U.S. Department of State  
Bureau of Political-Military Affairs  
Department of Defense Trade Controls  
2401 E Street, N.W.  
12th Floor, SA-1  
Washington, D.C. 20522

ATTN: Ed Peartree, Director, Office of Defense Trade Controls Policy, Department of State

RE: Notice of Proposed Rulemaking, ITAR Amendment – Category XI and ‘Equipment’

Dear Mr. Peartree:

The Aerospace Industries Association (AIA) and our member companies appreciate the opportunity to comment on the Department of State’s proposed amendments to the International Traffic in Arms Regulations (ITAR). Revising Category XI (Military Electronics) of the U.S. Munitions List (USML) to describe more precisely which military electronics and related defense articles warrant control on the USML will create a “positive” list that will result in a more predictable, efficient, and transparent export control system. AIA has long been a champion of export control reform, and we are encouraged the Administration shares this priority. To further progress on sensible export controls, AIA would like to highlight the below issues for further consideration.

**USML Category XI**

**DDTC Response to January 2013 Category XI Submissions:**

*Page 3, Column 2, First Full Paragraph:*

*State Comment:* The Department notes that “dual licensing” is not a matter arising from export control reform, as it has always been the case that systems may contain items with different export control jurisdictions. A feature of ECR, though, does address this issue. As described in “Amendment to the International Traffic in Arms Regulations: Initial Implementation of Export Control Reform” (78 FR 22740), USML categories will have a new (x) paragraph, the purpose of which is to allow for ITAR licensing for commodities, software, and technical data subject to the EAR, provided those commodities, software, and technical data are to be used in or with defense articles controlled on the USML that are identified on the same
license application and are described in the purchase documentation submitted with the license application.

Industry Comment/Question: The new (x) paragraph in the USML categories seems to apply to ITAR items that contain or are used with CCL 600 series items. Does the new (x) paragraph also apply to a CCL 600 series (higher-assembly) item that contains an ITAR item? i.e., is the (x) paragraph supposed to cover this latter situation as well? In other words, does the ITAR-see-through-rule still apply to the 600 series item containing the ITAR item, if so, then would the ITAR item contained therein require ITAR licensing despite the fact that the higher-level assembly became 600 series for which a BIS license is required for the latter, resulting in dual-licensing that the new (x) paragraph is supposed to address.

Page 3, Column 2, Last Paragraph:
State Comment: Generally, a defense service entails the furnishing of assistance regarding a defense article. Items that have traversed the USML–CCL divide are no longer "defense articles," but are part of the "600 series" on the CCL. Servicing these items will not require an authorization from the Department. As part of ECR, the Department has published a proposed revision of the defense services definition in April 2011 (see 76 FR 20590), and again in May 2013 (see 78 FR 31444)."

Industry Comment/Question: This paragraph indicates that the servicing of 600 series items will not require an authorization from the Department of State because servicing a 600 series item is not considered a defense service. However, would the servicing of a 600 series higher-level assembly item (or any CCL item for that matter), which contains an ITAR item, be considered a defense service to the 600 series item if no servicing will be done to the ITAR item contained therein?

Technical Data and Defense Services:
XI(d): Technical data (see § 120.10 of this subchapter) and defense services (see § 120.9 of this subchapter) directly related to the defense articles enumerated in paragraphs (a) through (c) of this category and classified technical data directly related to items controlled in CCL ECCNs 3A611, 3B611, 3C611, and 3D611 and defense services using the classified technical data.

Question: AIA seeks clarification of the phrase "directly related." Specifically, would the phrase "directly related" include software applications previously controlled under USML Category XI(d) that were developed to store, disseminate, and manage imagery and other data collected by sensor systems controlled by other categories of the USML as well as the CCL? The phrase "directly related" implies that such software applications are not controlled herein, even though they are utilized with XI(b) collection systems, they are not exclusive to that paragraph and can perform storage, dissemination, and management of data from multiple ground, airborne, or space sensors, including commercially controlled sensors on the CCL. It appears that such software applications would in fact be "dual-use" under this new definition.

