important and long overdue, and SIA urges the Administration to move expeditiously to complete it. National security interests, as well as the international competitiveness of U.S. industry, have much to gain from a more streamlined and focused export control system. Export control reform can also eliminate unnecessary burdens on government and industry.

SIA's comments naturally concentrate on the appropriate treatment of ICs on the CCL and the USML. The adoption of common principles for the classification and treatment of semiconductors is essential to a positive listing of ICs based on objective criteria.

As it considers the Proposed Revisions, the Department of Commerce's Bureau of Industry and Security ("the Department") must recognize that for the Proposed Revisions to be successful, it is imperative that no part or component be subject to increased control merely as a result of those revisions. Any implementation of the Proposed Revisions that results in re-control or new control would constitute a step backwards.

In addressing export controls applicable to ICs, the Department should keep in mind that the underlying technology associated with such devices and the most advanced applications to which ICs are put are now driven overwhelmingly by consumer products. While utilizing semiconductor technology, the defense sector accounts for only a small fraction of U.S. semiconductor output, and military items rarely utilize the most advanced semiconductor technology.

A healthy and vibrant consumer led semiconductor industry generates exports, productivity and highly skilled jobs, all ingredients of a strong economy that can support national security. By being able to maintain a global leadership position, the U.S. semiconductor industry helps to assure that the United States will not fall behind other nations in information technology that supports national security. ICs have been the single largest export of the United Sates over the past five years, so lowering unnecessary barriers to the export of such devices is very much in the national interest. When national defense requires a truly specialized, specifically designed IC, it is the groundwork established in a healthy civilian industry that will allow defense development in a timely manner.

III. The Appropriate Control Status of Integrated Circuits

A. As Components, ICs Should Always Have Their Control Status Determined Entirely by Their Relationship to the End Item in Which They Will Be Incorporated

All ICs are necessarily components. ICs have no utility or impact standing alone and can serve only as components to other items. Their functionality and impact depend entirely upon the item to which they are connected or incorporated. The derivative nature of ICs means that they should not be set forth on a control list as independent defense articles or dual use end items. Instead, the export control status of ICs should attach to that of the end items in which they are to be incorporated.

In addition to connecting ICs with their end items, the Department should implement clear and objective criteria to distinguish those ICs that warrant export control from those that do not.

SIA has long urged the Department to employ two basic and easily discernible criteria in determining the control status of an IC.

1. Export Controls on ICs should be Limited to ASICs

The first criteria to determine the control status of an IC should be whether the IC is of general application or whether the IC is designed for a specific application. That is, "general purpose" ICs should be treated differently than application-specific ICs ("ASICs").

An ASIC or custom IC serves a specific application, and, hence, has a compelling connection to the end item. The characteristics of an ASIC assure that there will be a distinct relationship between the IC and the end item.[2] Export controls on ICs should therefore be limited to ASICs.

2. Export Controls on ASICs Should be Limited to Those "Peculiarly Responsible" for the Controlled Element of the End Item

The second control criterion for the determination of the control status of an IC should be the contribution that the ASIC makes to the function or features that cause the end item to be controlled. An IC should be captured on a control list only if it is peculiarly responsible for enabling a military advantage or national security sensitivity of an end item as described in and through the objective criteria of the control list.

With respect to a component, "peculiarly responsible for" means a direct and proximate causal relationship or nexus that is a central, special or exclusive cause of a controlled feature or function (i.e., the objective technical criteria) of the end item in which the component is incorporated. Peculiarly responsible for is more than a necessary or contributory cause. Instead, peculiarly responsible for is so closely and particularly connected to the controlled feature of the end item that the same control status is justified for the component. [3]

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[2] The longstanding definition of the JEDEC Solid State Technology Association for an ASIC is relevant and appropriate: "An integrated circuit developed and produced for a specific application or function and for a single customer." This definition captures a custom IC designed particularly to conform to a single customer's unique requirements. By utilizing existing industry terminology, exporters will have a clear basis upon which to classify an IC.

[3] For example, suppose the controlled feature of an automobile is the ability to attain a speed of 300 mph. The radio is a component of the automobile but makes no contribution whatsoever to the speed of the automobile. The radio should not qualify as a controlled component. The tires are components that are essential to the automobile's movement; they do contribute to the achievement of a speed of 300 mph. But the tires do not provide the core capability or distinctly enabling contribution that accounts for the automobile reaching the 300 mph level. Even though they are "capable of" contributing to the automobile travelling at 300 mph, the tires should not qualify as a controlled component. In contrast, the engine creates the power, particularly and directly, to enable the automobile to travel at a speed of 300 mph. It has been designed and developed for the particular automobile. The engine, therefore, is the component that provides the special capability that is peculiarly responsible for achieving the controlled speed of 300 mph. The engine should qualify as a component to be controlled in the same fashion as the end item in which it is incorporated.

