July 8, 2013

Mr. Timothy Mooney
Regulatory Policy Division
Room 2099B
Bureau of Industry and Security
U.S. Department of Commerce
14th Street & Pennsylvania Ave., N.W.
Washington, D.C. 20230

Mr. Kerem Bilge
Acting Director
Office of Defense Trade Controls Policy
U.S. Department of State
2401 E Street, N.W.
Washington, D.C. 20037

Re: Control of Spacecraft Systems and Related Items the President Determines No Longer Warrant Control Under the United States Munitions List ("USML") (*Federal Register* Notice of May 24, 2013; RIN 0694-AF87) and Revision of U.S. Munitions List Category XV and Definition of Defense Services (*Federal Register* Notice of May 24, 2013; RIN 1400-AD33)

Dear Messrs. Mooney and Bilge:

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 the United States. The semiconductor industry is perennially among the top U.S. exporting sectors.

The Semiconductor Industry Association represents U.S. leadership in semiconductor manufacturing and design. The U.S. semiconductor industry supports more than 1 million American jobs, drives economic growth and leads the global market, but competitors abroad are working hard to attract the world's top innovators and job-creators.

In this regard, it is critical that ongoing export control reform efforts result in export control regulations that not only protect U.S. national security interests, but foster the continued growth of the U.S. semiconductor industry by recognizing that U.S. export regulations should not be applied in a manner that provides incentives resulting in the design-out of U.S. semiconductors by customers located around the world. Importantly,

any such regulatory incentives to design out U.S. semiconductors would directly benefit our competitors abroad.

SIA strongly supports the objectives of the Export Control Reform Initiative ("ECRI"), as stated by the President, to focus resources on the threats that matter most, bring transparency and coherence to this field of regulation, and enhance the competitiveness of our manufacturing and technology sectors. We remain committed to working with the Administration to expeditiously realize these objectives for the treatment of commercial integrated circuits ("ICs").

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") pertaining to items the President determines no longer warrant control under United States Munitions List ("USML") Category XV ("Proposed EAR Revisions"),[1] and revisions to the USML Category XV ("Proposed ITAR Revisions").[2]

Introduction and Summary

SIA applauds the elimination of USML Category XV(d). However, SIA is quite concerned that the implementation of that USML modification may come too late to prevent the inappropriate and commercially devastating capture by the USML of large numbers of commercial ICs. At a minimum, SIA urges the Administration to waive the 180-day implementation period for the elimination of the USML XV(d) and make the effective date of that USML modification coincide with the publication of the final rule codifying the change.

Given that many of the items included in the new "500 series" ECCNs being created by BIS are, according to BIS itself, "commercial items with no military or intelligence applications," it is inappropriate for those items to be subject to the same level of controls as are munitions items included in the new "600 series" ECCNs. The controls imposed on "500 series" items that are purely commercial should be significantly less stringent than the controls imposed on "600 series" items. In particular, there is no need for a presumption of export denial for exports of "500 series" items to countries subject to an arms embargo policy.

The proposed definition of "space qualified" provided in the Proposed EAR Revisions is both overly broad and unduly open-ended and ambiguous and therefore merits further clarification. First, it is inappropriate for any item that is not "specially designed" for spacecraft to be deemed "space qualified." Second, BIS provides no definition

[1] Export Administration Regulations ("EAR"): Control of Spacecraft Systems and Related Items the President Determines No Longer Warrant Control Under the United States Munitions List ("USML"), 78 Fed. Reg. 31,431 (May 24, 2013) ("Proposed EAR Revisions").
[2] Amendment to the International Traffic in Arms Regulations: Revision of U.S. Munitions List Category XV and Definition of "Defense Service", 78 Fed. Reg. 31,444 (May 24, 2013) ("Proposed ITAR Revisions").

of "qualified through successful testing." To be "qualified" an item must be rated or certified to operate at altitudes greater than 100 km above the surface of the earth.

Proposed USML Category XV Changes

The proposed revisions to USML Category XV, and, in particular, the proposed elimination of USML XV(d), purports to avoid the capture by the USML of ICs that inadvertently meet certain technical parameters. As such, it would remove from the USML ICs with little or no strategic significance and prevent the application of controls that would cripple the civilian semiconductor industry. For that reason, SIA solidly supports the Proposed USML Revisions.

