

From: Glenn, Matt [<mailto:mglenn@agi.com>]
Sent: Thursday, January 31, 2013 2:47 PM
To: DDTC Response Team
Cc: 'Jon Roberts (JRoberts@MARBURLAW.COM)'
Subject: ITAR Amendment - Category IV

Dear DDTC Response Team,

Regarding 78 FR 6765-69, the proposed revision of USML Category IV continues use of the term “directly related to” in paragraph (i) Technical data. From my company’s perspective there is ambiguity as to whether or not desktop trajectory modeling and simulation software currently controlled under Category IV(i) would still be ITAR-controlled under the proposed rule if enacted, even though the software does not meet the definition of “specially designed” as provided by the Department of State in the June 19, 2012 proposed rule (77 FR 36428).

We would be grateful for clarification, as we believe it could reduce future workload associated with product-specific commodity jurisdiction requests by industry, wherein assertions are built, presented and then debated, that this type of software is not “directly related to” the defense articles enumerated in paragraphs (a) through (h).

Thank you very much for your consideration.

Sincerely,

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March 8, 2013

To: DDTCResponseTeam@state.gov
Publiccomments@bis.doc.gov

From: William A. Root, waroot23@gmail.com; tel. 301 987 6418

Subject: Revision of USML Category IV - RIN (1400-AD19)
EAR Revisions Related to USML Category IV Revisions - RIN 0694-AF56

Missile Technology Control Regime Commodities

Proposed deletion of obsolete 121.16; marking “(MT)” those proposed revised Category IV items which are judged to be on the MTCR Annex; and increased usage of MTCR language are big steps in the right direction. However, there is still much to do to be more precise as to State and Commerce jurisdiction for USML Category IV MT commodity items and CCL Category 9. Attachment 1 shows that (1) there are eight proposed category IV sub-items marked MT for which no corresponding MTCR language has been found (h)(2, 7, 10, 12, 13, 15, 24, 29); and (2) there are 13 category IV sub-items marked MT with language substantially different from that in the MTCR Annex ((b)(1), (h)(1, 6, 8, 9, 14, 17, 20, 21, 22, 25, 26, 27). Attachment 2 shows that there are 13 existing CCL Category 9 commodity ECCNs marked completely State jurisdiction for which substantial portions are not covered by existing or proposed USML IV language (9A006 to 9A011, 9A105, 9A107, 9A109, 9A115, 9A116, 9A118, and 9A119). It would help if State and Commerce collaborated in preparation of a table showing all MTCR Annex items, together with unequivocally corresponding USML and CCL item numbers.

MT Components Containing Specified Materials

Attachment 3 gives the rationale for recommending deletion, rather than transfer to Category XIII, of materials now controlled by Category IV.f.

Specially Designed

One of the objectives of Export Control Reform (ECR) is to use technical descriptions rather than “specially designed” in the USML. This is especially important for MT items. The existing MT definition of “specially designed” will apparently continue to apply to the MT portions of items while a new definition of this term will apply to the non-MT portions of those same items. Another ECR objective is to transfer to Commerce less significant components which are identified only as “specially designed” for end-items. Attachments 2, and 4 recommend how “specially designed,” and other inherently ambiguous terms, could be completely removed from CCL Category 9 commodity ECCNs and the proposed revision of USML Category IV.

Attachments 5 and 6 recommend clarification of proposed Commerce controls on production equipment and facilities and State and Commerce controls on software and technology related to USML Category IV and CCL Category 9.

Attachment 1

Revisions in MT Controls in Proposed IV(a, b, c, d, h) to Conform with MTCR

- (a)(1) ~~Rockets, SLVs, and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km~~ Complete rocket system (including ballistic missile systems, space launch vehicles, and sounding rockets) capable of delivering at least a 500 kg “payload” to a “range” of at least 300 km.
- (a)(2) ~~Rockets, SLVs, and missiles capable of delivering less than a 500 kg payload to a range of at least 300 km.~~ Complete rocket systems (including ballistic missile systems, space launch vehicles, and sounding rockets), not specified in (a)(1), capable of a “range” equal to or greater than 300 km.
(To conform with MTCR 1.A.1 and 19.A.1. If it was intended to omit sounding rockets, the proposed language could be retained, with changes only to insert “ballistic missile systems” after “SLVs” and to put “payload” and “range” in quotation marks. Then the State jurisdiction notation should be removed from existing 9A104, or such sounding rockets should be added to 9A604; but not both.)
- (b)(1) ~~Fixed launch sites and mobile launcher mechanisms for any system enumerated in paragraphs (a)(1) and (a)(2) of this category (e.g., launch tables, TOW missile, MANPADS).~~
- (c) ~~Apparatus and devices “specially designed” for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles enumerated in paragraphs (a) and (b) of this category.~~
Note to paragraph (c): This paragraph includes specialized handling equipment (transponders, cranes, and lifts) “specially designed” to handle articles enumerated in paragraphs (a) and (b) of this category for preparation and launch from fixed and mobile sites. The equipment in this paragraph also includes “specially designed” robots, robot controllers, and robot end-effectors, and liquid propellant tanks “specially designed” for the storage or handling of the propellants controlled in USML Category V, CCL ECCNs 1C011, 1C111, and 1C608, or other liquid propellants used in the systems enumerated in paragraphs (a)(1), (a)(2), or (a)(5) of this category.
Apparatus and devices, designed or modified for the handling, control, activation, or launching of the systems specified in IV(a)(1) or (a)(2) or VIII(a)(5) or (a)(6) capable of a “range” equal to or greater than 300 km.
(To conform with MTCR 12.A.1. The Note to paragraph IV(c) does not appear in the MTCR. Propellant tanks are separately controlled in (h)(26) (MTCR 3.A.8).)
- (d)(1) ~~Except as enumerated in paragraphs (d)(2) or (d)(3) of this category, individual rocket stages for the articles enumerated in paragraphs (a)(1), (a)(2), or (a)(5) of this category (MT for those stages usable in systems enumerated in paragraphs (a)(1) and (a)(2) of this category)~~ Individual rocket stages usable in the systems specified in IV(a)(1) or (a)(2), VIII(a)(5) or (a)(6) capable of a “range” equal to or greater than 300 km, or usable in

ECCN 9A120

(To conform with MTCR 2.A.1.a and 20.A.1.a. If a similar item were in Category VIII, no change would be needed in proposed (d)(1).)

- (d)(2) ~~Solid propellant rocket motors, hybrid or gel rocket motors, or liquid propellant rocket engines having a total impulse capacity equal to or greater than 1.1×10^6 N.s (MT)~~ Solid propellant rocket motors, hybrid rocket motors, or liquid propellant rocket engines, usable in (a)(1), having a total impulse capacity of 1.1×10^6 Ns (2.5×10^5 lb.s) or greater
(To conform with MTCR 2.A.1.c.)
- (d)(3) ~~Solid propellant rocket motors, hybrid or gel rocket motors, or liquid propellant rocket engines having a total impulse capacity equal to or greater than 8.41×10^5 N.s but less than 1.1×10^6 N.s (MT)~~ Solid propellant rocket motors, hybrid rocket motors, or liquid propellant rocket engines, not specified in (d)(2), usable in the systems specified in IV(a)(2), VIII(a)(5) or (a)(6) capable of a “range” equal to or greater than 300 km, or usable in ECCN 9A120, having a total impulse capacity equal to or greater than 8.41×10^5 Ns but less than 1.1×10^6 Ns
(To conform with MTCR 20.A.1.b.)
- (d)(4) ~~Combined cycle, pulsejet, ramjet, or scramjet engines (MT)~~
- (h)(14) ~~Combustion chambers specially designed for articles enumerated in paragraphs (a) and (d) of this category and specially designed parts and components therefor (MT for those articles enumerated in paragraphs (a)(1), (a)(2), (b)(1) and (d)(1) through (d)(5) of this category). Ramjet/scramjet/pulse jet/combined cycle engines, including devices to regulate combustion usable in IV(a)(1) or VIII(a)(5) or (a)(6) capable of a “range” equal to or greater than 300 km~~
(To conform with MTCR 3.A.2, except for omission of components therefor. Recommend Commerce control of such components in 9A111 or in 9A604.c; but not both. Recommend deletion of MT from (h)(14) and addition of devices to regulate combustion to (d)(4) if not made subject to Commerce jurisdiction.)
- (h)(1) ~~Flight control and guidance systems (including “guidance sets”) “specially designed” for articles enumerated in paragraph (a) of this category (MT for those articles enumerated in paragraphs (a)(1) and (a)(2) of this category).~~
- (h)(28) ~~Hydraulic, mechanical, electro-optical, or electro-mechanical flight control systems (including fly-by-wire systems) and attitude control equipment “specially designed” for use in the rockets or missiles enumerated in paragraph (a)(1) of this category (MT for those systems which have been designed or modified for those enumerated n paragraph (a)(1) of this category).~~
Hydraulic, mechanical, electro-optical, or electromechanical flight control systems (including fly-by-wire systems) and attitude control equipment “specially designed” for use in the rockets or missiles enumerated in paragraph (a)(1) of this category (MT for those systems which have been designed or modified for those enumerated n paragraph (a)(1) of this category).

'Guidance sets', usable in the systems specified in 1.A, capable of achieving system accuracy of 3.33% or less of the "range" (e.g., a 'CEP' of 10 km or less at a "range" of 300 km)

(To conform with MTCR 10.A.1 and 2.a.1.d.)

- (h)(2) ~~Seeker systems "specially designed" for articles enumerated in paragraph (a) of this category (e.g., radio frequency infrared) (MT for articles enumerated in paragraphs (a)(1) and (a)(2) of this category).~~

(No mention of seeker systems found in MTCR Annex.)

- (h)(4) ~~Missile or rocket thrust vector control systems (MT for articles enumerated in paragraphs (a)(1) and (a)(2) of this category)~~ Thrust vector control sub-systems usable in (a)(1).