Through imposition of a strict criterion related to the controlled technical parameters of end items, ASICs that provide benign functions that are separate from or contribute only indirectly to the national security features of an end item, such as routine communications or memory capabilities, will not be captured as controlled components.

Application of this second control criterion will also assure that the control of an ASIC is based on the function or the utility of the IC as it relates to the controlled features of an end item, not merely on the form or fit of the IC. While end items have many specific requirements for ICs, including size, weight, pin-count, buses and connectors, such peripheral requirements are usually related to form and fit, and do not capture the actual function of the IC.

B. ICs Should Never Be Controlled In and Of Themselves, and the CCL and the USML Should Be Reformed Accordingly

CCL Category 3 should be extensively amended. Currently, ECCN 3A001.a broadly controls "General purpose integrated circuits" without regard to: (i) the particular end item to which the IC are associated; (ii) the particular application to which the ICs are tied; or (iii) whether any of the ICs' specified technical parameters bear a compelling relation to controlled features or functions of the end items in which they are to be incoporated.

CCL Category 3 should be revised to set forth only particular electronics end items that are controlled, much like USML Category XI. Identification of controlled end items should be based on an item's inherent character and functionality relating to national security sensitivity. In particular, ECCN 3A001.a should eliminate all ICs set forth therein and broadly distributed in "subcategory A." Instead, identification and control of all ICs should be based exclusively on their inclusion in a particular end item and their qualifying under the two criteria for control of ICs discussed above.

A similar change should be made for radiation hardened ICs covered by USML Category XV (d) (see discussion below).

This approach to the control of ICs is wholly consistent with the principles of the export reform effort and the Administration's interest in making the control lists more focused and positive. By linking an IC to the end item in which it is to be incorporated, and in particular to the objective criteria of the end item that has led to the end item's inclusion on the CCL, the Department will not only gain a much stronger nexus between the control of ICs and national security sensitivity, but also clarify the CCL and permit exporters to better and more easily determine the export control classification of ICs.

IV. The Proposed Definition of "Specially Designed" Is Fundamentally Flawed

With respect to ICs, the CCL and the USML suffer from two primary deficiencies. First, a variety of ICs are listed as end items and controlled as such even

though alone they are incapable of serving as end items. Second, ICs that qualify under the CCL as "specially designed" or under the USML as "specifically designed" are subject to control. These decisive terms, however, have no regulatory definition. In practice, the implementation of these terms has been so elastic that their meaning has become unrecognizable. The Department's proposed regulations perpetuate the first problem, while attempting to address the second.

The Proposed Revisions set forth a definition of "specially designed," providing for the first time a definition of that term. Under the revisions proposed by the Department, the definition of "specially designed" will dictate the treatment of parts and components that are not otherwise controlled as end items. Unfortunately, as discussed below, the proposed definition of "specially designed" is fundamentally flawed, is unnecessarily complicated and falls short of the Administration's reform objectives for export control.

SIA urges the Department to revise and simplify the definition of "specially designed" so as to make it more practicable and understandable.

A. Paragraph (b) of The Proposed Definition Provides No Logical or Comprehensible Link to the Plain Meaning of the Words "Specially Designed" And Should Be Revised

The Department's proposed definition of "specially designed" begins with paragraph (a) covering all items other than parts and comonents.[4] The term "specially designed" consists of two elements: to be "specially designed," an item it must be (i) designed, a process that involves a purpose and an architecture, and (ii) designed specially, that is, in some extraordinary and particular way. Paragraph (a) constitutes an affirmative definition that provides substance to each of the elements of "specially designed." Design is extended to mean "development" and "specially" is given to be peculiarly responsible for achieving controlled performance levels. This constitutes, by and large, a simple and sensible approach to the definition of "specially designed."

In paragraph (b) pertaining to parts and components, the Department abandons this straightforward definition of "specially designed." Instead, it declares that all parts and components of items enumerated on the CCL are "specially designed," and then proceeds to describe certain exclusions.