AIA noted in its 2013 report "Unmanned Aircraft Systems: Perceptions & Potential," the Unmanned Aerial Systems (UAS) market over the next decade is expected to double, with a good amount of that growth in the civil and commercial sectors. A major concern would be that if the software used to store, disseminate and manage data collected from electronic sensing systems onboard civil or commercial UAS' were to be inadvertently controlled on the USML, this could unnecessarily impede the development of civil and commercial UAS markets. The
The civil/commercial UAS market is one that is rapidly evolving, thus AIA encourages a controls regime that has the flexibility to keep up with swift changes in technology in new and emerging markets.

**Department of Defense Funding:**

XI (7) Developmental electronic equipment or systems funded by the Department of Defense via contract or other funding authorization;

**Note 1 to paragraph (a)(7):** This paragraph does not control developmental electronic systems or equipment (a) in production, (b) determined to be subject to the EAR via a commodity jurisdiction determination (see § 120.4 of this subchapter), or (c) identified in the relevant Department of Defense contract or other funding authorization as being developed for both civil and military applications.

**Note 2 to paragraph (a)(7):** Note 1 does not apply to defense articles enumerated on the USML, whether in production or development.

**Note 3 to paragraph (a)(7):** This paragraph is applicable only to those contracts and funding authorizations that are dated one year or later following the publication of [insert name of final rule incorporating revision of USML Category XI].

**Question/Issue:** AIA members are concerned with the principle that a developmental system - any system - would be controlled as ITAR if (1) the Department of Defense funds it, and (2) the Department of Defense contracting officer does not proactively elect to specify it as civil in the contract.

There are a number of "developmental electronic systems or equipment" that receive Department of Defense funding that are clearly civil (or at least have both civil and military applications). Subjecting these systems to ITAR control simply based on funding is a flawed methodology. Examples of Department of Defense funding for commercial or dual-use technologies are below.

1. High Performance Computing - Both Department of Defense and Department of Energy provide funding for civil research and development of next generation computing technologies.
2. Brain Research through Advancing Innovative Neurotechnologies - DARPA provides funding for this White House initiative. There are clear civil applications for this type of cognitive computing and beyond technology, e.g., detecting bank fraud patterns in transactions, etc.
   See this article: http://venturebeat.com/2013/04/02/white-house-drops-100m-to-help-scientist-map-the-human-brain/
   See this entry from the WH blog: http://www.whitehouse.gov/blog/2013/04/02/brain-initiative-challenges-researchers-unlock-mysteries-human-mind
3. Battery Technology - The Department of Defense and others are very interested in better performing batteries, which clearly has civil applications as well.

Additionally, contracting officers should not have to proactively designate a given technology as being civil in nature. If a contracting officer had to proactively elect a developmental system to be ITAR controlled that would provide some relief to our concerns (that is, flip the presumption and deem items funded by the DOD not to be ITAR controlled unless specific ITAR-controlling language is invoked in the contract). That would at the very least protect against accidental or unnecessary ITAR control. However, a given technology might be
subject to various defense contracts. Different contracting officers could come to different conclusions about a military vs civil classification. What happens when funding simply runs out under one contracting vehicle, and the work continues under another (not uncommon)?

Printed Circuit Boards (PCBs):

**XI(c)(2):** Note to Paragraph (c)(2) currently reads, “PCBs and populated circuit card assemblies for which the layout is specially designed for 600 series items are controlled in ECCN 3A611g.”

AIA suggests revised language to Note (c)(2) below:

“A PCB or populated circuit card assembly is specially designed for a defense article in this subchapter if its layout includes functional active device interconnections for an operating circuit that performs a system function described in this subchapter, or integral features for the suppression of compromising emanations as described in USML entry XI(c)(5)(iv). PCBs and populated circuit card assemblies for which the layout is specially designed for 600 series are themselves controlled under the 600 series.”

**XI(c)(3):** Note to Paragraph (c)(3) currently reads, “Multichip modules for which the pattern or layout is specially designed for 600 series items are controlled in ECCN 3A611h.

AIA suggests revised language to Note (c)(3) below:

“A multichip module is specially designed for a defense article in this subchapter if its layout includes functional active device interconnections for an operating circuit that performs a system function described in this subchapter, or integral features for the suppression of compromising emanations as described in USML entry XI(c)(5)(iv). Multichip modules for which the pattern or layout is specially designed for 600 series items are themselves controlled under the 600 series.”