(To conform with MTCR 2.A.1.e.)

- (h)(6) ~~Rocket or missile nozzles and nozzle throats, and "specially designed parts and components therefor (MT for those nozzles and nozzle throats usable in systems enumerated in paragraphs (a)(1) and (a)(2) of this category)~~

- (h)(20) ~~Rocket motor cases and "specially designed" parts and components therefor (e.g., flanges, flange seals, end domes) (MT for those rocket motor cases usable in systems enumerated in paragraphs (a)(1) and (a)(2) of this category and for "specially designed" parts and components for hybrid rocket motors enumerated in paragraphs (d)(2) and (d)(3) of this category)~~

Rocket motor cases, 'insulation' components and nozzles therefor, usable in (a)(1) or (a)(2).

Specially designed components for hybrid rocket motors specified in (d)(2) and (d)(3)

(To conform with MTCR 3.A.3 and 3.A.6.

Recommend deletion of "and nozzle throats" from MT portion of (h)(6).

Recommend deletion of "'specially designed" parts and components for hybrid rocket motors enumerated in paragraphs (d)(2) and (d)(3) of this category" from MT portion of (h)(20).

Recommend addition, as a Commerce control of "Hybrid rocket motor components having characteristics described in 9A109.a or .b." in 9A109.c or 9A604.f; but not in both.)

- (h)(7) ~~Nose tips, nose fairings, or aerospikes, and "specially designed" parts and components therefor (MT for those articles enumerated in paragraphs (a)(1) and (a)(2) of this category)~~

(No mention nose tips, nose fairings, or aerospikes found in MTCR Annex, except for nose tips in 6.B.5 (2B117) production and 6.C.3 and 6.C.4 (1C107.a,b) material items.)

- (h)(8) ~~Re-entry vehicle or warhead heat shields (MT for those re-entry vehicles and heat shields usable in systems enumerated in paragraph (a)(1) of this category.~~

(h)(17) ~~Re-entry vehicles and “specially designed parts and components therefor not elsewhere specified in this category (MT)~~

Re-entry vehicles, and equipment designed or modified therefor, usable in (a)(1), as follows:

1. Heat shields fabricated of ceramic or ablative materials;
2. Heat sinks fabricated of light-weight, high heat capacity materials;
3. Electronic equipment specially designed for re-entry vehicles

(To conform with MTCR 2.A.1.b, except for omission of components of heat shields and heat sinks. Such components would be covered by 9A604.x. Recommend “fabricated of ceramic or ablative materials” be inserted after “heat shields” in (h)(8).

Recommend deletion of (h)(17), because MT re-entry vehicles are covered by (h)(8) and MTCR does not cover “specially designed parts and components” of re-entry vehicles.

Recommend MTCR 2.A.1.b.2 and 3 be covered as Commerce jurisdiction in either 9A116 or a new sub-item of 9A604; but not both. Proposed XI(c)(14) electronic components for missiles, rockets or UAVs does not mention re-entry vehicles and is defined in terms of a temperature capability.)

(h)(9) ~~Missile and rocket safing, arming, fuzing and firing (SAFF) components (to include target detection and proximity sensing devices) and “specially designed” parts therefor (MT for those safing, arming, fuzing, and firing (SAFF) components usable in systems enumerated in paragraph (a)(1) of this category).~~

(h)(25) ~~Fuzes “specially designed” for articles enumerated in paragraph (a) of this category (e.g., proximity, contact, electronic, dispenser proximity, airburst, variable time delay, or multi-option) (MT for those fuzes usable in system enumerated in paragraph (a)(1) of this category).~~

Weapon or warhead safing, arming, fuzing, and firing mechanisms, usable in (a)(1).

(To conform with MTCR 2.A.1.f. Recommend deleting MT from (h)(25) and changing “components” to “mechanisms” in (h)(9).)

(h)(10) ~~Self-destruct systems “specially designed” for articles enumerated in paragraph (a) of this category (MT for those articles enumerated in paragraphs (a)(1) and (a)(2) of this category~~

(No mention of self-destruct systems found in MTCR Annex.)

(h)(11) ~~Separation mechanisms, staging mechanisms, and interstages usable for articles enumerated in paragraph (a) of this category and “specially designed” parts and components therefor (MT for those separation mechanisms, staging mechanism, and interstages usable in systems enumerated in paragraph (a)(1) of this category)~~

Staging mechanisms, separation mechanisms, and interstages therefor, usable in (a)(1)

(To conform with MTCR 3.A.4, which does not control parts and

components.)

(h)(12) ~~Post boost vehicles (PBV) (MT)~~

(No mention of post-boost vehicles found in MTCR Annex.)

(h)(13) ~~Engine or motor mounts “specially designed” for articles enumerated in paragraphs (a) and (b) of this category (MT for those articles enumerated in paragraphs (a)(1), (a)(2), and (b)(1) of this category~~

(No mention of motor mounts found in MTCR Annex.)

(h)(15) ~~Injectors “specially designed” for articles controlled in this category (MT for those injectors “specially designed” which are usable in systems enumerated in paragraph (a)(1) of this category~~

(No mention of injectors found in MTCR Annex, although it does appear in Wassenaar 9.A.6.e (9A006.e).)

(h)(21) ~~Solid rocket motor liners and rocket motor insulation (MT for those solid rocket motor liners usable in systems enumerated in paragraph (a)(1) of this category or “specially designed” for systems enumerated in paragraph (a)(2) of this category and rocket motor insulation usable in systems enumerated in paragraphs (a)(1) and (a)(2) of this category.~~

‘Interior lining’ usable for rocket motor cases in the systems specified in (a)(1) or specially designed for systems specified in IV(a)(2) or VIII(a)(5) or (a)(6) capable of a “range” equal to or greater than 300 km

‘Insulation’ material in bulk form usable for rocket motor cases in the systems specified in (a)(1).

(To conform with MTCR 3.C.1 and 3.C.2. Re “specially designed,” see Attachment 4.)

(h)(22) ~~Radomes, sensor windows, and antenna windows “specially designed” for articles enumerated in paragraph (a) of this category (MT for those radomes usable in systems enumerated in paragraph (a)(1) of this category and for any radomes, sensor windows, or antenna windows manufactured as composite structures or laminates “specially designed” for use in the systems and components enumerated in paragraphs (a)(1), (a)(2), (d)(1), (h)(8), (h)(9), (h)(17), or (h)(25) of this category.~~

Radomes designed to withstand a combined thermal shock greater than $4.184 \times 10^6 \text{ J/m}^2$ accompanied by a peak over pressure of greater than 50 kPa, usable in protecting rocket systems and unmanned aerial vehicles against nuclear effects (e.g., Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), and usable for the systems specified in IV(a)(1) or VIII(a)(5) or (a)(6)

(To conform with MTCR 18.A.3. Recommend MT portion of (h)(22) be revised per underlined text above, changing “designed to withstand” to “withstanding”)

(h)(24) ~~Rocket and missile launch canisters (MT for those rocket and missile launch canisters designed or modified for systems enumerated in paragraphs (a)(1) and (a)(2) of this category.~~

(No mention of canisters found in MTCR Annex.)

(h)(26) ~~Rocket and missile liquid propellant tanks (MT for those rocket and missile liquid propellant tanks usable in systems enumerated in paragraph (a)(1) of this category.~~

Liquid propellant tanks specially designed for the propellants controlled in category V or ECCNs 1C011 or 1C111

(To conform with MTCR 3.A.8. This would be a reasonable candidate for transfer to Commerce jurisdiction. Re “specially designed,” see Attachment 4)

(h)(27) ~~Rocket and missile altimeters “specially designed” for use in articles enumerated in paragraph (a)(1) of this category (MT)~~

Radar and laser radar systems, including altimeters, designed or modified for use in (a)(1).

(To conform with MTCR 11.A.1.)

(h)(29) ~~Any part, component, accessory, attachment, equipment, or system that (MT for those articles designated as such):~~

- ~~(i) Is classified;~~
- ~~(ii) contains classified software; or~~
- ~~(iii) Is being developed using classified information~~

(No mention of classified found in MTCR Annex. U.S. regulations restricting distribution of classified information are more effective than export controls based on an unclassified control list.)

Attachment 2

Recommended Revisions in CCL Category 9 Commodity ECCNs

This supersedes my January 23 comments on this same subject, which was prepared before seeing the January 31 proposed Category IV rule. In the following analyses, references to USML Category VIII are to the proposed revision of that Category pursuant to a November 7, 2011, proposed rule. References to Category XIX are to a December 6, 2011 rule. References to Category XV are to existing Category XV. These rules imply that the portions of Wassenaar or MTCR controls for aircraft, gas turbine engines, missiles, or spacecraft not clearly described as State jurisdiction are Commerce jurisdiction. If intended, such implications should be made explicit. If not intended, the USML descriptions should be revised to remove such implication.

What follows also attempts to clarify component controls and to eliminate “specially designed” and other similar ambiguous phrases.

9A001

Aero gas turbine engines, not controlled by USML XIX, having any of the following ...

Note: ~~9A001.a does not control~~ Neither 9A001 nor USML XIX controls aero gas turbine engines which meet the following: ...

- a. Certified ...
- b. ~~Intended to~~ To power non-military manned aircraft ...

Items:

- b ~~Designed to~~ To power an aircraft designed to cruise at Mach 1 or higher

9A002

... and ~~specially designed~~ assemblies and components ~~therefor~~ having those characteristics

9A003

~~Specially designed~~ assemblies and components, incorporating ...

9A004

Space launch vehicles and “spacecraft” not controlled by USML IV or XV.a

MT applies to 9A004 also described in 9A104

Related Controls: Move the detail in existing 9A004 concerning DOS jurisdiction to the USML to the extent that it is still relevant under the Export Control Reform and under transfers from State to Commerce of items relevant to commercial communication satellites.