Unlike paragraph (a), paragraph (b) of the proposed definition is wholly arbitrary: It provides no affirmative or substantive connection to either element of the term "specially designed." Instead, it merely points to any part or component of controlled items with certain exclusions. As such, the proposed definition provides no positive meaning to the term "specially designed." This proposed definition could be made

[4] Proposed Revisions at 41,980.

applicable to virtually any term related to parts and components regardless of its plain meaning. Indeed, it is unlike any other definition in Part 772.1 of the EAR.

The exclusions set forth in paragraphs (c) and (d) of the proposed definition narrow the scope of paragraph (b). However, as discussed in the following section, these exclusions are unduly complicated and far from self-executing. A more logical and comprehensible approach would be to follow the definition set forth in paragraph (a) so as to clarify and infuse with actual meaning the definition of "specially designed" for parts and components.

Accordingly, consistent with the approach in paragraph (a), SIA urges the Department to modify paragraph (b) as follows:

> (b) A ''specially designed'' ''part'' or ''component'' is a ''part'' or ''component'' **the design and/or development of which is specific to** ~~of~~ an **end** item 'enumerated' in a category of the CCL **and having one or more properties peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions of such end item**.[5]

This revised definition would generally meet the two criteria that SIA has advocated for the treatment of ICs.

First, for a part or component to be specially designed for an end item, the part or component must be specific to the end item. A part or component that is not specific to an end item, and instead has many uses, cannot be said to be specially designed for the end item. At the same time, this requirement for specificity ties the component to the treatment of the end item in which it is to be incorporated.

The second necessary, but not sufficient, condition for a part or component to be specially designed for an end item is that the part or component contain one or more characteristics that are peculiarly responsible for the elements of the end item that are deemed worthy of control. A part or component that is to be incorporated into an end item, but does not contribute meaningfully to the controlled characteristic(s) of the end item, should not be said to be "specially designed" for the end item in an export control context. That remains the case even if the component is a "major component" – i.e., one without which the end item would be inoperable. Every end item enumerated on the CCL has certain characteristics that the Department has determined are sensitive and should not be widely disseminated without control. It is those characteristics, and only those characteristics, that should be the target of export controls. Other characteristics of the end item (e.g., the fact that it is made of steel or is able to transport people in an air-conditioned environment) are irrelevant to the export control status of the end item. Only

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[5] This definition does not mandate that a part or component be used exclusively for a single end item, and so is distinguishable from the "specially designed" definition adopted by the Missile Technology Control Regime ("MTCR").

"parts" and "components" possessing qualities that are inextricably and substantially tied to the elements of end items targeted by export controls should be deemed to be "specially designed" for those end items.

Conforming paragraphs (a) and (b) would obviate the need for the exclusions in the treatment of components provided in paragraphs (c) and (d) of the proposed definition. Making the definition of "specially designed" simpler and more concise would have obvious advantages in terms of the clarity and understandability of the definition. At the same time, the revisions suggested here would not result in any lessening of the export controls appropriately placed on "parts" and "components" that contribute meaningfully to the elements of end items at which such controls are targeted.

In order to clarify definitively the meaning of "specially designed" for ICs – a large and important subcategory of "parts" and "components" – the Department should also add a note ("Note 4") to the "specially designed" definition to address ICs. That new note should state as follows:

> *To qualify as "specially designed," an integrated circuit must be (i) designed and/or developed for a specific application or function, and (ii) peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions of an enumerated end item in which it is to be incorporated.*

B. If Retained, The Current Exclusions to the Proposed Definition Should be Clarified, Simplified and Made Self-Executing

The first exclusion from the "specially designed" definition for parts and components is set forth in paragraph (c). This exclusion states that an item is not considered "specially designed" if it is separately enumerated on the USML or in an ECCN that does not have "specially designed" as a control criterion. This exclusion has the effect of ensuring that ICs currently controlled as end items remain so controlled, even though they may not otherwise qualify as "specially designed" under any common sense or substantive meaning of the term.

The exclusion of components separately listed on the CCL results in a continuing and unjustified treatment of ICs as end items, an approach to which SIA takes strong exception. No matter how the Department proceeds with the definition of "specially designed," the Department should amend the CCL to eliminate the listing of ICs as end items.