Nevertheless, SIA is extremely concerned that implementation of the Proposed USML Revisions may occur too late to avoid the inappropriate capture by the USML of many commercial ICs that, due to the rapid advance of semiconductor technologies, meet or exceed all five of the technical parameters contained in USML XV(d), but that were developed for civilian applications that are not specifically or specially designed for defense articles. If such inappropriate capture by the USML of many commercial ICs were to occur, domestic IC producers would be required to obtain munitions licenses not only for exports of such devices, but also for transfers of technology related to such devices to foreign national employees — tasks that would be extremely burdensome for many SIA members.

Accordingly, SIA urges the State Department ("State") to make the proposed Category XV(d) effective as soon as possible. At a minimum, this would include forgoing the proposed 180-day implementation period for the proposed elimination of USML XV(d).

A delayed implementation of the final rule may be appropriate for elements of the final rule that result in increased administrative burdens, so that exporters are permitted to adjust their practices accordingly. Such is the not the case with elements of the final rule that liberalize controls and decrease administrative burdens. Liberalization of controls and lessening of administrative burden should occur immediately. No party is benefitted by a delay in the effective date of such changes, but many parties may be hurt by such a delay. The final rule should be effective as of the date of its publication.

It would contravene both common sense and the express purpose of the ECRI if large numbers of commercial products not subject to ITAR control at the beginning of this year were subjected to ITAR control simply due to delay in implementation of the final rule pertaining to USML Category XV. SIA urges the Administration to prevent that from occurring by making the effective date of at least certain portions of the final rule the same as the final rule's publication date. That is, State should waive the 180-day implementation period for elimination of USML XV(d) and make the effective date of that change coincide with the publication date of the final rule.

Proposed EAR Changes

Comments on the Creation of the "500 Series" Items

In the Proposed EAR Revisions, BIS has indicated that it is creating the new "500 series" of Export Control Classification Numbers ("ECCNs") to capture spacecraft systems and associated equipment that the President has determined no longer warrant inclusion on the USML.[3] BIS further notes that although the items to be controlled by the "500 series" ECCNs are currently on the USML, "many of them are commercial items with no military or intelligence applications," and for that reason "[i]t would be inappropriate to include these types of items in the '600 series,' which is, by definition, comprised of munitions items."[4] Notwithstanding those statements, however, BIS is proposing to impose controls on "500 series" items that are largely identical to those imposed on "600 series" items. SIA objects to such treatment of "500 series" items.

If it is the case, as BIS itself indicates, that many of the items contained within the "500 series" ECCNs are commercial items and not munitions items, then it is inappropriate and commercially damaging for BIS to impose essentially the same level of controls on those items as it is imposing on munitions items controlled by the "600 series" ECCNs. In particular, it is inappropriate for BIS to adopt a policy of denial for exports to countries subject to arms embargoes (such as China) of "500 series" items, many of which are, as BIS states, "commercial items with no military or intelligence applications."[5]

Those items deemed by the U.S. Government to be "commercial items with no military or intelligence applications" should be controlled to a lesser extent than munitions items contained within the "600 series" ECCNs. While adopting a general policy of denial for exports of such commercial items to government end users in Country Group D countries may be appropriate, it is not appropriate to adopt such a policy for exports to purely commercial operations in Country Group D countries. SIA urges BIS to modify the proposed controls for "500 series" items accordingly.[6]

New ECCN 9A515.d

As an initial matter, SIA would underscore that if the effective date of the elimination of USML XV(d) is the publication date of the final rule amending the ITAR, then the effective date

[3] Proposed EAR Revisions at 31,432.
[4] Proposed EAR Revisions at 31,432.
[5] The National Defense Authorization Act of 2013 ("2013 NDAA") does not impose a general policy of export denial for countries subject to arms controls. On the contrary, section 1261 of the 2013 NDAA imposes a policy of export denial only for exports to government entities and government-owned or controlled entities within embargoed countries. The NDAA does not address exports of "500 series" items to non-government entities. Accordingly, any policy of export denial adopted for "500 series" items should adhere to section 1261 of the 2013 NDAA and pertain exclusively to government entities and government-owned or controlled entities within embargoed countries.
[6] If it is the case that certain spacecraft systems and equipment are deemed to be have military or intelligence applications, then it may be more appropriate to move those items into a "600 series" ECCN. However, purely commercial items, such as ICs that are not "specially designed" for defense articles or for "600 series" items, should not be assigned controls that largely mirror those applied to "600 series" items.

of the creation of ECCN 9A515.d should also coincide with the publication date of the final rule amending the EAR.