9A005

Liquid rocket propulsion systems, not controlled by USML IV, containing any of the systems or components controlled by 9A006. ~~(These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

MT applies to 9A005 also described in 9A105

9A006

Systems and components, not controlled by USML IV, specially designed for liquid rocket propulsion systems, having the following characteristics (See List of Items Controlled): (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)

MT applies to 9A006 also described in 9A106

Related Controls: See also 9A106 and 9A108.

Items:

- a. Cryogenic refrigerators, flightweight dewars, cryogenic heat pipes or cryogenic systems specially designed for use in space vehicles and capable of restricting cryogenic fluid losses to less than 30% per year;
- b. Cryogenic containers or closed-cycle refrigeration systems capable of providing temperatures of 100 K (-173°C) or less for "aircraft" capable of sustained flight at speeds exceeding Mach 3, launch vehicles or "spacecraft";
 - a. Slush hydrogen storage or transfer systems;
 - b. High pressure (exceeding 17.5 MPa) turbo pumps, pump components or their associated gas generator or expander cycle turbine drive systems;
 - c. High-pressure (exceeding 10.6 MPa) thrust chambers and nozzles therefor;
 - d. Propellant storage systems using the principle of capillary containment or positive expulsion (i.e., with flexible bladders);
 - e. Liquid propellant injectors, with individual orifices of 0.381 mm or smaller in diameter (an area of $1.14 \times 10^{-3} \text{ cm}^2$ or smaller for non-circular orifices) specially designed for liquid rocket engines;
 - f. One-piece carbon-carbon thrust chambers or one-piece carbon-carbon exit cones with densities exceeding 1.4 g/cm^3 and tensile strengths exceeding 48 MPa.
(To conform with Wassenaar and EU)

9A007

Solid rocket propulsion systems, not controlled by USML IV, with any of the following (see List of Items Controlled) (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121):

MT applies to 9A007 also described in 9A107

Items:

- a. Total impulse capacity exceeding 1.1 Mns;
- b. Specific impulse of 2.4 kNs/kg or more when the nozzle flow is expanded to ambient sea level conditions for an adjusted chamber pressure of 7 MPa;
- c. Stage mass fractions exceeding 88% and propellant solid loadings exceeding 86%;
- d. Any of the components controlled by 9A008; or
- e. Insulation and propellant bonding systems using direct-bonded motor designs to provide a strong mechanical bond or a barrier to chemical migration between the solid propellant and case insulation material.

Technical Note

For the purposes of 9A007.e, a strong mechanical bond means bond strength equal to or more than propellant strength.

9A008

Components, ~~not controlled by USML IV, specially designed~~ for solid rocket propulsion systems, as follows (see List of Items Controlled): ~~(These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

MT applies to 9A008 also described in 9A108

Items:

- a. Insulation and propellant bonding systems using liners to provide a strong mechanical bond or a barrier to chemical migration between the solid propellant and case insulation material;
Technical Note: For the purposes of 9A008.a., a strong mechanical bond means bond strength equal to or more than propellant strength.
- b. Filament-wound “composite” motor cases exceeding 0.61 m in diameter or having ‘structural efficiency ratios (PV/W)’ exceeding 25 km.
Technical Note: The ‘structural efficiency ratio (PV/W)’ is the burst pressure (P) multiplied by the vessel volume (V) divided by the total pressure vessel weight (W).
- c. Nozzles with thrust levels exceeding 45 kN or nozzle throat erosion rates of less than 0.075 mm/s;
- d. Movable nozzle or secondary fluid injection thrust vector control systems capable of any of the following:
 - d.1. Omni-axial movement exceeding + or - 5°;
 - d.2. Angular vector rotations of 20°/s or more; or
 - d.3. Angular vector accelerations of 40°/s² or more.

9A009

Hybrid rocket propulsion systems, ~~not controlled by USML IV, with either of the following~~ (see List of Items controlled): ~~(These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

MT applies to 9A009 also described in 9A109

Items:

- a. Total impulse capacity exceeding 1.1 MNs; or
- b. Thrust levels exceeding 220 kN in vacuum exit conditions.

9A010

~~Specially designed~~ components, systems and structures, ~~not controlled by USML IV,~~ for launch vehicles, launch vehicle propulsion systems, or “spacecraft”, as follows (see List of Items Controlled): ~~(These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

MT applies to 9A010 also described in 9A110

Items:

- a. Components and structures each exceeding 10 kg, specially designed for launch vehicles manufactured using metal “matrix”, “composite”, organic “composite”, ceramic “matrix” or intermetallic reinforced materials controlled by 1C007 or 1C010;

Note: The weight cut-off is not relevant for nose cones.

- b. Components and structures specially designed for launch vehicle propulsion systems controlled by 9A005 to 9A009 manufactured using metal matrix, composite, organic composite, ceramic matrix or intermetallic reinforced materials controlled by 1C007 or 1C010;
- c. Structural components and isolation systems specially designed to control actively the dynamic response or distortion of “spacecraft” structures;
- d. Pulsed liquid rocket engines with thrust-to-weight ratios equal to or more than 1 kN/kg and a response time (the time required to achieve 90% of total rated thrust from start-up) of less than 30 ms.

9A011

Ramjet, scramjet, or combined cycle engines, not controlled by USML IV or XIX, and specially designed components therefor having the characteristics of such engines (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)

MT applies to 9A011 also described in 9A111

(IV(d)(4) covers such engines. But 9A604.c covers such components.)

9A012

~~MT applies to non-military unmanned air vehicle systems (UAVs) and remotely piloted vehicles (RPVs) that are capable of a maximum range of at least 300 kilometers (km), regardless of payload~~ 9A012 also described in 9A120 or 9A104.b or .d

Unit: ~~... parts and accessories~~ components in \$ value

Items:

- a.1 ~~... capability ...~~
- a.2 ~~... capability ...~~
- b. ~~Associated ...~~
- b.1 ~~... specially designed ...~~
- b.2 ~~... specially designed ...~~
- b.3 ~~... specially designed ...~~
- b.4 ~~... specially designed or modified ...~~

9A101

~~Turbojet and turbofan engines, other than those~~ not controlled by 9A001 or USML IV or XIX, as follows (see List of Items Controlled)

Unit: ~~Equipment in number; parts and accessories in \$ value~~

(MTCR 3.A.1. and ECCN 9A101 do not control parts or accessories)

Items: ...

- b. ~~Engines designed or modified for use in “missiles”,~~ regardless of thrust or specific fuel consumption.

9A102

‘Turboprop engine systems,’ not controlled by USML IV or XIX, specially designed for

complete rocket systems ~~capable of with~~ a “range” of at least 300 km ~~and specially designed components therefor~~, having a maximum power greater than 10 kW (achieved uninstalled at sea level standard conditions) and components having any of those characteristics, excluding civil certified engines and civil certified components

Related Definition: For the purpose of 9A102, a ‘turboprop engine system’ incorporates all of the following:

- a Turboshaft engine; and
- b Power transmission system to transfer the power to a propeller.

(New 9A102, not now in the CCL, is to conform with MTCR 3.A.9.)

9A103

liquid propellant tanks, ~~not controlled by USML IV, specially designed~~ for the propellants controlled in ECCNs 1C011, 1C111 or other liquid propellants ~~used in for~~ “missiles. ~~(These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

(While proposed IV(h)(26) would clearly cover such tanks, this item would reasonably be transferred to Commerce for consistency with ECCNs 2B350(c) and 2B352(a).)

9A104

Rocket and unmanned air vehicle systems, as follows (see List of Items Controlled)(also see 9A120) (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)

Items:

- a. Complete rocket systems (including ballistic missile systems, space launch vehicles, and sounding rockets) capable of delivering at least a 500 kg payload to a range of at least 300 km;

(To conform with MTCR 1.A.1.)

- b. Complete unmanned air vehicle systems (including cruise missile systems, target drones and reconnaissance drones), ~~capable of~~ delivering at least a 500 kg payload to a maximum “range” of at least 300 km
(To conform with MTCR 1.A.2.)
- c. Complete rocket systems (including ballistic missile systems, space launch vehicles, and sounding rockets), not controlled by 9A104.a, ~~capable of~~ a “range” of at least 300 km;
(To conform with MTCR 19.A.1.)
- d. Complete unmanned air vehicle systems (including cruise missile systems, target drones and reconnaissance drones), not controlled by 9A104.b, ~~capable of~~ a maximum “range” of at least 300 km
(To conform with MTCR 19.A.2.)
(Portions of 9A104 should perhaps become Commerce jurisdiction in connection with transfer of commercial communication satellite jurisdiction now being considered.)

9A105

Liquid propellant rocket engines, ~~not controlled by 9A005 or USML IV, as follows: (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

Items:

- a. Liquid propellant rocket engines, for “missiles”, having a total impulse capacity of 1.1 MNs or greater;
- b. Liquid propellant rocket engines, not controlled by 9A105.a, for rockets or UAVs with a “range” of 300 km or greater or UAVs described in 9A120, not controlled by 9A105.a, having a total impulse capacity of 0.841 MNs or greater.
(To conform with MTCR 2.A.1.c and 20.A.1.b. 9A105 would clearly remain State jurisdiction under proposed IV(d)(2) and (d)(3); but portions should perhaps become Commerce jurisdiction in connection with transfer of commercial communications satellite jurisdiction now being considered.)

9A106

~~Liquid r~~Rocket propulsion systems or components, ~~other than those~~ not controlled by 9A006, 9A008, or USML IV, usable in for “missiles”, as follows ...

Unit: ~~Equipment and components in number; parts and accessories in \$ value~~

(MTCR 2.A.1.e and 3.A.5 and ECCN 9A106 do not control parts or accessories)

- a. ~~Ablative liners for thrust combustion chambers;~~
- b. ~~Rocket nozzles;~~
- e. a. Thrust vector control subsystems:
- d. b. Liquid or slurry propellant (including oxidizers) control systems ...
Note: 9A106.b includes flight control servo valves ~~designed or modified for~~ ECCN 7A116 operating in a vibration environment of more than 10 g rms over the entire range between 20 Hz and 2 kHz.