The remaining exclusions to the "specially designed" definition, contained in paragraph (d) of the proposed definition, narrow the expansive scope of the proposed definition, but are too complex and unclear to be effective. Indeed, the triple negatives used in paragraphs (d)(2), (d)(3) and (d)(4) are extremely difficult to decipher. Accordingly, if the Department insists on retaining the current exceptions in paragraph

(d), then it should modify those exceptions to make them less confusing, less subjective and more self-executing.[6]

The exclusion provided in paragraph (d)(1) can be improved by including within that exclusion all components that cannot be disassembled without destruction or material impairment. As discussed below, all ICs should be treated in the same manner as parts because they meet the fundamental export control requirement for a part: they cannot be disassembled. The Department should ensure that the exclusion provided in paragraph (d)(1) applies to all ICs by replacing "part used in multiple types of civil item" with "part or minor component not subject to disassembly designed for civil items" and adding "ICs" after "such as" in the paragraph.

Alternatively, the Department could create the following new exclusion for minor components:

> *A minor component designed for civil items that is not normally subject to disassembly without destruction or permanent impairment, such as integrated circuits, capacitors, resistors, diodes and other semiconductor devices.*

The exclusion provided in paragraph (d)(2) is appropriate, but there is a open question as to whether a component designated "specially designed" under paragraph (b) would necessarily have that designation reversed as a result of paragraph (d)(2). If this exclusion necessarily means that <u>any</u> item currently classified as EAR99, 3A9991 or 5A991 will not be deemed "specially designed" for an enumerated end item under paragraph (b) of the new definition, then SIA has no objection of this exclusion. However, if that is not the necessary meaning of the exclusion, then the exclusion is objectionable and requires modification.

The requirement that an end item must be in "serial production" in paragraph (d)(3) is misguided. Requiring that the end item into which a part or component is to be incorporated be in "serial production" for the exclusion to apply is too limiting. It is quite possible that a part or component will be well into production and available to significant numbers of entities when it is employed in the "development" or launch of an end item not in serial production. There is no apparent reason why such a part or component should not qualify for this exclusion.[7]

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[6] The Department has a stated purpose of making the "specially designed" definition "clear and objective" and "easily understood and applied by exporters". Proposed Revisions at 41,967, 41,968.

[7] SIA maintains that serial production is not an appropriate standard to define an exclusion from the reach of "specially designed." The Department should not include any "serial production" requirement in this exclusion. However, if the Department insists on including such a standard, then it should impose the "serial production" requirement on the part or component, not on the end item, and it should require simply that a part or component be designed or developed for serial production in order to qualify for the exclusion. Exclusion from "specially designed" should not have to await actual serial production.

Lastly, the use of the phrase "form, fit and function" in paragraphs (d)(3) and (d)(4) and the use of the phrase "one-for-one replacement basis" in paragraph (d)(4) unavoidably introduces complexity and opaqueness into those exclusions and limits their ability to be self-executing. SIA has no quarrel with the proposition that items with different functionality should be considered substantively different from one another and parts and components with different functionality or that modify the function of an end item should not be eligible for these exclusions. However, the same cannot be said for form and fit.

First, items that differ in terms of form and fit may well be substantively the same in terms of function. Second, determining the form and fit of a part, component, or end item is an inherently subjective exercise and a stakeholder cannot have much confidence that his or her determination of an item's form and fit will match that of the Department. Similarly, determining whether an item is a "one-for-one" replacement for another item is a difficult and unavoidably subjective exercise, and a stakeholder cannot have much confidence that his or her conclusion on that issue will match that of the Department.

As currently drafted, paragraphs (d)(3) and (d)(4) will require stakeholders to seek advice (or classification rulings) from the Department in order to ascertain whether these exclusions apply to their products. The need for such government assistance is contrary to the objective of an efficient regulatory regime. Accordingly, the Department should remove the words "form" and "fit" and the term "one-for-one" replacement from paragraph (d) of the "specially designed" definition.

C. If Retained, The Proposed Definition of "Specially Designed" Will Likely Result In Controlling "Components" That Are Currently Not Controlled

A threshold goal of the Proposed Revisions is to ensure that no product will be subject to greater export control after the implementation of the Proposed Revisions. However, as currently drafted, there are likely to be many ICs that will be subject to greater control after the implementation of the Proposed Revisions. Indeed, a variety of ICs currently classified as EAR99, 3A991 or 5A991 and which are the product of "general" design would be deemed to be "specially designed" under the proposed excessively broad definition of that term, thereby becoming subject to new controls.

Under the proposed "specially designed" definition, any component of an end item enumerated on the CCL is deemed to be "specially designed" for that end item, regardless of whether the component in fact is designed specially for the end item. Certain exceptions are provided in paragraph (d) of the definition, but only two of those exceptions apply to components. Moreover, the two exceptions applicable to components are broadly relevant only to components used either in de-controlled end items that are serially produced, or as replacement parts.

