Proposal for USML Category XII: Export Control Reform

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SPIE Webinar
Today’s Panelists

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“America’s decades-old, bureaucratically labyrinthine system does not serve our 21st-century security needs or our economic interests. Our security interests would be far better served by a more agile, transparent, predictable, and efficient regime.”
   Secretary of Defense, Robert Gates, April 20, 2010

“[T]he current export control system is overly complicated, contains too many redundancies, and, in trying to protect too much, diminishes our ability to focus our efforts on the most critical national security priorities.”
   Whitehouse Press Release, August 10, 2010
The Export Control Reform (ECR) Initiative

Basic Principals of ECR:

• Building higher walls around fewer items

• Enhance our industrial base by reducing incentives to design out US technology or purchase foreign products

• Clear, straightforward guidelines that are easy to understand

• Current effort is focused on rewriting the USML and associated provisions of the CCL
  ➢ Moving away from subjectivity of current and past USML, including demise of “specifically designed”
The Rise of “Specially Designed”

- Needed to clearly define what was caught by the catch-all controls – especially for items moving to CCL from USML
- Historical (pre-reform) design intent analysis led to inconsistent results
  - Subjective
  - Determining design intent often difficult
  - Times change – may no longer warrant strict control
- “Specially designed” defined the same way in the ITAR and the EAR
  - Core is “catch and release”
- “enforceable and capable of being prosecuted”
- See later slides on “Catch and Release”
Proposed Category XII: U.S. Munitions List
Proposed Category XII: Paragraph a (1-9)

1. Fire Control Systems or Equipment

2. Weapon Sights and Weapon Aiming or Imaging Systems
   - Certain infrared focal plane arrays (peak response wave length 1,000nm), article subject to this subchapter, or ballistic computers

3. Electronic or Optical Weapon Positioning, Laying or Spotting Systems or Equipment

4. Laser Spot Trackers and Laser Spot Detector
   - (Operational wave length shorter than 400nm or longer than 710nm, and a detection range greater than 300m)

5. Bomb Sights and Bombing Computers

6. Electro-optical Missiles or Ordnance Tracking or Guidance System
7. Electro-optical Systems or Equipment that automatically detect and locate weapons launch or fire

8. Remote Wind-Sensing Systems or Equipment having processor identified in subparagraphs (i)-(iii)
   (i) ballistic-corrected aiming;
   (ii) Great than 10% probability of hitting target or damage at a range exceeding 100m, or
   (iii) Wind measurement accuracy better than 5 mph at a range exceeding 100m

9. Helmet mounted display (HMD) systems, incorporating optical sight or slewing devices
Proposed Category XII: Paragraph b (1-14)

1. Laser Target Designators or Coded Target Markers
2. Infrared Laser Aiming or Target Illumination Systems
   - Laser Output wavelength exceeding 710nm
3. Laser Range Finders having
   - Q-switched laser pulse; or
   - Laser output wavelength exceeding 1,000nm
4. Targeting or Target Location Systems
5. Optical Augmentation System
   - Output wave length exceeding 710nm
6. LIDAR, LADAR, or Range-gated Systems
   - Carve out for certain LIDAR automotive applications
7. Synthetic Aperture LIDAR or LADAR
   - Stand-off range of 100m or greater (MT)
8. LIDAR or LARDAR, or other Laser Range-gated identified in subparagraph (i)-(vi)

(i) Resolution of 0.2 or less (better) from an altitude of greater than 16,500 ft, and incorporating gimbal-mounted transmitter or beam director;
(ii) Aircraft equipment having a laser output wavelength exceeding 1,000nm and a detection exceeding 500nm for an obstacle with a diameter less or equal to 10mm
(iii) Systems having an electrical bandwidth of 100MHz or greater and incorporating Geiger-mode detector array of at least 32 elements or a linear-mode array of 128 elements
(iv) Systems with coherent heterodyne or coherent homodyne detection techniques (angular resolution of less than 100 microradians and operational carrier noise ratio less than 10)
(v) Systems that automatically classify or identify submersibles, mines, exploded ordnance or IEDs; or
(vi) Systems specially designed for obstacle avoidance or autonomous navigation in ground vehicles controlled in Cat. VII