(To conform with MTCR 2.A.1.e, 3.A.5, and 10.A.3. 9A106.a would clearly be State jurisdiction per proposed IV(h)(4); but a portion should perhaps become Commerce jurisdiction in connection with transfer of commercial

communications satellite jurisdiction now being considered. Liquid slurry propellant control systems (3.A.5) are, probably inadvertently, omitted not only from proposed IV and related 600 series but also from proposed V and 1C608.)

9A107

Solid propellant rocket engines motors, other than those not controlled by 9A007 or USML IV, as follows: (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)

Items:

- a. Solid propellant rocket motors, in for “missiles”, having a total impulse capacity of 1.1 MNs or greater;
- b. Solid propellant rocket motors, not controlled by 9A107.a, for rockets or UAVs with a “range” of equal to or greater than 300 km or UAVs described in 9A120 having a total impulse capacity of 0.841 MNs or greater.

(To conform with MTCR 2.A.1.c and 20.A.1.b. 9A107 would clearly be State jurisdiction per proposed IV(d)(2) and (d)(3); but portions should perhaps become Commerce jurisdiction in connection with transfer of commercial communication satellite jurisdiction now being considered.)

9A108

~~Solid rocket propulsion components~~ Rocket motor cases, ‘insulation’ components and nozzles therefor, other than those not controlled by 9A008 or USML IV, usable in rockets with a range capability of 300 km or greater for “missiles” (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)

(To conform with MTCR 3.A.3. 9A108 would be State jurisdiction per proposed IV(h)(6) and (h)(20); but portions thereof should perhaps become Commerce jurisdiction in connection with transfer of commercial communication satellite jurisdiction now being considered.)

9A109

~~Hybrid rocket motors, usable in rockets with a range capability of 300 km or greater, other than those controlled by 9A009 for “missiles”, and specially designed components therefor (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

Hybrid rocket motors, not controlled by 9A009 or USML IV, and components therefor, as follows:

Items:

- a. Hybrid rocket motors, for “missiles”, having a total impulse capacity of 1.1 MNs or greater;
- b. Hybrid rocket motors for rockets or UAVs with a “range” equal to or greater than 300 km or UAVs described in 9A120 having a total impulse capacity of 0.841 MNs or greater;
- c. Hybrid rocket motor components having characteristics described in 9A109.a or .b

(To conform with MTCR 2.A.1.c, 20.A.1.b, and 3.A.6. 9A109.a and .b would clearly be State jurisdiction per proposed IV(d)(2) and (d)(3); but portions should

perhaps become Commerce jurisdiction in connection with transfer of commercial communication satellite jurisdiction now being considered.)

9A110

Composite structures, laminates, and manufactures thereof, ~~other than those not~~ not controlled by entry 1A002, 1A102, 1C010, 1C210, 9A010, or USML IV, specially designed for use in ~~“missiles” or the subsystems controlled by entries 9A005, 9A007, 9A105.a, 9A106 to 9A108, 9A116 or 9A119~~ 7A117, 9A104, 9A105, 9A106.a, 9A107, 9A116, 9A119.a, 9A119.b, or 9A121

(To conform with MTCR 6.A.1. 1C010 Related Controls describes overlap with 9A110.

MTCR 6.A.1 covers composite structures, laminates, and manufactures thereof for MTCR 1.A, 19.A.1, 19.A.2, 2.A, and 20.A, which omit the portions of 9A005 and 9A007 not also described in 9A105 or 9A107 and omit 9A106.b, 9A108, 9A117, 9A118, and 9A119.c; but which include 7A117, 9A104, 9A105.b, and recommended new 9A121)

NP applies to composite structures also described in 1A202

~~Related Controls: .. (2) composite structures, laminates, and manufactures thereof specially designed for use in missile systems are under the licensing authority of the U.S. Department of State, except those specially designed for non-military unmanned air vehicles controlled by 9A012.~~

9A111

Pulse jet engines, not controlled by 9A011, USML IV or XIX, ~~usable in for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km~~ 9A104.a, .b, or .d, and specially designed components therefor having those characteristics ~~(These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

(To conform with MTCR 3.A.2.)

9A115

Launch support equipment, not controlled by USML IV, ~~designed or modified for “missiles”, as follows (see List of Items Controlled): (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

Items:

- a. Apparatus and devices designed or modified for the handling, control, activation and launching of “missiles” or rocket systems or UAVs with a “range” equal to or greater than 300 km and individual rocket stages or rocket motors or engines therefor having a total impulse capacity equal to or greater than 8.41×10^5 Ns but less than 1.1×10^6 Ns.;
- b. Vehicles designed or modified for the transport, handling, control, activation and launching of “missiles”.

(To conform with MTCR 12.A.1 and 12.A.2. The January 31, 2103 proposed IV(b)(1) and (c) cover such apparatus and devices but not such vehicles. The December 6, 2011 proposed VII(c) “mission system” might be construed to cover these vehicles; but this would not be a “bright line” for State jurisdiction of MTCR 12.A.2. Accordingly, it would be reasonable to conclude that 9A115.b was Commerce jurisdiction.)

9A116

Reentry vehicles ~~equipment, not controlled by USML IV, usable in for “missiles”, and equipment designed or modified therefor, as follows (see List of Items Controlled). (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

Items:

- a. Heat shields, and components thereof fabricated of ceramic or ablative materials and components having those characteristics;
- b. Heat sinks and components thereof fabricated of light-weight, high heat capacity materials and components having those characteristics;
- c. Electronic equipment specially designed having characteristics for reentry vehicles.
(To conform with MTCR 2.A.1.b.)

9A117

Staging mechanisms, separation mechanisms, and interstages therefor, ~~usable in for “missiles” not controlled by USML IV. (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121).~~

(IV(h)(11) would cover 9A117. But portions should perhaps become Commerce jurisdiction in connection with transfer of commercial communications satellite jurisdiction now being considered.)

9A118

Devices, ~~not controlled by USML IV or VIII.b, to regulate combustion usable in engines which are usable in rockets for “missiles” or UAVs with a “range” capability equal to or greater than 300 km or greater, controlled by 9A011 or 9A111 and components having those characteristics (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

(For consistency with the “including” portion of MTCR 3.A.2.)

9A119

Individual rocket stages, ~~other than those not controlled by 9A005, 9A007, 9A009, 9A105, 9A107, and 9A109, or USML Ivor VIII, for any of the following (see List of Items Controlled). (These items are subject to the export licensing authority of the Department of State, Office of Defense Trade Controls. See 22 CFR part 121)~~

- a. “missiles”;
- b. rockets or UAVs with a “range” equal to or greater than 300 km; or
- c. UAVs controlled by 9A120

(To conform with MTCR 2.A.1.a and 20.A.1.a. Proposed IV(d)(1) covers 9A119.a and the rockets portion of 9A119.b. The November 7, 2011 proposed rule on category VIII does not cover the UAV portions of 9A119.)

9A120

Complete unmanned aerial vehicles systems, ~~not specified in controlled by 9A012 or USML~~

VIII, having all of the following (see List of Items Controlled)

Unit: ~~Equipment in number; parts and accessories in \$ value~~
(MTCR 19.A.1. and 19.A.2. do not cover parts or accessories)

Items:

- a Having any of the following:
 - a.1 ~~An~~ autonomous flight control and navigation ~~capability~~; or
 - a.2 ~~Capability of~~ controlled flight out of the direct vision range involving a human operator; and
- b Having any of the following:
 - b.1 Incorporating an aerosol dispensing system/mechanism with a capacity greater than 20 liters; or
 - b.2 ~~Designed or modified to incorporate~~ Equipped for later incorporation of an aerosol dispensing system/mechanism with a capacity greater than 20 liters

9A121

Weapon or warhead safing, arming, fuzing, and firing mechanisms usable in for “missiles”
(To conform with MTCR 2.A.1.f. Proposed IV(h)(9) covers 2.A.1.f. A new ECCN is nevertheless desirable in order to have a cross reference available, e.g., in 9B105, 9B006, 9B115, 9B116)

9A191

Items, not controlled by USML IV or VIII, otherwise described in 9A102 through 9A111. 9A115 through 9A119, 9A121, or the MT portions of 9A004 through 9A011 for “missiles,” but with a “range” between 25 and 300 kilometers to China or between 150 and 300 kilometers to Iraq

9B001

Equipment, tooling and fixtures ~~specially designed~~ for manufacturing gas turbine blades, vanes or tip shroud castings, as follows (see List of Items Controlled)

~~MT applies only to equipment for engines that meet the characteristics described in 9A001 to 9B001 also described in 9B115 or 9B116~~

Related Controls: For ~~specially designed~~ production equipment ... ~~usable in for~~ “missiles.”

9B002

~~MT applies only to equipment for engines that meet the characteristics described in 9A001 to 9B002 also described in 9B115 or 9B116~~

- a. Specially designed ...

9B003

Equipment ~~specially designed ... designed ... and specially designed components or accessories therefor~~ having those characteristics

~~MT applies only to equipment for engines that meet the characteristics described in 9A001 to 9B003 also described in 9B115 or 9B116~~

9B004

MT applies ~~only to equipment for engines that meet the characteristics described in 9A001 to 9B004~~ also described in 9B115 or 9B116

9B005

~~... specially designed for use with any of the following ...~~

MT applies to ~~entire entry MT Column 4~~

(MTCR 15.B.2. controls specified wind tunnels but not control systems, instrumentation, or data processing equipment therefor)

a ~~... designed ...~~

Note: ~~... specially designed ...~~

c ~~... capable of ...~~

9B006

~~... capable of ... specially designed ...~~

MT applies to 9B006 also described in 2B116 or 9B106

(9B006 overlaps 2B116 and 9B106.)