The suggested revised notes above avoid referencing specific ECCNs on the Commerce Control List to allow for future ECCN reorganization should the Department of Commerce choose to do so.

Additionally, in response to recommendations and concerns filed in January 2013 during the original Category XI comment period, the State Department revised controls for printed circuit boards and patterned multichip modules. In the current July 25th FRN State notes that “jurisdiction of a printed circuit board or patterned multichip module should follow the jurisdiction of the article for which it is designed, as opposed to the jurisdiction of the overall system into which it is incorporated.” This text is understood to mean the immediate higher assembly for the printed circuit board or patterned multichip module; i.e., “one level up” the “indented where used” hierarchical structure of items in a system or end item.

The notes to Paragraphs (c)(2) and (c)(3) do not reference the above explanation. The information is necessary to prevent overcontrol of PCBs and multichip modules, and should be included in these two notes so that it is directly available in the regulation, and there is no future need to search for this information in an old Federal Register notice.

Parts and components the Department clearly intends for transition to the Commerce Control List frequently contain PCBs and may contain multichip modules. For example, manually operated rotary switches may contain small, non-significant interconnection PCBs that meet the test for being
specially designed. Absent the explanation in the supplementary information, the “see-through rule” of the ITAR would prevent these items from transition to the CCL because the PCBs may ultimately be used in USML articles.

At the same time, State should be aware of possible undercontrol of PCBs and multi chip modules. Critical PCBs and multichip modules directly perform system functions with capabilities described on the USML when installed. In system design hierarchy, several assembly levels are commonly found between a PCB or a multichip module and a system or equipment enumerated on the USML. Normally these levels are introduced for production or logistics reasons, but could also be artificially introduced for the purpose of decontrolling an item.

(a) Electronic equipment and systems
Paragraph (a)(2): The majority of torpedo countermeasure systems are unclassified mechanical and electrical equipment that function to deploy and retrieve a towed body and would work for any similar-sized tow body, regardless of the function or purpose. The classified software and hardware are what provide a uniquely military capability; a system has no military utility without them. Paragraph (a)(2) should be revised to read as follows: **Classified software and hardware for underwater acoustic countermeasures or counter-countermeasures systems.**

Paragraph (a)(3)(xxvii): Essentially the same system as those proposed to be captured by this paragraph can be installed at ground based locations to provide commercial air traffic information regarding aircraft not equipped with transponders to commercial aircraft operating around uncontrolled airports. This listing should be revised to control only those capabilities beyond what is required for civil air traffic collision avoidance as follows: **(xxvii) Bi-static/multi-static radar that exploits greater than 125 kHz bandwidth and is lower than 2 GHz center frequency to passively detect or track using radio frequency (RF) transmissions (e.g., commercial radio or television stations) and which is “specially designed” to detect a 0dBsm target at a range greater than 14 nm.**

Paragraph (A)(3)(i): The proposed language could be interpreted to cover weather radar because those systems “maintain the positional state of an object [weather cell] of interest in a received radar signal through time.” As this technology will impact safety of flight, we recommend providing an exclusion for civil aircraft application or imposing military-specific performance parameters as follows: **Airborne radar that maintains positional state of a solid, moving object of interest in a received radar signal through time and which is “specially designed” to have a range greater than 14 nautical miles for a 0dBsm target.**

Paragraph (a)(3)(ix): The rationale provided in paragraph (a)(3)(i) above also applies to this proposed control. Air surveillance radar systems will be critical in enabling the safe operation of UAVs in the portion of the national airspace where transponders are not required on manned aircraft and may significantly improve the safety of commercial aircraft operating at uncontrolled airports. This listing should be revised as follows:
Paragraph (a)(3)(xxv): The proposed language covering radar that sends and receives “communications” is potentially overbroad. Without a clear definition of what constitutes “communications,” (e.g., voice and radio) the proposed rule could unintentionally capture systems that send data to a point external to the radar that may not warrant control on the USML.

Air surveillance radar that:

(1) Has any of the following:
   a. multiple elevation beams,
   b. phase or amplitude monopulse estimation, or
   c. 3D height-finding,

AND

(2) Is “specially designed” to have a range greater than 14 nm for a 0dBsm target

Paragraph (c)(10)(i): Phased array SATCOM antennas are present on commercial aircraft today for satellite communications. In order to avoid confusion as to whether such antennae are captured by this paragraph, we suggest the following revised control text: Antenna, and specially designed parts and components therefor, that: (i) independently steers both the angular beams and nulls electronically using four or more elements with faster than 50 milliseconds beam switching.