Many ICs are captured by the basic definition of "specially designed" and fall outside of the groups of components to which the limited exclusions apply. For example: ICs categorized in ECCN 3A991 that are incorporated both into computers covered by ECCN 4A003 and into other EAR99 limited quantity end items are captured by the "specially designed" definition. For non-replacement ICs meeting this description that are incorporated into EAR end item(s) that will never reach "serial production" the listed exceptions are irrelevant. Such ICs will be deemed "specially designed" for the 4A003 computers, regardless of their actual characteristics and capabilities. Other ICs fall within the broad groups of components to which the limited exclusions apply, but nonetheless will fail to qualify for those exceptions due to the exclusions within the exceptions. For example:

- ICs classified under 3A991 often must be shipped in bulk prior to and as a prerequisite for serial production for various types of computers. That is, the launch of a computer product is not possible until a host of component parts (including a large number of ICs) are received, tested and incorporated into the product by the computer manufacturer. In order to qualify for exception (d)(3), a component must be used in an uncontrolled end item that is in serial production. Accordingly, ICs incorporated both into computers covered by ECCN 4A003 and into EAR99 computers that have yet to launch would be classified as "specially designed" for the 4A003 computers simply because serial production of the EAR99 computers (and perhaps the 4A003 computers as well) is impossible until a large number of such general-purpose ICs has been received by the computer manufacturers. This is a significant problem that will face many SIA members supplying computer manufacturers, and is in direct conflict with the Department's stated goals.

- An IC that is to be incorporated both into an EAR99 end item that has reached serial production and into an enumerated end item in a slightly different form will not qualify for the exception in paragraph (d)(3), even if the IC's functionality is identical when used in the two different end items.

- An IC that is employed as a replacement part for an EAR99 end item in a different form or fit from the IC it is replacing (e.g., with different packaging) will not qualify for the exception in paragraph (d)(4), even if the new IC's functionality is identical to the IC it is replacing.

These are not isolated or trivial examples. On the contrary, a large number and volume of ICs currently not subject to control will be controlled if the Department implements the proposed definition of "specially designed." This result alone should force the Department to reconsider its proposal.

D. The Same Definition of "Specially Designed" Should Be Employed for both the USML and the CCL

Note 2 to the proposed definition of "specially designed" states that the definition does not apply to the phrase "specifically designed" in the USML. The concept of "specifically designed" does not differ from the concept of "specially designed." Accordingly, the same term should be used in both contexts and the definition given to that term should be the same. Maintaining two distinct terms for what is essentially the same concept needlessly undermines alignment of the two control lists and is unnecessarily confusing.

E. The Department's Stated Goals For The Definition of "Specially Designed" Are Not Met

In the Proposed Revisions, the Department states several goals in creating a definition for "specially designed."[8] Most of those goals are not met by the proposed definition of that term.

First and foremost, the Department has not created a single definition of "specially designed." As noted in the previous section, the definition of "specifically designed" remains within the ITAR, notwithstanding that the concept of "specially designed" is essentially identical to the concept of "specially designed." In addition, the Missile Technology Control Regime ("MTCR"). definition of "specially designed" will remain in force and is distinct from the definition put forward by the Department. Accordingly, the U.S. Government will not have in place a single definition of "specially designed" if the Proposed Revisions are implemented.

Second, the proposed definition of "specially designed" will not be "easily understood and applied by exporters, prosecutors, juries and the U.S. Government." In fact, as discussed above, the proposed definition is open-ended, convoluted and subjective, and cannot be accurately said to contain "objective, knowable, and clear requirements" as the Department proposes.[9]

Third, there is no basis for the Department to exclude "simple or multi-use parts such as springs, bolts and rivets"[10] from export controls while retaining controls on ICs. ICs share with springs, bolts, rivets and other such items the characteristics of being single items that are not subject to disassembly and are employed for multiple civil end uses. Any goal of excluding from controls "simple or multi-use parts" must be extended also to exclude from controls ICs that are multi-use and not subject to disassembly.

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[8] Proposed Revisions at 41,968.

[9] Id.

[10] Id.

Finally, and most importantly, the proposed definition of "specially designed" could result in greater controls being placed on ICs than is currently the case, thereby violating the Department's stated goal of avoiding such expansion of controls.[11] As discussed in section IV.C above, the excessively broad coverage of paragraph (b) of the proposed "specially designed" definition coupled with the subjectivity and complexity of paragraph (d) of the proposed definition strongly suggests that ICs currently falling within EAR99 or ECCN 3A991 could face heightened export controls if that proposed definition is implemented.