9B007

~~... specially designed ...~~

MT applies to ~~entire entry 9B007~~ also described in 9B115 to 9B117

(9B007 is broader than MTCR 2.B.1, 2.B.2, 20.B.1. and 20.B.2, which are limited to equipment to produce specified types of rocket motors)

9B008

~~... specially designed ...~~

9B009

Tooling ~~specially designed~~ for producing turbine engine powder metallurgy rotor components ~~capable of operating at stress levels of ... and metal temperatures of ...~~

Unit: ~~Equipment in number; parts and accessories in \$ value~~

9B010

~~... specially designed ... associated ...~~

9B105

Wind tunnels, not controlled by 1B018.b, for speeds of Mach 0.9 or more ~~usable~~ for rockets, missiles, or unmanned aerial vehicles and their subsystems described in 7A117, 9A105, 9A106, 9A107, 9A108, 9A116, or 9A121

(To conform with MTCR 15.B.2.)

9B106

Environmental chambers and anechoic chambers, not controlled by 2B018.b, 2B116, or 9B006, ~~usable~~ for rockets, missiles, or unmanned aerial vehicles and their subsystems described in 7A117, 9A105, 9A106, 9A107, 9A108, 9A116, or 9A121 as follows:

(To conform with MTCR 15.B.4, which overlaps Wassenaar 9.B.6. and ML 18.b and MTCR 15.B.1(*i.e.*, 2B116.)

9B115

See Attachment 5

9B116

See Attachment 5

9B117

Test benches and test stands, not controlled by 2B018, for solid or liquid propellant rockets or rocket motors for MT portions of 9A004 to 9A007 and all of 7A117, 9A104 to 9A107, 9A116, 9A119, 9A121 having either of the following characteristics:

(MTCR 15.B.3. is limited to test equipment for MTCR 1.A, 2.A, 19.A.1, 19.A.2, or 20.A.)

9C101

'Interior lining' usable for rocket motor cases in 1A104

Related Definition: In 9C101, 'interior lining' suited for the bond interface between the solid propellant and the case or insulating liner is usually a liquid polymer based dispersion of refractory or insulating material, e.g., carbon filled HTPB or other polymer with added curing agents to be sprayed or screeded over a case interior.

(To conform with MTCR 3.C.1. Addition to proposed IV(h)(21) of the MTCR Technical Note describing 'interior lining' would clarify this U.S. control.)

9C102

'Insulation' material in bulk form usable for rocket cases in "missiles."

Related Definition: In 9C102, 'insulation' intended to be applied to the components of a rocket motor, i.e., the case, nozzle inlets, case closures, includes cured or semi-cured compounded rubber sheet stock containing an insulating or refractory material. It may also be incorporated as stress relief boots or flaps specified in 9A108.

(To conform with MTCR 3.C.2. Addition to proposed IV(h)(21) of the MTCR Technical Note describing 'insulation' would clarify this U.S. control.)

9C110

Resin impregnated fiber prepregs and metal coated fiber preforms ~~therefor~~, not controlled by 1C010, for ... 9A110 ... (To conform with MTCR 6.C.1.)

Attachment 3

USML Categories IV.f, XIII.d, and XIII.f

It is recommended that:

- XIII.d, in the May 18, 2012 proposed category XIII rule, be deleted;
- statements in ECCNs for State jurisdiction for 1A102 and 1C102 and for 1D002, 1E001, and 1E101 for 1A102 be deleted; and
- the United States propose to MTCR deletion of “designed” and “usable in” from 6.A.2 and 6.C.2.

These recommendations are based on the following rationale:

1. IV.f now controls ablative materials from advanced composites, including carbon/carbon, for Category IV articles.
2. XIII.d now controls carbon/carbon billets and preforms for defense articles.
3. XIII.f now controls structural materials, including carbon/carbon, for defense articles.
4. The May 18, 2012 proposed rule for Category XIII would move IV.f to become XIII.d.1; delete “for defense articles” from existing XIII.d (new XIII.d.2); and delete XIII.f.
5. MTCR 6.A.2 (ECCN 1A102) controls resaturated pyrolyzed (*i.e.*, carbon/carbon) components for rockets with a “range” equal to or greater than 300 km.
6. MTCR 6.C.2 (ECCN 1C102) controls resaturated pyrolyzed (*i.e.*, carbon/carbon) materials for rockets with a “range” equal to or greater than 300 km
7. The January 31, 2013 proposed rule for Category IV.h omits controlling components based on resaturated pyrolyzed (*i.e.*, carbon/carbon) contents.
8. The January 31, 2013 proposed rule for ECCN 0A604.x would control components of Category IV defense articles not controlled elsewhere on the CCL or the USML.

Therefore:

- a. MTCR 6.A.2 components would become Commerce jurisdiction (because of being omitted from proposed USML IV.h) and State jurisdiction should be deleted from Related Controls for 1A102 and for 1D002, 1E001, and 1E101 for 1A102.
- b. Proposed XIII.d.1 should be deleted as an empty box, because the components with such materials would be Commerce jurisdiction and not defense articles.
- c. Proposed XIII.d.2 would also have become an empty box were it not for deletion from existing XIII.d of “for defense articles.” However, the omission of those words deprives XIII.d.2 of the usual rationale for State jurisdiction and no other rationale is given.
- d. So proposed XIII.d.2 should also be deleted and State jurisdiction should be deleted from Related Controls for 1C102.

“Designed” and “usable in” should be deleted from 6.A.2 and 6.C.2 as being unnecessarily ambiguous.

Attachment 4

Specially Designed in Proposed USML Category IV

It is recommended that:

-“and “specially designed” parts and components therefor” or “and “specially designed” parts therefor” be deleted 12 times, from IV(h)(3, 5, 6, 7, 9, 11, 14, 17, 18, 19, 20 (2x));

(To conform with the objective of the Reform to transfer to Commerce components of no identified military significance.)

-“specially designed” be deleted once from Note 3 to paragraph (b) where it modifies what is not controlled;

(No definition of “specially designed” can reasonably modify both what is controlled and what is not controlled.)

-“specially designed” be deleted 17 times, from IV(c), Note to paragraph (c) (3x), and (h)(1, 2, 10, 13, 14, 15 (2x), 21, 22 (2x), 25, 27, 28); design be deleted from Note 1 to paragraph (a); designed be deleted from Note 4 to paragraph (a); specialized be deleted from Note to paragraph (c); and designed or modified be deleted from (h)(24); and

(Technical language is adequate to determine the scope of control and “specially designed” and other similar expressions provide an unnecessary argument that some items fulfilling those technical conditions are not controlled because of not meeting the definition of “specially designed” or an interpretation of other similar but undefined terms.)

-capable of and capability be deleted from Note 1 to paragraph (a).

(The actual characteristics, rather than some theoretical capability, should determine the scope of control.)

Attachment 5

MTCR Production Equipment

It is unclear why the January 31 Commerce rule proposes to include some MTCR “production equipment” and “production facilities” in 9B604.a and .d while others would remain in 9B115 and 9B116. Existing 9B115 and 9B116 include proposed IV(d)(1, 2, 3, 4), (h)(4, 6, 8, 9, 11, 17, 20, 26), i.e., not just (d)(2, 3, 4) and (h)(17). They do this by citing 9Axxx ECCNs. Most of these ECCNs, including all of them for (d)(2, 3, 4) and (h)(17), are now marked as completely subject to State jurisdiction. So that was apparently not the basis for determining which should be switched to 9B604.

The following are omitted from both 9B604 and proposed revised 9B115 and 9B116:

(h)(14) MTCR 3.B.1 and 3.B.2 for 3.A.2 (9A118)

(h)(25) MTCR 2.B.1 and 2.B.2 for 2.A.1.f

However, (h)(14) refers to combustion chambers, rather than to devices to regulate combustion, per MTCR 3.A.2 and 9A118, and (h)(25) refers to fuzes rather than to safing, arming, fuzing, and firing, per MTCR 2.A.1.f and IV(h)(9). Therefore, rather than adding these to 9B604.d or to 9B115 and 9B116, it would be preferable to delete (h)(14) and (h)(25) from IV and to revise (d)(4) to include devices to regulate combustion. If the intent of omission of such devices from (d)(4) is to transfer jurisdiction to Commerce, they should be added to 9A604 or excluded from State jurisdiction in 9A118, rather than be added to IV(d)(4).

“Production facilities” for IV(a)(1) in 9B604.a would remedy a 25 year-old omission from U.S. controls. Congratulations! However, “production facilities” for IV(a)(2) in 9B604(a)(2) should be deleted. MTCR does not include a 19.B entry (IV(a)(2) comes from MTCR 19.A.1).

The following three entries in 9B604.d should also be deleted:

(d)(7) This is a basket entry, which is not marked MT

(h)(7) Listed components of MTCR controlled vehicle re-entry vehicles in 2.A.1.b.1, 2, and 3 do not include noses. However, see comment on 6.B.5 in Attachment 5, below.

(h)(28) Flight control entry (h)(28) does not use the defined words “production facilities” or “production equipment.” This is recognized by listing (h)(28) in 9B604.b.

(h)(1) should also be deleted from 9B604.d, unless it is intended to include in CCL Category 9 what is now covered in other CCL Categories. “Guidance sets” are controlled in Category 7.