10. Tunable Semi-conductor Lasers
11. Non-Tunable Single Travers mode Semiconductor Laser
   ➢ Output wavelength exceeding 1,510nm and either an average output power or continuous
     wave output greater than 2W

12. Non-Tunable multiple Transverse Mode Semiconductor Laser
   ➢ Output wavelength exceeding 1,900nm and either an average output power or continuous
     wave output greater than 2W

13. Laser Stacked Arrays Identified in Subparagraphs (i)-(iv)
   (i) Having an output wavelength not exceeding 1,400 nm and a peak pulsed power density
       greater than 3,300 W/cm²;
   (ii) Having an output wavelength exceeding 1,400 nm but less than 1,900 nm and a peak pulsed
        power density greater than 700 W/cm²;
   (iii) Having an output wavelength exceeding 1,900 nm and a peak pulsed power density greater
        than 70 W/cm²;
   (iv) Having an output wavelength exceeding 1,900 nm, and either an average output power or
        CW output power greater than 20W; or

14. Developmental Lasers funded by the DoD
   ➢ Does not include (a) in production (b) CJ determining otherwise (c) contract with dual-use
     language included
Proposed Category XII: Paragraph c (1-20)

1. Second and Third Generations Image Intensifier Tubes (IITs)
   - Wavelength range exceeding 400nm but not exceeding 2,050nm, and incorporating either a Microchannel plate described in (e)(2)(i) or an electronic sensing device described in (e)(2)(iv)
   - Specially designed parts and components:
     (i) Incorporating a multialkali photocathode having a luminous sensitivity exceeding 500 microamps per lumen (GEN 2 IITs);
     (ii) Incorporating a compound semiconductor photocathode having a radiant sensitivity exceeding 20 mA/W (GEN 3 IITs);

2. Photon Detector, Microbolometer Detector, or Multispectral Detector Infrared Focal Plane Arrays (IRFPAs)
   - Peak response wavelength range exceeding 900nm but not exceeding 30,00nm and
   - Not integrated into a permanent encapsulated sensor assembly or detector element
3. One-Dimensional Photon Detector IRFPAs in Permanent Encapsulated Sensor Assembly
   - Greater than 640 Detector elements

4. Two-Dimensional Photon Detector IRFPAs in Permanent Encapsulated Sensor Assembly
   - Greater than 256 Detector elements

5. Microbolometer IRFPAs in Permanent Encapsulated Sensor Assembly
   - Greater than 328,000 detector elements

6. Multispectral IRFPAs in Permanent Encapsulated Sensor Assembly
   - Wavelength exceeding 1,500nm but not exceeding 30,000nm
7. Charge Multiplication Focal Plane Arrays
   - Greater than 1,600 elements in any dimension and
   - Maximum radiant sensitivity exceeding 50 milliamps per Watt for any wavelength exceeding 760nm but not exceeding 900nm, and
   - Avalanche detector elements

8. Charge Multiplication Focal Plane Arrays described in (c)(7) in Permanent Encapsulated Sensor Assembly

9. Integrated IRFPA Dewar Cooler Assemblies (IDCAs) having,
   - Active cold fingers, or
   - Variable or dual aperture mechanisms; or
   - Dewars specially designed for articles controlled under XII(a), XII(b) or XII(c)

10. Gimbals with Two or more Axes of Active Stabilization having Minimum root-mean-square (RMS) stabilization better (less) than 200 Microradians and specially designed for articles in this subchapter

11. Gimbals with Two or more Axes of Active Stabilization having Minimum root-mean-square (RMS) stabilization better (less) than 100 Microradians
12. Infrared Imaging Camera Cores identified in subparagraphs (i)-(xi)

(i) An **image intensifier tube** described in (c)(1);

(ii) **Output imagery** when subject to more than 20 weapon shock load events of **325 g** for **0.4 ms** and a microbolometer IRFPA having **greater than 111,000 detector elements**;

(iii) A **microbolometer IRFPA** described in (c)(2) having greater than **328,000 detector elements**, or a microbolometer IRFPA described in (c)(5); (iv) An IDCA described in (c)(9), or IDCA parts or components described in (e)(7);

(v) A **one-dimensional photon detector IRFPA** described in (c)(2) having a peak response within the wavelength range exceeding **900 nm** but **not exceeding 2,500 nm** and **greater than 640 detector elements**;