V. Note 1 to the "Specially Designed" Definition Should Be Elaborated to Reject Definitively A "Capable of" Standard

If the modifications to the "specially designed" definition discussed above are implemented, SIA supports the inclusion of Note 1 to the proposed definition of "specially designed." However, that note should be modified to explicitly state that "specially designed" does not mean "capable of use in" or "capable of use for." In light of the past challenges surrounding the use of a "capable of" standard, it is imperative that the Department definitively state that "specially designed" can no longer be interpreted in such a fashion.

SIA suggests that the following language be added at the end of Note 1 to the definition:

> *Simply because a part, component or end item is capable of being used in or for an end item, subsystem or system does not render that part, component or end item "specially designed" for the end item, subsystem or system. Only if an item is (i) designed and/or developed for a specific application or function and for a single customer, and (ii) peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions of an enumerated end item in which it is to be incorporated will the former item be deemed "specially designed" for the latter item.*

Given the importance of this issue, and its long history of confusion and controversy, SIA believes that such a clarifying addition is necessary.

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[11] Id.

VI. The Same Control Treatment Afforded Parts Should Be Afforded Minor Components, Or, At A Minimum, the Same Control Treatment Afforded Parts Should Be Afforded ICs

A. Minor Components Not Subject to Disassembly Should Be Afforded The Same Control Treatment As Parts

All items that are single elements and are not subject to disassembly without destruction or material impairment should be afforded the same export control treatment. For an item that cannot be disassembled without destruction or material impairment, the fact that the item was assembled is irrelevant. Accordingly, "parts" and "minor components" that are single elements and are not subject to disassembly without destruction or material impairment should be treated the same under the Proposed Revisions. There is no reason to treat these items differently, as all minor components that are single elements and are not subject to disassembly for export control purposes share all of the critical characteristics of parts.

The only distinction between a "part" and a "minor component" that is both a single element and not subject to disassembly is that the former is unassembled and the latter is assembled -- a distinction without a difference for export control purposes. If the various parts within a minor component cannot be removed from the minor component, then there is no danger of those component parts being re-exported or transferred, and there is no reason to treat such a minor component any differently than a part for export control purposes.

B. Alternatively, At A Minimum, The Same Treatment Afforded Parts Should be Afforded ICs

If the Department should choose not to afford all minor components the same treatment as parts, then, at a minimum, the Department should afford ICs the same treatment as "parts" throughout the Proposed Revisions. ICs are in a very real sense the screws, nuts ands bolts of the electronic age. They are the building blocks used to create a host of electronic and non-electronic items — from computers to MP3 players to automobiles to watches to refrigerators. ICs universally are not subject to disassembly and are single discrete elements. Accordingly, the Department should afford the same export control treatment to ICs and "parts." In particular, ICs should be included in paragraph (d) (1) of the "specially designed" definition.

C. The Definition of Components Should Not Include Assemblies

The Department's proposed definition of "component" wrongly equates components and assemblies. Components and assemblies are distinct items that should not be commingled or made coexistent. The definition of "component" should be limited to items that are not subject to disassembly. Components that can be

disassembled should be treated as assemblies. In contrast to the distinction between a part and a component, the distinction between a component and an assembly is real: an assembly can be broken down so that its components can be separately re-exported.

VII. Radiation Hardened ICs Should Be Controlled Only to the Extent That They Meet the Revised Definition of "Specially Designed" Provided Above and Should Be Moved from the USML to the Commerce Control List

Despite years of protest from SIA, the U.S. Government continues to control all radiation hardened ICs as defense articles or major end items under the ITAR. The placement of radiation hardened ICs on the USML is misguided and should be corrected. There is no compelling reason why radiation hardened ICs should be treated any differently than all other types of ICs.

A. Radiation Hardened ICs, Like Other Types of ICs, Should Have Their Control Status Determined Entirely by Their Relationship to the End Items in Which They Are Incorporated

As is the case with all other types of ICs, radiation hardened ICs should have their export control status determined exclusively by the relationship between the ICs and the end items in which they are incorporated.

While the term radiation hardened initially may have been a design characteristic of USML items only, that is not the case today. The normal civilian manufacturing process for ICs has evolved whereby ordinary ICs simply from the process of scaling or getting smaller now exhibit some of the same radiation hardness characteristics that were a unique attribute 30-40 years ago in specially designed military circuits. The change in commercial technology is unavoidable in this regard. As circuit sizes shrink the commercial IC is on a collision course with the outdated parameters of Category XV(d) of the USML.