The complete list of CCL Category 9 MT “production equipment” and “production facilities” related to USML Category IV is as follows (the ECCNs, as revised per Attachment 2, provide useful cross-references within the CCL and would control whatever might not be controlled by USML IV, now or later):

“Production facilities” only:

MTCR 1.B.1 for:

1.A.1: IV(a)(1) (9A104.a)

Both “production facilities” and “production equipment”

MTCR 2.B.1/2.B.2 for:

- 2.A.1.a - IV(d)(1) (9A119.a)
- 2.A.1.b - IV(h)(8, 17) (9A116)
- 2.A.1.c - IV(d)(2) (9A105.a, 9A107.a, 9A109.a)
- 2.A.1.e - IV(h)(4) (9A106.a)
- 2.A.1.f - IV(h)(9) (9A121 recommended new ECCN)

MTCR 3.B.1/3.B.2 for:

- 3.A.2 - IV(d)(4) (9A111, 9A118)
- 3.A.3 - IV(h)(6) (9A108)
- 3.A.4 - IV(h)(11) (9A117)
- 3.A.6 - IV(h)(20) (9A109.c)
- 3.A.8 - IV(h)(26) (9A103)
- 3.C.1 - IV(h)(21) (9C101 recommended new ECCN)
- 3.C.2 - IV(h)(21) (9C102 recommended new ECCN)

MTCR 20.B.1/20.B.2 for

- 20.A.1.a - IV(d)(1) (9A119.b)
- 20.A.1.b - IV(d)(3) (9A105.b, 9A107.b, 9A109.b)

Recapitulation of both “production facilities” and “production equipment”:

in IV order: (d)(1, 2, 3, 4) (h)(4, 6, 8, 9, 11, 17, 20, 21, 26)

in ECCN order: 9A103, 9A105.a,b, 9A106.a, 9A107.a,b, 9A108, 9A109.a,b,c, 9A111, 9A116, 9A117, 9A118, 9A119.a,b, 9A121, 9C101, 9C102 (recommended new ECCNs underlined)

MT “production facilities” and “production equipment” in a CCL Category other than 9 related to USML Category IV are as follows:

Both “production facilities” and “production equipment”:

MTCR 2.B.1/2.B.1 (7B103) for

- 2.A.1.d - (IV)(h)(1) (7A117)

CCL Category 9 MT “production facilities” and “production equipment” related to USML Categories other than IV are as follows:

“Production facilities” only

MTCR 1.B.1 for

- 1.A.2 - VIII(a)(5,6) (9A120) (related items but without MTCR 1.A.2 language)

Both “production facilities” and “production equipment”:

MTCR 3.B.1/3.B.2 for:

- 3.A.1 - XIX (9A101)
- 3.A.5 - no USML entry found for liquid and slurry propellant control systems (9A106.b)
- 3.A.9 - XIX (9A102 recommended new ECCN)

MT “production equipment” in CCL Categories other than 9 which may or may not be regarded as related to USML Category IV are as follows:

“Production equipment” only:

4.B.1/4.B.2 (1B115) for:

4.C V (1C111)

9.B.1 (7B102) for: (no USML entries found)

9.A.1 (7A103.b)

9.A.2 (7A104)

9.A.3 (7A101)

9.A.4 (7A102)

9.A.5 (7A001.c, 7A002.b)

9.A.6 (7A103.a)

9.A.7 (7A103.c)

9.A.8 (7A107)

MT production equipment not using defined terms “production facilities” or “production equipment” which may, or may not, be regarded as related to USML Category IV (Note that four of them are CCL Category 9 and that no mention of all but two of them have been found in the existing or proposed USML)

6.B.1 (1B101)

6.B.2 (1B116)

6.B.3 (2B104)

6.B.4 (2B105)

6.B.5 (2B117)

10.B.1 (7B001) for

10.A.1 IV(h)(28) (7A116)

10.A.2 IV(h)(28) (7A116)

10.A.3 no USML (9A106.b Note)

15.B.1 (2B116)

15.B.2 (9B105)

15.B.3 (9B117)

15.B.4 (9B106)

15.B.5 (3A101.b)

17.B.1 (6B108)

Attachment 6

Software and Technology for USML Category IV and CCL Category 9

Proposed IV(i) “Technical data ... directly related to ... paragraphs (a) through (h) ... (MT for ,, articles designated as such)” does not provide enough information. It is recommended that IV(i) be replaced by the following:

IV(i)

“Software” as follows:

- (1) “Software” “required” for the “use” of paragraphs (a) through (i) except for the MT portions of (d)(1) or (h)(6, 20, 21, 22, 26)
(Commerce rather than State should control “development” or “production” software, for consistency with Commerce control of production equipment. MTCR does not cover any “software” for MTCR 2.A.1.a, 20.A.1.a, 3.C.1, 3.C.2, 18.A.3, or 3.A.8 or any “use” software for 3.A.3.)
- (2) “Software” that coordinates the function of more than one subsystem “required” for “use” in IV(a)(1) or (a)(2).
(To conform with MTCR 1.D.2 and 19.D.1.)
- (3) “Software” which processes post-flight, recorded data, enabling determination of vehicle position throughout its flight path, “required” for (a)(1) or (a)(2) (MT).
(To conform with MTCR 12.D.2. Category VIII should contain a similar entry for UAVs with a “range” equal to or greater than 300 km)
- (4) “Software” “required” for modeling, simulation, or design integration of (a)(1); (d)(1, 2, 3); (h)(4, 8, 9, 17)
(To conform with MTCR 16.D.1.)
- (5) “Software” “required” for modeling, simulating or evaluating military weapon systems or operational scenarios.
(To conform with Wassenaar ML 21.b.1,2.)
- (6) “Software” “required” for enabling equipment not specified by the Munitions List to perform the military functions of equipment specified by the Munitions List.
(To conform with Wassenaar ML 21.c.)

IV(j)

“Technology” as follows:

- (1) “Technology” “required” for the “use” of paragraphs (a) through (i) except for the MT portion of (h)(26)
(Commerce rather than State should control “development” or “production” software, for consistency with Commerce control of production equipment. MTCR does not cover any “technology” for MTCR 3.A.8. The except clause should be omitted if tanks were transferred to Commerce jurisdiction.)
- (2) “Technology” “required” for the design of, the assembly of components into, and the operation, maintenance and repair of, complete production installations for items specified by the Munitions List, even if the components of such production installations are not specified.
(To conform with Wassenaar ML22.b.1.)

0D604

It is recommended that:

- “specially designed” be changed to “required” in the heading and in sub-item .a;
- the following be added at the end of the heading and at the end of sub-item .a:
or “development” or “production” of related defense articles controlled under USML Category IV
- In “Related Controls” (1), change “directly related to” to ““required” for the “use” of”

0E604

It is recommended that:

- the following be added at the end of the heading and at the end of sub-item .a:
or “development” or “production” of related defense articles controlled under USML Category IV

9D001

Wassenaar controls software for development of all 9A001 to 9A012. Many of the Wassenaar sub-items of 9.A.5 to 9.A.11 have no corresponding coverage in the USML now or as yet proposed. The only MTCR software which is for development is 3.D.3 for 3.A.2, 3.A.3, or 3.A.4 and the software portion of “production facilities. Proposed Category IV(d)(4), (h)(6, 11, 14, and 20) control most, but not all, of 3.A.2, 3.A.3, and 3.A.4 (9A011, 9A108, 9A111, 9A117, 9A118). They do not control 9A118 regulation of combustion. Portions of the others may be transferred to Commerce for commercial communication satellites now under consideration. Therefore, it is recommended that:

- the heading of 9D001 be revised to read: “Software,” not controlled by USML Categories IV, VIII, or XIX “required” for the “development” of equipment or “technology” controlled by 9A001 to 9A012, 9A108, 9A111, 9A117, 9A118, 9B001 to 9B010, 9B116, or 9E003
- MT applies be revised to read: MT applies to software for 9A011 for MT reasons and for 9A108, 9A111, 9A117, 9A118, and 9B116
- proposed Related Controls be deleted.

9D002

Wassenaar controls software for production of all 9A001 to 9A012. Many of the Wassenaar sub-items of 9.A.5 to 9.A.11 have no corresponding coverage in the USML now or as yet proposed. There is no MTCR software for production. Therefore, it is recommended that:

- the heading of 9D002 be revised to read: “Software,” not controlled by USML Categories IV, VIII, or XIX “required” for the “production” of equipment controlled by ECCNs 9A001 to 9A012 or 9B001 to 9B010
- MT applies be deleted from 9D002
- the proposed Related Controls for 9D002 be deleted

9D003

Wassenaar controls software for FADEC related to all 9A001 to 9A012. Many of the Wassenaar

sub-items of 9.A.5 to 9.A.11 have no corresponding coverage in the USML now or as yet proposed. There is no MTCR software for FADEC. Therefore, it is recommended that:

- the heading of 9D003 be revised to read: “Software,” not controlled by USML Categories IV, VIII, or XIX incorporating “technology” specified in ECCN 9E003.h and used in “FADEC systems” for propulsion systems controlled by ECCNs 9A001 to 9A012 or 9B001 to 9B010
- MT applies be deleted from 9D003
- Parts (2) and (3) of proposed Related Controls for 9D003 be deleted

9D004

MT applies to ~~entire entry except 9D004.g and .f:~~

9D004.a also described in 9D101 for 9B105;

9D004.b also described in 9D104 for 9A001 or 9A101;

9D004.c also described in 9B116; and

9D004.e also described in 9D104 for 9A012.

b ... ~~specially designed ... capable of ...~~

9D101

“Software,” not controlled by 9D004, specially designed or modified “required” for the “use” of goods controlled by 9B001 to 9B005, 9B007, 9B105, 9B106, 9B116 or 9B117 for MT reasons (To conform with MTCR 1.D.1, 2.D.1, 3.D.1, 15.D.1, and 20.D.1. No portion of 9D101 would be DOS jurisdiction, because of recommendations in Attachment 2 to exclude from all the referenced ECCNs what is controlled by State.)

9D103

"Software" ~~specially designed~~ for modeling, simulation or design integration of ~~"missiles", or the subsystems controlled by 9A005, 9A007, 9A105.a, 9A106, 9A108, 9A116 or 9A119 7A117, 9A105.a,b, 9A106.a, 9A107.a,b, 9A116, 9A119.a,b, 9A121, and MT portions of 9A005, 9A006, and 9A007~~ (This entry is subject to the export licensing authority of the U.S. Department of State, Office of Defense Trade Controls. See 22 CFR part 121.)