(vi) A **one-dimensional or two-dimensional photon detector IRFPA** described in (c)(2) having a peak response within the wavelength range **exceeding 2,500 nm** but **not exceeding 30,000 nm** and **greater than 256 detector elements**;

(vii) A **one-dimensional photon detector IRFPA** described in (c)(3);

(viii) A two-dimensional photon detector IRFPA described in (c)(2) or (c)(4) having a peak response within the wavelength range **exceeding 900 nm** but **not exceeding 2,500 nm**, and **greater than 111,000 detector elements**;

(ix) A **two-dimensional photon detector IRFPA** described in (c)(4) having a peak response within the wavelength range exceeding **2,500 nm** but not exceeding **30,000 nm**;

(x) A **multispectral infrared focal plane array** described in (c)(2) or (c)(6); or (xi) A charge multiplication IRFPA controlled in (c)(7) or (c)(8);
13. Binoculars, Bioculars, Monoculars, Goggles, or Head- or Helmet-Mounted Imaging Systems with IITs or Camera Cores Controlled in this Category

14. Targeting Systems incorporating an article controlled in this category

15. Infrared Search and Track (IRST) systems

16. Infrared Imaging Systems Identified in subparagraph (i)-(ix)

(i) Having two or more axes of active stabilization and a minimum root-mean-square (RMS) stabilization better (less) than 200 microradians;

(ii) Mobile reconnaissance, scout, or surveillance systems or equipment providing real-time target location at ranges greater than 5 km (e.g., LRAS, CIV, HTI, SeeSpot, MMS);

(iii) Fixed-site reconnaissance, surveillance or perimeter security systems or equipment having greater than 640 detector elements in any dimension;

(iv) Combat vehicle, tactical wheeled vehicle, naval vessel, or aircraft pilotage systems or equipment having a variable field of view or field of regard (e.g., electronic pan or tilt), and either an IRFPA article controlled in this subchapter with greater than 640 detector elements in any dimension, or an IIT controlled in this category (e.g., DAS, DVE, SeaFLIR, PNVS);

Note: XII(c)(16)(iv) does not control distributed aperture sensors specially designed for civil automotive lane departure warning or collision avoidance. (v) Multispectral imaging systems or equipment that either incorporate a multispectral IRFPA described in (c)(2) or (c)(6), or classify or identify military or intelligence targets or characteristics;
(vi) Automated missile detection or warning;
(vii) Hardened to withstand electromagnetic pulse (EMP) or chemical, biological, or radiological threats;
(viii) Incorporating mechanism(s) to reduce signature; or
(ix) Specially designed for military platforms controlled in Categories VI, VII or VIII;

18. Near-to-eye Display Systems or Equipment, specially designed for articles controlled in this subchapter

19. System or Equipment that project Radiometrically Calibrated Scenes directly into entrance aperture of an electro-optical or Infrared (EO/IR) sensor controlled in this subchapter, within either:
   - The Spectral Band exceeding 10nm but not exceeding 400nm, or
   - The Spectral Band exceeding 900nm but not exceeding 30,000nm

20. System or Equipment incorporating an infrared beacon or emitter specially designed for IFF and specially designed parts/components

21. Developmental Imaging Systems funded by the DoD
   - Does not include (a) in production (b) CJ determining otherwise (c) contract with dual-use language included
Proposed Category XII: Paragraph d (1-9)

1. Guidance or Navigation Systems
   - Circle of equal probability (CEP) of position error rate less than 0.35 nautical mph
   - Heading error or true north determination of less than 0.50 mrad latitude (0.02865 degrees latitude)
   - Specified to function at linear acceleration levels exceeding 25g

2. Accelerometers
   - Bias stability of less that 20ug, a scale factor stability less than 20 parts per million, or capable of measuring greater than 100,000g (MT)

3. Gyroscopes or Angular Rate Sensors
   - Angle random walk of less than 0.00125 degree per square root hour or having a bias stability less that 0.0015 degree per hour (MT)

4. Mobile Relative Gravimeters
   - Automatic motion compensation, with an in-service accuracy of less (better) than 0.4 mGal (MT)