Paragraph (c)(11)(ii): Any radio frequency can theoretically be used for a radar application and this control does not define “radar bands”. We recommend revising the control to provide the frequency ranges considered by the Department to be radar bands, provide exclusion for SATCOM radomes, or limit the control specifically to radome applications for radar as follows: Radomes or electromagnetic antenna windows that: (ii) Operate in multiple nonadjacent frequency bands for radar applications.

Paragraph (c)(5): The current listing covers capacitors already on the commercial market and the proposed control parameters would impact export compliance requirements for any existing system designed to use those capacitors. We recommend that controls on these items are more appropriately imposed, as they currently are, in the EAR.

Overlap of USML Categories:

Category XI is closely related to Categories VIII (aircraft and associated equipment), XII (fire control, range finder, optical and guidance and control equipment), and XIX (gas turbine engines). A successful export control reform effort will address the symbiotic relationship of USML categories. In this regard, the U.S. Government should recognize the importance of finalizing related categories in timely manner. As these other categories are completed and published in final form, the licensing jurisdiction for affiliated electronics may be vague. To avoid unnecessary confusion, the Departments as of State and Commerce should seek to minimize the delay between the publication of Category XI and these related categories in final form.
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**Specially Designed Language:**

Category XI, like many other categories, contains extensive use of the phrase “specially designed.” Final industry recommendations and comments are dependent on the full understanding of “specially designed.” While the final revision to USML Category XI, published on July 25, 2013, represents significant progress towards creating a positive list, there are several instances in which the inclusion of “specially designed” in the control parameters will create vague “catch all” commodity descriptions that run counter to the objective of creating an enumerated list of the most-sensitive commodities that warrant the stringent controls of the International Traffic in Arms Regulations (ITAR). Including specific parameters may not be possible for all items in Category XI. However, where possible, parameters should be included, for example in XI(a)(1)(v) “low frequency/very low frequency”; XI(a)(1)(vi) “cooperative sensing”; or AESA radars in XI(a)(3)(xii).

In those instances where inclusion of specific parameters is not possible, AIA recommends integrating the concept of “specifically designed for articles controlled in this subchapter” to avoid the inadvertent capture of commercial systems – this will reduce confusion and questions relating to systems currently in use in the civil sector. For example, C3, C4, and C4ISR systems (XI(a)(5)(i)) “specially designed” to integrate, incorporate, network, or employ defense articles may unintentionally capture command and control systems built using predominantly commercial components; autonomous processing/control systems and equipment that enable cooperative sensing (XI(a)(1)(vi)) is likely to capture commercial Autonomous Underwater Vehicles (AUVs) that use non-military cooperative sensing; and XI(a)(3)(xii) will likely capture commercial AESA radars using electronic steering.

When future category revisions are done, including revisions to Category XI, we hope that we will have the opportunity to provide our input on how “specially designed” language will be implemented.

**Foreign Availability:**

Additionally, we believe the Administration should recognize the commercial availability of foreign electronics when creating the bright line between USML and CCL. Many proposed control parameters are already achieved by products available from various international providers. Items available internationally offer no critical military or intelligence advantage to the United States. Further, as such items are not exclusively available from the United States they do not meet the new criteria the Administration has articulated for maintaining control under the ITAR. If U.S. partner and ally countries make equivalent systems, parts, or components commercially available, and not subject to ‘munitions list’ level control, the U.S. should apply a comparable level of control. To do so otherwise would encourage the designing-out (ITAR-free) of U.S. electronic parts and components.

**Civil/Commercial Products:**

Particular attention should be given to avoid capturing civil technologies related to traffic collision avoidance systems, phased arrayed satellite communications antennas, automatic direction finder antennas, air surveillance radars and the commercial wireless security sector.
AIA has long been a champion for sensible export control reform and we commend the Administration for their tireless efforts to achieve meaningful reform. Please know that AIA is a willing and committed partner to reform efforts going forward.

Best regards,

[Signature]

Remy Nathan  
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Aerospace Industries Association