(To conform with MTCR 16.D.1. MTCR 1.A (recommended 9A104.a and .b) is omitted, because all of recommended 9A104 is DOS jurisdiction. MTCR 2.A, and 20.A subsystems omit 9A005 and 9A007 portions not overlapping 9A105 or 9A107 and omit 9A106.b, 9A108, and 9A119.c. But they include 7A117 and recommended new 9A121. No portion of 9D103 would be DOS jurisdiction, because all the referenced ECCNs, as revised per Attachment 2, would exclude the DOS jurisdiction portions.)

9D104

It is recommended that:

- The heading of 9D104 be revised to read: “Software,” not controlled by USML Categories IV, VIII, or XIX, “required” for the “use” of ECCNs 9A101, 9A102, 9A105.a,b, 9A106.a,b, 9A107.a,b, 9A109.a,b, 9A111, 9A115.a, 9A116.c, 9A117, 9A118, 9A121, or 9B116 (new ECCNs underlined)
- 9D104 Related Controls be deleted.

(To conform with MTCR:

1.D.1 for 1.B.1 (9B116)

2.D.1 for 2.B.1 (9B116)

2.D.2 for 2.A.1.c (9A105.a, 9A107.a, 9A109.a);

2.D.4 for 2.A1.b.3 (9A116.c) (This was not picked up in proposed USML XI or 3A611);

2.D.5 for 2.A.1.e (9A106.a);

2.D.6 for 2.A.1.f (9A121);

3.D.1 for 3.B.1 (9B116);

3.D.2 for 3.A.1 (9A101);

3.A.2 (9A111, 9A118);

3.A.4 (9A117);

3.A.5 (9A106.b);

3.A.6 (9A109.c);

3.A.9 (9A102);

10.D.1 for 10.A.3 (9A106.b);

12.D.1 for 12.A.1 (9A115.a);

20.D.1 for 20.B.1 (9B116);

20.D.2 for 20.A.1.b (9A105.b, 9A107.b, 9A109.b).

(Wassenaar does not control software for “use.”

MTCR does not control software for:

9A103 tanks;

9A108 motor cases;

9A110 composite structures;

9A115.b vehicles for handling missiles;

9A116.a heat shield components;

9A116.b heat sinks;

9A119.a,b,c individual rocket stages;

9A120 UAVs, or

9B115 “production equipment.”

1.D.2 for 1.A and 19.D.1 for 19.A.1 are recommended above as IV(i)(2).

2.D.3 for 2.A.1.d guidance sets is separately controlled by 7D103.

(It is recommended that 7D103 be revised to include “not controlled by USML IV, VIII, or XIX” and to delete the statement that it is now State jurisdiction.)

Proposed IV does not control:

9A106.b liquid and slurry propellant control systems;

9A116.c electronic equipment for re-entry vehicles;

9A118 regulation of combustion.

Portions of 9A105 through 9A109, and 9A117 may become Commerce jurisdiction as part of the transfer of commercial communication satellites now under consideration. The above includes new ECCNs 9A102 (MTCR 3.A.9) and 9A121 (MTCR 2.A.1.f). No portion of 9D104 would be DOS jurisdiction, because all the recommended revisions in Attachment 2 of the referenced ECCNs exclude the DOS jurisdiction portions.)

9D105

See recommended IV(i)(2) above.

9D604

It is recommended that:

- “specially designed” be changed to “required” in the heading and in sub-item .a;
- the following be added at the end of the heading and at the end of sub-item .a:
or “development” or “production” of related defense articles controlled under USML Category IV
- In “Related Controls” (1), change “directly related to” to ““required” for the “use” of”

9E001

ITAR “technology” should be limited to “use,” for consistency with EAR jurisdiction for commodities for production of USML defense articles. Wassenaar controls technology for development of all 9A004 to 9A012. Many of the Wassenaar sub-items of 9.A.4 to 9.A.12 have no corresponding coverage in the USML now or as yet proposed. MTCR does not control “technology” for the “development” of 19.D.1 (9D105). Therefore, it is recommended that:

- the heading of 9E001 be revised to read: “Technology” according to the General Technology Note for the “development” of equipment or “software” controlled by ECCNs 9A001.b, 9A004 to 9A012, 9B001 to 9B010, 9B105, 9B106, 9B115 to 9B117, 9D001 to 9D004, 9D101, 9D103, or 9D104
- revise MT applies to read: MT applies to “technology” for equipment or “software” controlled by 9A001.b, 9A004 to 9A012, 9B001 to 9B004, 9B006, 9B007, 9D001, or 9D004 for MT reasons and by 9B105, 9B106, 9B105, 9B106, 9B115 to 9B117, 9D101, 9D103, or 9D104
- delete proposed Related Controls (2)

9E002

ITAR “technology” should be limited to “use,” for consistency with EAR jurisdiction for commodities for production of USML defense articles. Wassenaar controls technology for production of all 9A004 to 9A011. Many of the Wassenaar sub-items of 9.A.4 to 9.A.11 have no corresponding coverage in the USML now or as yet proposed. Therefore, it is recommended that:

- the heading of 9E001 be revised to read: “Technology” according to the General Technology Note for the “production” of equipment controlled by ECCNs 9A001.b, 9A004 to 9A011, 9B001 to 9B010, 9B105, 9B106, or 9B115 to 9B117
- revise MT applies to read: MT applies to “technology” for equipment controlled by 9A001.b, 9A004 to 9A011, 9B001 to 9B004, 9B006, or 9B007 for MT reasons and by 9B105, 9B106, 9B105, 9B106, or 9B115 to 9B117
- delete proposed Related Controls (2)

9E003

Other “technology,” not controlled by USML IV or XIX, as follows

Related Controls: ~~(1) ... (2) ...~~ N/A (USML should describe details of USML controls.)

a.2.a ... ~~designed~~ ...

- a.3.a ... ~~designed~~ ...
- a.4 ... ~~designed~~ ...
- a.8 Technical Note ... ~~designed~~ ...
- f,3 ... ~~specially designed~~ ... ~~capability~~ ...
- i ... ~~designed~~ ...
- i.2 ... components ~~unique to~~ of the adjustable flow path system ~~and~~ that maintain ...
- i.3 ... ~~unique to~~ of the adjustable flow path system ~~and~~ that maintain engine stability

9E101

ITAR “technology” should be limited to “use,” for consistency with EAR jurisdiction for commodities for production of USML defense articles. MTCR controls “technology” for “development” or “production” of all MT A, B, C, and D items except 3.A.7 (2A101 ball bearings), 3.A.8 (9A103 tanks), 19.A.3 (9A120 UAVs), and 19.D.1 (9D105 coordination of missile sub-system functions). 9E001 controls “technology” for “development” of MT ECCNs 9B1xx and 9D1xx. 9E002 controls “technology” for “production” of MT ECCNs 9B1xx.

Therefore, it is recommended that:

- 9E101 heading be revised to read: “Technology” according to the General Technology Note for the “development” of 9A101, 9A102 (turbo-prop engines), 9A104 to 9A111, 9A115 to 9A119, 9A121 (SAFF), 9C101 (liners), 9C102 (insulation), or 9C110 or for the “production” of 9A101, 9A102 (turbo-prop engines), 9A104 to 9A111, 9A115 to 9A119, 9A121 (SAFF), 9C101 (liners), 9C102 (insulation), 9C110, 9D101, 9D103, or 9D104

9E102

MT controls now annotated as entirely State jurisdiction have many portions not identified on the existing, or proposed, USML and other portions which may be construed as for commercial communications satellites, for which transfer to Commerce jurisdiction is under consideration. MTCR controls “technology” for “use” of all MT A, B, C, and D items except 3.A.7 (2A101 ball bearings), 3.A.8 (9A103 tanks), 19.A.3 (9A120 UAVs), and 19.D.1 (9D105 coordination of missile sub-system functions). Therefore, it is recommended that:

- 9E102 heading be revised to read: “Technology,” not controlled by USML Categories IV, VIII, or XIX, for the “use” of commodities or “software” controlled by 9A001, 9A004 to 9A012, 9B001 to 9B004, 9B007, 9D001. 9D004 for MT reasons or by 9A101, 9A104 to 9A111, 9A115 to 9A119, 9B105. 9B106, 9B115 to 9B117, 9D101, 9D103, or 9D104
- proposed Related Controls (2) be deleted.

9E604

It is recommended that:

- the following be added at the end of the heading and at the end of sub-item .a:
or “development” or “production” of related defense articles controlled under USML Category IV
- In “Related Controls” (1), change “directly related to” to ““required” for the “use” of”

BEFORE THE
Department of State
Washington, DC

In the Matter of

Proposed Rule

Amendment to the International Traffic in
Arms Regulations:

Revisions of U.S. Munitions List
Category IV

RIN 1400-AD19

To: Directorate of Defense Trade Controls, Department of State

COMMENTS OF MATTHEW J. LANCASTER

Introduction

1. As I prepared these comments two (2) stories from my past came to mind:
2. My mom told me when I was four (4) years old my older brother's friends (about four (4) years older than me) would come over to our house to play and sometimes playtime meant putting puzzles together. Inevitably I would get involved and frustrate my brother's friends because I was able to do at four (4) years old that with which they had been struggling. I believe I was attracted to the field of compliance with United States (US) export laws and regulations by virtue of this early attribute. I love a good puzzle, and working in this field gives me the opportunity to daily work with puzzles.

3. I recall hearing a story about a man in the US who purchased an expensive sports car in Europe. In order to avoid paying expensive duties for the import of the luxury car into the US he directed a headlight be removed prior to shipping from Europe. Upon inbound processing into the US he arrived at US Customs and declared the two parcels: the first parcel - one (1) headlight, and; the second parcel – an assortment of spare auto parts.