5. Mobile Relative Gradiometers
   - Accuracy of less (better) than 10 Eötvös squared per radian per second for any component of the gravity gradient tensor, and having a spatial gravity wavelength resolution of 50 m or less
6. Global Navigation Satellite System (GNSS) as follows:
   i) Global Navigation Satellite System (GNSS) receiving equipment specially designed for military application;
   (ii) Global Positioning System (GPS) receiving equipment specially designed for encryption or decryption (e.g., Y-Code, M-Code) of GPS precise positioning service (PPS) signals (MT if designed or modified for airborne applications);
   (iii) GPS receiving equipment specially designed for use with a null steering antenna, an electronically steerable antenna, or including a null steering antenna designed to reduce or avoid jamming signals (MT if designed or modified for airborne applications)

7. GNSS anti-jam Systems employing Adaptive Antennas
   - Minimum 4 antenna elements, add 35 dB or greater anti-jam margin, and produce nulls in the direction of jammers or high-gain beams in the direction of satellites at any ranging code frequency.

8. GNSS Security Devices, Selective Availability Anti-Spoofing Module (SAASM), Security Module (SM) and Auxiliary Output Chip (AOC) chips

9. Developmental Guidance, navigation or Control Devices, systems funded by the DoD
   - Does not include (a) in production (b) CJ determining otherwise (c) contract with dual-use language included
Proposed Category XII: Paragraph e (1-15)

1. Specially designed Optical Sensors for Electronic Combat Systems controlled in Category XI(a)(4)

2. Image Intensifier Tube (IIT) parts and component identified in subparagraph (i)-(vii)

(i) Microchannel plates having a hole pitch (center-to-center spacing) of 12 μm or less;
(ii) Multialkali photocathodes (e.g., S-20 and S-25) having a luminous sensitivity exceeding 500 microamps per lumen;
(iii) III/V compound semiconductor (e.g., GaAs or GaInAs) photocathodes and transferred electron photocathodes having a radiant sensitivity exceeding 20 milliamps per Watt;
(iv) Electron sensing devices with detectors having a non-binned center-to-center spacing less than 100 μm, and either achieving charge multiplication within the vacuum space other than by a microchannel plate or specially designed for operation with a microchannel plate;
(v) Phosphor screens, including output faceplates, specially designed for IITs controlled in this category;
(vi) Miniature autogated power supplies providing internal sensing and control of the photocathode to increase the dynamic range of IITs controlled in this category; or
(vii) Fiber-optic inverters, couplers or tapers specially designed for IITs controlled in this category;

1. Wafers incorporating structures for ROICs or IRFPA detectors that are controlled
4. Read Out Integrated Circuits (ROICs) specially designed for an IRFPA identified in subparagraph (i)-(iv)

   (i) one-dimensional photon detector IRFPA having greater than 640 detector elements;
   (ii) two-dimensional photon detector IRFPA having greater than 256 detector elements;
   (iii) microbolometer IRFPA having greater than 8,000 elements; or (iv) multispectral IRFPA;

5. ROICs specially designed for systems, camera core or packaged IRFPA controlled in paragraph (c)

6. Specially Designed Vacuum Packages or other sealed enclosures for an IRFPA or IIT controlled

7. Integrated IRFPA dewar cooler assembly (IDCA) parts and components identified in subparagraph (i)-(iv)

   i) Cryocoolers having a cooling source temperature below 218 K and a mean-time-to-failure (MTTF) in excess of 3000 hours;
   (ii) Active cold fingers;
   (iii) Variable or dual aperture mechanisms; or
   (iv) Dewars specially designed for articles controlled in XII(a), XII(b) or XII(c);
8. Specially designed IRFPA Joule-Thompson (JT) self-regulating Cryostats

9. Specially Designed Infrared Lenses, mirror, beam splitters or combiners, filters, and treatments and coatings

10. Specially Designed drive, control, signal or image processing electronics

11. Signal processing electronics identified in subparagraphs (i) and (iv)
   
   (i) Automatic or aided detection and recognition, classification, identification or discrimination of military or intelligence items; or
   (ii) Multi-sensor fusion other than image blending;
   (iii) Multi-sensor fusion other than image blending; or
   (iv) Target aim point adjustment;
12. Specially designed near-to-eye displays

13. Specially designed resonators, receivers, transmitters, modulators, gain media, and drive electronics or frequency converters.