In these circumstances, there is no compelling reason why radiation hardened ICs should be treated any differently than other types of ICs. If a radiation hardened IC is an ASIC that is peculiarly responsible for one of more of the control characteristics associated with an end item, then that it is appropriate for export controls to be associated with the radiation hardened IC. However, if an IC, whether radiation hardened or not, is not an ASIC that is peculiarly responsible for one of more of the control characteristics associated with an end item, then no export controls should be associated with that IC. That a device is radiation hardened should be irrelevant to its control status. Only device characteristics tied directly and inextricably to the controlled characteristic(s) of the end items in which the radiation hardened IC is incorporated should be relevant to the device's control status.

Accordingly, only radiation hardened ICs that are peculiarly responsible for one or more of the controlled characteristics of an end item on the USML should be

controlled under the ITAR, and only radiation hardened ICs that are peculiarly responsible for one or more of the controlled characteristics of an end item enumerated on the new Commerce Munitions List should be deemed "specially designed" for that end item.

B. Even if the Definition of "Specially Designed" Proposed Above Is Not Adopted, Radiation Hardened ICs Should Not Be Listed as Defense Articles on the USML

Continuing progress in semiconductor technology has brought certain advanced civilian ICs close to some or all of the radiation hardness ("rad hard") parameters laid out in Category XV (d) of the USML, thereby potentially subjecting such devices to munitions controls. In July 2007, certain technical parameters in the USML were adjusted to prevent civilian, general purpose integrated circuits from being controlled as defense articles.

While necessary and helping to maintain the competitiveness of the U.S. semiconductor industry, the July 2007 amendment has only prolonged the arrival of the day when high volumes of mass market ICs will once again qualify as defense articles. Thus, due to the march of technology yet another adjustment to the rad hard parameters of the USML will become necessary.

Continually adjusting the technical parameters of the USML is shortsighted and ineffective. It is shortsighted because it maintains a treadmill for control changes that are unrelated to national security concerns, driven instead by civilian technology trends. It is ineffective because civilian technology trends are not the basis for incorporation of components into defense articles for military or space applications. A permanent solution is required.

Instead of adjusting the technical parameters of the USML every few years, this last remaining aberration where ICs are treated as defense articles should be eliminated. The control of ICs on the USML, like the CCL, should be determined by a "specially designed" definition tied to the particular defense articles in which the IC is incorporated.

VIII. Other Specific Comments On The Proposed Revisions Unrelated To Part 772.1

A. The Commerce Munitions List Should Include Only Items That Are Actually Munitions

Only items that are in fact munitions should be set forth on the Commerce Munitions List. That is, only items that are (i) arms, (ii) ammunition or (iii) implements of war should be included on the Commerce Munitions List. The distinction between "munitions" and "dual use items" is valid, longstanding and well understood throughout

the world. That distinction should be clarified and maintained, rather than being blurred or eliminated.

Accordingly, the final phrase in Note 3 to the proposed definition of "specially designed" should be eliminated. If an item falls within an existing ECCN, then it should remain in that ECCN, not be moved to the Commerce Munitions List. No dual use item should be included on the Commerce Munitions List. Only items that (i) are currently on the USML and worthy of reduced controls, and (ii) otherwise qualify as munitions should be placed onto the Commerce Munitions List (i.e., assigned a "600 series" classification).

SIA solidly supports the Administration's initiative to lower export controls on items currently listed on the USML that the President has determined no longer warrant control under the AECA. However, items that are not in fact munitions should not be placed on the Commerce Munitions List and should instead be placed elsewhere on the CCL. One possibility would be for the Department to create a second new series ("650 series") that would contain items (i) that have moved from the USML to the CCL but are not munitions, and (ii) that previously fell within ECCNs ending in "018."[12]

B. If the Definition of "Specially Designed" Is Not Modified as Described Above and Dual Use Items Are Retained on the Commerce Munitions List, Then the Proposed Restrictions on License Exceptions for Components of "600 Series" Items (§740.2(a)(13)(ii)) Should Be Revised

As discussed above, the Department should significantly revise and clarify the definition of "specially designed." In addition, the Department should ensure that only actual munitions — arms, ammunition and implements of war — are placed on the Commerce Munitions List. If those changes are made, then SIA has no particular quarrel with the proposed changes to Part 740.2(a) (13). However, if the Department refrains from making those suggested changes to the definition of "specially designed" and the composition of the Commerce Munitions List, then the Department should revise the proposed changes to Part 740.2(a) (13). Specifically, the Department should remove all restrictions on license exceptions for all "dual use" items assigned a "600 series" CCL classification.