SIA applauds the inclusion within proposed new ECCN 9A515.d of the requirement that an IC be "specially designed" if it is to be captured by the ECCN. The inclusion of that additional requirement is long overdue and will ensure that ICs developed for and/or used in commercial applications and products will not be captured by the ECCN and subjected to stringent controls.

While SIA solidly supports the structure of proposed new ECCN 9A515.d, SIA requests that BIS modify the proposed ECCN in two ways.

First, and most importantly, BIS should insert into Note 1 to the ECCN a statement adopting the longstanding definition of "ASIC" put forward by the JEDEC Solid State Technology Association — namely that an ASIC is "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. Prime examples of ASICs are the ICs designed and developed exclusively for the Trident missile system. Those ICs were unambiguously application-specific and end item-specific and so were quintessential ASICs. Many other ICs designed and developed by SIA member companies are not customized for a specific use in a specific end item and so do not qualify as ASICs. By utilizing existing industry terminology, exporters will have a clear basis upon which to classify an IC.

Second, SIA notes that the fourth and fifth technical parameters contained within 9A515.d differ from the fourth and fifth technical parameters contained within USML XV(d). It is unclear why those changes have been made, and SIA sees no need for them. The five technical parameters contained within USML XV(d) should be replicated in ECCN 9A515.d.

New ECCN 9A515.x

This new ECCN controls devices that are "space qualified." Unfortunately, the definition of "space qualified" provided in the Proposed EAR Revisions is both overly broad and unduly open-ended and ambiguous. As an initial matter, SIA solidly supports the precept, apparently adopted by BIS, that if qualification through testing is to occur, then qualification only will apply to those devices actually subject to successful testing, rating and certification. Thus, all devices not so tested, rated or certified will not be deemed to be "qualified through successful testing."

That overarching point aside, SIA has the following comments on the proposed "space qualified" definition: First, as BIS itself recognizes, the inclusion of "or" in the definition of "space qualified" necessarily means that an IC that is not "specially designed" for spacecraft may still be deemed "space qualified" if it is "successfully tested" for

operation at altitudes greater than 100 km.[7] Second, BIS provides no definition of "qualified through successful testing."

It is inappropriate to classify a device that is not "specially designed" for spacecraft as being "space qualified" and thereby subject to munitions-like controls. Commercial ICs that are not "specially designed" should not be controlled as if they were "specially designed." Doing so defeats the entire purpose of having a "specially designed" definition. There is no need for BIS to include within new ECCN 9A515.x any item that is not "specially designed" for spacecraft, and so BIS should modify the second Note to the ECCN as follows:

> **Note:** The phrase "designed**,** manufactured**,** or qualified through successful testing" in this definition is synonymous with "specially designed." Thus, for example, an item that is "specially designed" for a spacecraft is deemed to be "designed**,** manufactured**,** or qualified through successful testing" for operation at altitudes greater than 100 km and an item that is not "specially designed" for a spacecraft is not deemed to have been so "designed**,** manufactured**,** or qualified through successful testing."

Doing so would not only clarify and simplify the definition of "space qualified," but also render that definition logical and appropriate.

Alternatively, if BIS does not make this change to the definition of "space qualified," then, at a minimum, BIS should clarify what "qualified through successful testing" means. A phrase that is central to the control status of many ICs would benefit from some definition or explanation in the EAR.

For an IC to be "space qualified" it is not enough that it is successfully tested; it must also be qualified through that testing. Industry practice is that devices are space qualified only if they are formally certified as being space qualified, regardless of whether the manufacturer or a third party tested the device. BIS should confirm such an understanding of "space qualified." Specifically, BIS should include at the end of the first Note to the "space qualified" definition the following clarifying language:

> For purposes of this definition, "qualified" must be evidenced by an explicit rating or certification to operate at altitudes greater than 100 km above the Earth. Thus, any device certified by the manufacturer to be operative at altitudes greater than 100 km is "qualified through successful testing," and any device not certified by the manufacturer to be operative at altitudes greater than 100 km is not "qualified through successful testing," regardless of any testing performed by any party.