14. Two-dimensional infrared scene projector emitter arrays (i.e., resistive arrays) that emit infrared radiation within the 900 nm to 30,000 nm wavelength range

15. Classified parts, components, accessories, attachments, and associated equipment
Proposed Category XII: Paragraph f

• Paragraph (f) is revised to more clearly describe the technical data and defense services controlled in paragraph (f).

- Note 1 clarifies that technical data directly related to IITs, IRFPAs, integrated IRFPA dewar cooler assemblies and related wafers and ROICs controlled in this Category remains USML controlled, even when those defense articles are part of a system that is subject to the EAR.

- Note 2 enumerates certain technical data and software that are directly related to the defense articles controlled in this Category in paragraphs A, B, and C. It also includes a note to paragraph A, identifying certain technology that is not technical data.

- Note 3 states that certain technology for the incorporation or integration of IRFPAs and IITs into items subject to the EAR, including into permanent encapsulated sensor assemblies, is subject to the EAR.
Department of Commerce: “Bookend”
Category 6 Revisions
ECCN 6A002: optical sensors and equipment, including infrared focal plane arrays and image intensifier tubes

- Includes: Image Intensifier tubes with a luminous sensitivity of 500 microamps per lumen or less and FPAs that are in a permanent encapsulated sensor assembly
- New License Requirements for all of 6A002

ECCN 6A003: cameras, systems, or equipment and components

- Precludes reexport exception from Country Group A:1 with a limited for certain products and destinations

ECCN 6A990: certain read-out integrated circuits (ROICs)

- Increase scope of ROICs covered by this ECCN to include ROICs “specially designed” for focal plane arrays
- New License requirements; limits license exceptions
- License applications subject to case-by-case review
• **ECCN 6D002**: software for the “use” of 6A002.b imaging sensors
  - Impose worldwide Regional Stability control: Canada license, assumption of denial
  - Remove License exception TSR

• **ECCN 6D003.c**: software designed or modified for cameras incorporating “focal plane arrays” specified by 6A002.a.3.f and designed or modified to remove a frame rate restriction and allow the camera to exceed the frame rate specified in 6A003.b.4 Note 3.a
  - Impose a worldwide Regional Stability (RS) control for such software, resulting in license requirement for Canada.
  - Remove eligibility to use License Exception TSR.
  - New worldwide Regional Stability control would result in reviewing license applications with a presumption of denial, regardless of country of destination.
• **ECCN 6E001**: technology for the “development” of 6A002 or 6A003 commodities
  - Impose worldwide Regional Stability control: Canada license, presumption of denial
  - Remove STA-36 eligibility for all such technology
  - Remove License exception TSR

• **ECCN 6E002**: technology for the “production” of 6A002 or 6A003 commodities
  - Impose worldwide Regional Stability control: Canada license, presumption of denial
  - Remove license exceptions

• **ECCN 6E990**: technology required for the “development” or “production” of 6A990 ROICs
  - Impose worldwide Regional Stability control: Canada license, presumption of denial
  - Expand scope to capture previously EAR99 technology
  - Remove license exceptions
• **ECCN 6D991**: software for the “development,” “production,” or “use” of commodities in 6A002, 6A003, or 6A990
  - Expand scope of control to capture software for the development, production, or use of all items in 6A002 and 6A003
  - Impose worldwide Regional Stability control
  - License requirement for all destinations of software related to optical sensors and cameras

• **ECCN 6D994**: software (n.e.s.) that is specially designed for the maintenance, repair, or overhaul of 6A002, 6A003, or 6A990 commodities
  - Impose worldwide Regional Stability control
  - Ineligible for License Exception STA

• **ECCN 6E994**: technology required for the maintenance, repair, or overhaul of 6A002, 6A003, or 6A990 commodities
  - Impose worldwide Regional Stability control
  - Ineligible for License Exception STA
• **ECCN 0E987**: technology required for the “development” or “production” of 0A987 commodities that incorporate a focal plane array or image intensifier tube
  - Impose worldwide Regional Stability control
  - Ineligible for License Exception STA