Any item that currently qualifies for a license exception should continue to qualify for a license exception after the Proposed Changes are implemented. To the extent that certain items currently on the CCL will move into the new "600 series" on the CCL, it is possible that restrictions will be imposed on the exportation of those items that do not currently exist. The Department should ensure that such a tightening of export controls does not occur. Again, the simplest and more direct way in which to do so would be for the Department to ensure that only products currently on the USML will

[12] Proposed Revisions at 41,966.

appear on the new Commerce Munitions List.[13] If the Department is unwilling to adopt such a policy, then it must gerrymander a solution to the problem by placing the license restrictions laid out in proposed paragraph 13(i) of Part 740.2 only on "series 600" products that previously resided on the USML and were subject to ITAR control.

C. If the Definition of "Specially Designed" Is Not Modified as Described Above and Dual Use Items Are Retained on the Commerce Munitions List, Then a 25 Percent *De Minimis* Rule Should Be Maintained for Items on the Commerce Munitions List

As discussed above, the Department should significantly revise and clarify the definition of "specially designed." In addition, the Department should ensure that only actual munitions are placed on the Commerce Munitions List. However, if the Department refrains from making those suggested changes to the definition of "specially designed" and the composition of the Commerce Munitions List, then the Department should continue to permit all dual use items on the Commerce Munitions List to qualify for the "25% *De Minimis* Rule" in paragraph (d) of Part 734.4.

Given the worldwide and ultra-competitive nature of the IC industry, it is imperative that foreign manufacturers not be discouraged from employing U.S.-origin ICs in their products. Lowering the *de minimis* threshold for any IC from 25 percent to 10 percent would serve as a significant discouragement to the use of that IC in a foreign-made end-item. Accordingly, if the Department is to achieve its stated objective of "reducing the incentive for foreign manufacturers to design out of their products U.S.-origin content," it must ensure that no IC placed on the Commerce Munitions List be prevented from qualifying for the "25% *De Minimis* Rule."

D. No Limitation Should Be Placed on In-Country Transfers of Licensable Items

SIA renews its longstanding objection to the imposition of limitations on in-country transfers of licensable items. Such limitations have no basis in a regulatory regime aimed at exports. To extend export regulations to domestic transactions in unjustified and unnecessary. The prospect that an item exported to an entity in a foreign country may be transferred to another entity in the same licensed country is inherent in the assessment of an export transaction. Accordingly, Part 740 of the EAR should be revised to exclude all mentions of "transfers (in-country)."

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[13] As discussed above, certain items that are currently on the USML do not belong on either the USML or the Commerce Munitions List. One notable example is radiation hardened ICs that are not peculiarly responsible for the controlled characteristic of any munitions item. Accordingly, while only items currently on the USML should move to the Commerce Munitions List, not every item that is removed from the USML should be placed on the Commerce Munitions List.

E. The Revised Version of § 740.10 Continues Inappropriately to Deny License Exception RPL to Next Generation ICs that Are Shipped as Replacement Parts

As currently drafted, the definition of "replacement part" in Part 740.10 excludes items that "improve or change the {performance or productivity} of the end item upon which they are installed."[14] Given "Moore's law" and the exponential speed at which change occurs within the IC industry, it is likely that many, if not most, ICs shipped as replacement parts for electronic devices will "improve the performance or productivity" of the electronic devices. Accordingly, few ICs actually shipped as replacement parts will be permitted to qualify for license exception RPL.

It is entirely appropriate for the Department to exclude from qualification for license exception RPL those ICs that improve or enhance one or more controlled characteristics of an end item enumerated on the CCL. However, it is not appropriate for the Department to exclude from qualification for license exception RPL those ICs that improve or enhance the performance or productivity of an end item without affecting in any meaningful way a controlled characteristic of an end item enumerated on the CCL. ICs falling into the latter category should qualify for license exception RPL, provided that they meet all of the qualifying requirements.

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SIA appreciates the opportunity to comment on the Proposed Revisions and looks forward to continuing its cooperation with the U.S. Government on this subject. Please feel free to contact the undersigned or SIA's counsel, Clark McFadden of Dewey & LeBoeuf LLP, if you have questions regarding these comments.

Cynthia Johnson
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[14] Proposed Revisions at 41974.