If BIS does not make "qualified through successful testing" synonymous with "specially designed," and does not include the suggested additional clarifying language above at the end of the first Note to the "space qualified" definition, then BIS should at least clarify what "successful testing" means. Testing may be performed not only by the

[7] Proposed EAR Revisions at 31,434.

manufacturer of an IC, but also by a third party further down the line of commerce, and, if neither of the changes suggested above is made, a common definition of "successful testing" is required. To that end, BIS should include an additional Note to the definition of "space qualified" that states that for a device to be "successfully tested" it must meet the following criteria:

1) **RHA certified equal to or greater than 500 Krad, and**

2) **Rated as Class Level S and QML Class V (to be reflected in the part number used by the manufacturer), and**

3) **Tested via Destructive Physical Analysis (DPA) testing consistent with program technical requirements and MIL-STD-1580, or equivalent testing standard.**

It is noteworthy that where a device undergoes destructive sample testing by a party, the results of that sample test are often imputed to a very small number of physically equivalent, QMLV-certified and RHA rated devices in order to enable them to be certified as space qualified. Accordingly, BIS should ensure that the concept of an "individually tested device" for purposes of 9A515.x encompasses this highly narrow extrapolation procedure, provided it applies solely to the equivalent QMLV-certified and RHA rated items that are intended for space qualification, are in the physical possession of the party responsible for testing and should conform to the sample size specified for DPA testing, *i.e.*, a maximum number of 30 units per Lot Date Code and Part Number combination. Such destructive sample test results must not be imputed to any other items in the same production run or model series in the application of any test requirement under 9A515.x.

In particular, regardless of the definition afforded "qualified through successful testing," BIS should further emphasize that if an individually tested device is "qualified through successful testing" then that qualification pertains only to the specific device qualified and not to any other device produced with or sharing similar characteristic with the qualified device. It must be clear that if a downstream third party "up screens" a device or a series of devices and qualifies that device or those devices as being "space qualified" through individual testing and certification, the results of that testing and certification will not affect the classification of similar, non-individually tested devices produced by the same manufacturer. SIA understands that this is the intent and meaning of the first Note to the "space qualified" definition, but requests that BIS confirm as much, taking into account the concept of "individually tested device" as recommended by SIA above.

Additional ITAR Amendments

Proposed Revised "Defense Service" Definition

The Proposed ITAR Revisions include a new, revised definition of "defense service."[8] It is apparent from paragraph (a)(1) of that revised definition that the provision of ITAR-controlled technical data to a foreign person qualifies as a defense service.[9] Yet, insofar as ITAR-controlled technical data is already enumerated on the USML, the export of such data already requires State authorization. There is no need for the export of ITAR-controlled technical data to be controlled twice — both as an enumerated defense article and as a defense service. It should be sufficient for technical data enumerated on the USML to be controlled as a defense article, with all of the requisite licensing requirements entailed with such a designation. Controlling such technical data as a defense service constitutes a needless duplication as well as complicating matters and posing an unnecessary burden on exporters of such data without advancing national security interests.

State should modify paragraph (a) (1) of the defense services definition to clarify that the provision of an item already enumerated as a defense article on the USML is not a "defense service." Specifically, State should insert "or technical data already controlled as a defense article on the USML" after "other than public domain information" in that paragraph.

In addition, with respect to paragraph (a)(2) of the "defense service" definition, State should clarify that the simple provision of an EAR-controlled item to a party for inclusion in a defense article is not a defense service. That is, State should clarify that in order for a defense service to occur, a party must provide guidance and assistance in addition to providing the physical EAR-controlled product. For example, if an IC producer provides an IC controlled by ECCN 3A001 or 3A991 to the producer of a defense article, but does not assist the defense article producer in the integration of that IC into the defense article, then no defense service has been provided.

"Directly Related"

In the amendments to the ITAR published on April 16, 2013, State provided a revised definition of "technical data."[10] One element of the "technical data" definition that has not changed is the inclusion of "software . . . directly related to defense articles."[11] The term "directly related" has never been defined. Such a definition is needed. Indeed, just as a definition of "specially designed" can be useful to clarify and delineate controls on various items, so too could a definition for "directly related" clarify and delineate ITAR controls on software. The meaning of "directly related" is far from apparent and is subject to wide-ranging interpretations.

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[8] 78 Fed. Reg. 31,448-49.
[9] 78 Fed. Reg. 31,448.
[10] Amendment to the International Traffic in Arms Regulations: Initial Implementation of Export Control Reform, 78 Fed. Reg. 22,740, 22,754 (Apr. 16, 2013) ("April 2013 ITAR Amendments").
[11] April 2013 ITAR Amendments at 22,754.

While it would never advocate a definition as complicated and elaborate as the new regulatory definition of "specially designed," SIA would support a principled definition of "directly related" based on the natural meaning of the words, *e.g.*, "tied or connected in a specific, dedicated and peculiar manner."

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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 Orrick, Herrington & Sutcliffe LLP, if you have questions regarding these comments.

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