• **ECCN 0A919**: With respect to dual-use thermal imaging or night vision items, 0A919 currently controls military commodities outside of the U.S. if they incorporate certain cameras in 6A003.
  - Increase the scope to include foreign military commodities incorporating any item in 6A003, as well as 6A002 items or 9Hz cameras in 6A993.a
  - Update the *de minimis* provisions in § 734.4 to provide that there would be no *de minimis* level for 0A919 military commodities incorporating the dual-use thermal imaging/night vision items described above. Thus, reexports of a 0A919 item incorporating any amount of 6A002, 6A003, or 6A990 content would be subject to the EAR and require a license worldwide, with the exception of Canada.
Specially Designed:
Catch and Release Criteria
Specially Designed – “Catch”

<table>
<thead>
<tr>
<th>Paragraph (a)</th>
<th>Except for items described in (b), an item is specially designed if:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>As a result of development, the item has properties peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions described in the relevant:</td>
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<tr>
<td></td>
<td>ITAR definition: USML paragraph</td>
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<tr>
<td></td>
<td>EAR definition: ECCN paragraph or USML paragraph</td>
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<tr>
<td>(2)</td>
<td>Is a part, component, accessory, attachment, or software for use in or with a:</td>
</tr>
<tr>
<td></td>
<td>ITAR definition: a defense article</td>
</tr>
<tr>
<td></td>
<td>EAR definition: a commodity or defense article enumerated or described on the CCL or the USML</td>
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</table>
## Specially Designed – “Release”

<table>
<thead>
<tr>
<th>Paragraph (b)</th>
<th>A part, component, accessory, attachment or software that would be controlled by (a) is not specially designed if:</th>
</tr>
</thead>
</table>
| (1)           | **ITAR definition:** a CJ establishes item is subject to EAR  
**EAR definition:** a CJ or interagency-cleared CCATS (EAR 748.3(e)) says the item is controlled in an ECCN that does not use specially designed as a control parameter or EAR99 (EAR) |
| (2)           | **Both:** the item is a fastener (e.g. screw, bolt, nut, nut plate, stud, insert, clip, rivet, pin), washer, spacer, insulator, grommet, bushing, spring, wire, or solder |
| (3)           | the item has the same function, performance capabilities, and same or equivalent form and fit as a commodity or software used in or with an item that is or was in production that:  
**ITAR definition:** is not enumerated on the USML  
**EAR definition:** is either not enumerated on the USML or CCL, or is described in an ECCN controlled for AT only |
Specially Designed – “Release” cont’d

<table>
<thead>
<tr>
<th>Paragraph (b)</th>
<th>A part, component, accessory, attachment or software that would be controlled by (a) is not specially designed if:</th>
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<tr>
<td>(4)</td>
<td>It was or is being developed with knowledge that it would be for use in or with:</td>
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<td></td>
<td><strong>ITAR definition:</strong> both defense articles enumerated on the USML and also commodities not on the USML</td>
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<tr>
<td></td>
<td><strong>EAR Definition:</strong> commodities or software (i) described in an ECCN and (ii) also commodities or software either not enumerated on CCL or USML or commodities or software described in an ECCN controlled for AT reasons only</td>
</tr>
<tr>
<td>(5)</td>
<td><strong>Both:</strong> the item was or is being developed as a general purpose item, i.e. with no knowledge of use in or with a particular item or type of commodity</td>
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<tr>
<td>(6)</td>
<td><strong>EAR only:</strong> the item was or is being developed with knowledge that it would be used in or with commodities or software (i) described in an ECCN controlled for AT reasons only and EAR99 commodities or software, or (ii) exclusively for use in or with EAR99 item</td>
</tr>
</tbody>
</table>

Need contemporaneous documents to support design intent in (b)(4)-(6).
Specially Designed – Recap in Plain English

- **Not specially designed if:**

  (1) a CJ or CCATS establishes that it is not specially designed;

  (2) if is low level part such as a fastener;

  (3) it is used in both controlled and uncontrolled / lowest level controlled item that is in production; or

  (4)-(6) you have contemporaneous documents to show developed as dual-use or general purpose item
Wassenaar Arrangement: Munitions List
Wassenaar Munitions List

ML5. Fire control, and related alerting and warning equipment, and related systems, test and alignment and countermeasure equipment, as follows, specially designed for military use, and specially designed components and accessories therefor:

a. Weapon sights, bombing computers, gun laying equipment and weapon control systems;

b. Target acquisition, designation, range-finding, surveillance or tracking systems; detection, data fusion, recognition or identification equipment; and sensor integration equipment;

c. Countermeasure equipment for items specified by ML5.a. or ML5.b.;

Note: For the purposes of ML5.c., countermeasure equipment includes detection equipment.

d. Field test or alignment equipment, specially designed for items specified by ML5.a., ML5.b. or ML5.c.

http://www.wassenaar.org/controllists/
Wassenaar Munitions List

ML15. Imaging or countermeasure equipment, as follows, specially designed for military use, and specially designed components and accessories therefor:

a. Recorders and image processing equipment;
b. Cameras, photographic equipment and film processing equipment;
c. Image intensifier equipment;
d. Infrared or thermal imaging equipment;
e. Imaging radar sensor equipment;
f. Countermeasure or counter-countermeasure equipment, for the equipment specified by ML15.a. to ML15.e.
Wassenaar Munitions List

Note 1 in ML15., the term specially designed components includes the following, when specially designed for military use:

- a. Infrared image converter tubes;
- b. Image intensifier tubes (other than first generation);
- c. Microchannel plates;
- d. Low-light-level television camera tubes;
- e. Detector arrays (including electronic interconnection or read out systems);
- f. Pyroelectric television camera tubes;
- g. Cooling systems for imaging systems;
- h. Electrically triggered shutters of the photochromic or electro-optical type having a shutter speed of less than 100 µs, except in the case of shutters which are an essential part of a high speed camera;
- i. Fibre optic image inverters;
- j. Compound semiconductor photocathodes.
Comment Guidance

• Deadline is July 6, 2015
• Direct comparison of non-military products with USML entries
  ➢ Specifying non-military applications.
  ➢ Identify non-military items specified on the USML,
  ➢ Items being specified by more than one entry, and
  ➢ the clarity of the entries.

• Assessment of the appropriateness of the parameters and thresholds chosen to designate USML items.
  ➢ Are the parameters chosen (e.g., FPA format) true indicators of the military nature of a product (e.g., camera, FPA)?
  ➢ Have the thresholds been set at a clear delineation between military and non-military products?
  ➢ Have clear bright lines been drawn?

• Assessment of the overall scope of controls on the USML & CCL.
  ➢ Are the divisions between the two lists being drawn clearly and appropriately when considering foreign availability and actual end uses of products?
  ➢ Is the total scope of controls appropriate at this point in time?
• Address whether the proposed rules, in total, creates an environment in which US companies can successfully compete.
  ➢ How will business be affected by having civil items specified on the USML?
  ➢ How will business be affected by the proposal EAR modifications (e.g., new license requirements, restricting license exceptions)?
  ➢ Are the restrictions imposed by the rewrite consistent with foreign-product availability in foreign markets, and the access required to those markets by US industry in order to effectively compete?
  ➢ Provide specific market data wherever possible.
  ➢ How would this proposal affect the future of industry? Due parameters potentially limit future investment and growth?

• Do the proposed rules follow the ECR guidelines?
  ➢ Provide both specific and general examples to support any assertions.

• Remember to respond to both rules
  ➢ Comments can be the same
Potential Conclusions

• Proposal headed in the wrong direction; Should be fundamentally rewritten

• Specially Designed should be more fully applied to this Category
  ➢ As opposed to performance parameters

• USML should align with the Wassenaar Munitions list
Federal Register Notice

• USML (State): https://federalregister.gov/a/2015-09673
  ➢ Email: DDTCPublicComments@state.gov with the subject line, “ITAR Amendment—Category XII.”
  ➢ Internet: At www.regulations.gov, search for this notice by using this rule's RIN (1400-AD32).

• CCL (Commerce): https://federalregister.gov/a/2015-10353
  ➢ By email directly to publiccomments@bis.doc.gov Include RIN 0694-AF75 in the subject line.

*Parties who wish to comment anonymously may do so by submitting their comments via www.regulations.gov, leaving the fields that would identify the commenter blank and including no identifying information in the comment itself.