General Comments

4. The proposed amendments to Category IV, as is the case with most if not all of the proposed amendments to other US Munitions List (USML) categories, contains a paragraph for technical data and defense services. For the proposed amendments to Category IV, paragraph (i) reads:

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 (h) of this category and classified technical data directly [sic] to items controlled in [sic] CCL ECCN 0x604 and defense services using the classified technical data. (See § 125.4 of this subchapter for exemptions.) (MT for technical data and defense services related to articles designated as such.)

5. The proposed amendment to Category IV, paragraph (i) treats “classified technical data directly [related] to items controlled [under] CCL ECCN 0x604” as subject to the licensing jurisdiction of the Directorate of Defense Trade Controls, Department of State (DDTC) and the International Traffic in Arms Regulations (ITAR) for export from the US. The implication is that unclassified technical data directly related to items

controlled under ECCN 0x604 is subject to the licensing jurisdiction of the Bureau of Industry and Security, Department of Commerce (BIS) and the Export Administration Regulations (EAR) for export from the US. I believe this is the drafter's specific intent.

6. Common sense dictates that the "parts" and "components" proposed for control under ECCN 0A604 assemble into a defense article enumerated in proposed paragraphs (a) through (h) of USML Category IV (hereinafter "Cat IV Defense Article(s)"). Similarly, under proposed ECCN 0E604 "technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 0A604 is a subset of technical data controlled under proposed USML Category IV, paragraph (i). I call it a subset because my reading of "technology" and "required," as those terms are defined in the EAR, leave gaps through which some technical data currently controlled for export from the US under the licensing jurisdiction of DDTC and the ITAR will fall, if the proposed amendments are implemented as currently written, to control as EAR99 (i.e., the lowest possible catch-all control under the licensing jurisdiction of BIS and the EAR for export from the US).

7. Proposed ECCN 0A604 will control parts and components of Cat IV Defense Articles. I believe it is fair to describe parts and components as directly related to the commodity into which they assemble. As such, the parts and components proposed for control under ECCN 0A604 may be directly related to Cat IV Defense Articles, and, so it follows, ECCN 0E604 will control, at least in part, technical data directly related to Cat IV Defense Articles. Nevertheless, proposed USML Category IV, paragraph (i) also controls technical data directly related to Cat IV Defense Articles. There is an unresolved conflict with respect to technology/technical data (i.e., information) on the face of the proposed reforms. Both regimes simultaneously claim control.

8. The unresolved conflict is not unique to the proposed changes to USML Category IV. It exists throughout the proposed reforms to US export controls.

9. If an exchange of information is attendant to the export or prospective export of Cat IV Defense Articles, the ITAR will require an export authorization. If the aforementioned exchange of information focuses on Cat IV Defense Articles parts or components controlled for export from the US under proposed ECCN 0E604, the EAR will likely require an additional export authorization.

10. The US Government (USG) has committed to avoiding situations where, solely by virtue of US export controls reform, a single export authorization requirement is replaced by requirements for two (2) or more export authorizations. With respect to the export of information the proposed reforms have laid for industry an inescapable trap. Frequently multiple export authorizations from DDTC and BIS will be required in order to bring an opportunity through execution if the proposed reforms to US export controls are implemented as currently written.

11. The USG, in pursuing US export reform, has also committed to establishing jurisdictional brighter lines between the ITAR and EAR. With respect to the export of information, the proposed reforms to US export controls as currently written fail to establish the aforementioned brighter lines – particularly with respect to the aggregation of information.

12. If a laptop contains information controlled for export from the US under proposed ECCN 0E604 for a single Cat IV Defense Article part or component (no aggregation),

industry might safely assume (especially after having received clarifying guidance from the USG) that a BIS export authorization satisfies all regulatory requirements for export of the information related to the single part or component – in other words, ignoring the plain language of proposed USML Category IV, paragraph (i). If the laptop contains information for all Cat IV Defense Article parts and components (complete aggregation), industry might safely assume (here again, after having received clarifying guidance from the USG) that a DDTC export authorization satisfies all regulatory requirements for export of the information related to all of the parts and components – in other words, ignoring the plain language of proposed ECCN 0E604. But if the laptop contains information for multiple – at least some, but not all – Cat IV Defense Article parts and components, at what point does the requirement to obtain an authorization from BIS end and to obtain the authorization instead from DDTC begin? Is there any jurisdictional overlap where industry is required to obtain authorizations from both BIS and DDTC to authorize the same activity that, prior to US export controls reform, required a single authorization? Where is the bright line?

13. If I have a complete aggregation of all information for a Cat IV Defense Article (presumably controlled for export from the US under proposed USML Category IV, paragraph (i)), does removing and segregating or redacting the information about the headlight transform the complete aggregation into two (2) parcels of information controlled for export from the US under proposed ECCN 0E604 – one (1) parcel for headlight information, and; the second parcel – an assortment of spare Cat IV Defense Article parts information?

14. Similarly, if I have a requirement to export from the US a Cat IV Defense Article, does the removal and separate shipment of the headlight transform the export of the

Cat IV Defense Article into two (2) shipments of hardware controlled for export from the US under ECCN 0A604?

15. A 2008 Consent Agreement (CA) demonstrates that industry will attempt, through segregation or redaction of information, to draw jurisdictional lines and conclusions about authorized release of information in the absence of clear USG direction. The 2008 CA, as with any CA, represents a costly lesson learned by a member of industry (\$4,000,000.00) from which lesson all industry members can learn. In the absence of clear USG direction and bright lines in the context of US export controls reform, and with heightened enforcement having been touted as a goal of US export controls reform, industry currently has no option other than to brace itself for unforeseeable USG teachings in the form of additional CAs and other enforcement actions and penalties.

16. The USG should revisit all CAs to provide industry with a fresh evaluation of the CAs in the context of US export controls reform. Moreover the USG should consider reducing the penalty and/or effective length of any active CA which, by virtue of US export controls reform, would have reduced scope.

17. For example, would the modifications to electronic engine controls (EEC) software in a 2012 CA be subject to the licensing jurisdiction of DDTC and the ITAR after US export controls reform? If not, is there any violation of US law or regulation with respect to the EEC software after US export controls reform? If not, is it right that the full penalty stands?

18. Currently, 22 CFR 123.16(b)(4) provides for, in part:

the export without a license, of unclassified models or mock-ups of defense articles, provided that such models or mock-ups are nonoperable and do not reveal any technical data in excess of that which is exempted from the licensing requirements of § 125.4(b) of this subchapter and do not contain components covered by the U.S. Munitions List . . .

19. 22 CFR 123.16(b)(4) provides, generally, for the unlicensed export of models and mock-ups of defense articles. The reverse implication is that, in circumstances not described at 22 CFR 123.16(b)(4), the ITAR and DDTC require licensed export from the US of models and mock-ups of defense articles. As such, the reverse implication is that models and mock-ups of defense articles are, in and of themselves, defense articles. Moreover, since models and mock-ups of defense articles are, generally, not specifically listed in the USML, models and mock-ups of defense articles are solely captured by USML catch-alls. That said, US export controls reform has not specifically addressed models and mock-ups of defense articles and has appeared to altogether ignore the existence of 22 CFR 123.16(b)(4). Nevertheless reformation of the USML and Commerce Control List (CCL) should impact the US export classification of models and mock-ups of defense articles.

20. I believe that reformation of the USML and CCL will result in all defense article models and mock-ups classifying for export from the US as EAR99. I believe the distinction between operable and nonoperable in 22 CFR 123.16(b)(4) will become moot. Moreover, integration of 600 series parts and components into the model or mock-up will not affect classification of the model as a whole as EAR99. Even the most sophisticated models and mock-ups which may reveal information otherwise controlled for export from the US, on its face, under E600 series will be subject to the BIS informal

public release policy. BIS informal public release policy is that BIS allows industry to choose what information industry will publicly release, insofar as industry owns the information. BIS believes industry is best positioned to police itself with respect to public release of information, and has adopted an informal policy implementing this belief. As such, USG enforcement personnel should be prepared to sit idly by as industry aggressively markets US defense capabilities at tradeshow and events in proscribed countries. I believe US export controls reform will allow it.

21. On March 8, 2013, an Executive Order was released which states at Section 5, in part:

The Secretary of State is hereby authorized to take such actions and to employ those powers granted to the President by the Act as may be necessary to license or otherwise approve the export, reexport, or transfer of items subject to the jurisdiction of the Department of Commerce as agreed to by the Secretary of State and the Secretary of Commerce.

22. Section 5 of the March 18, 2013 Executive Order appears to attempt to resolve the issue of requiring more than one (1) export authorization where, prior to US export controls reform, only one (1) export authorization would have been required by empowering DDTC to issue export authorizations for technologies transferred by US export controls reform to the CCL. If DDTC is empowered to authorize export from the US of CCL technologies, why move technologies from the USML to the CCL at all?

23. Section 4 of the March 18, 2013 Executive Order states, in part:

The Secretary of Commerce shall, to the extent required as a matter of statute or regulation, establish . . . appropriate procedures for when Congress is to be notified of the export of Major Defense Equipment controlled for purposes of permanent export under the jurisdiction of the Department of Commerce.

24. Section 4 of the March 18, 2013 Executive Order appears to prepare BIS for jurisdiction over Major Defense Equipment (MDE). MDE is defined in 22 CFR 120.8 as “any item of significant military equipment (as defined in [22 CFR] § 120.7 on the U.S. Munitions List having a nonrecurring research and development cost of more than \$50,000,000 or a total production cost of more than \$200,000,000.” The EAR does not currently provide a definition for either MDE or Significant Military Equipment (SME). Control of MDE and SME on the CCL appears to me to be the antithesis of establishing bright lines.

25. If MDE and SME are to be migrated to the CCL, then certainly one might surmise that the only technologies remaining under the jurisdiction of DDTC and the ITAR are the most sensitive to US national security and the most important for maintaining a US military capabilities edge. Since these same technologies will be positively listed on the reformed USML, enforcement will need to be bolstered, because the USG will have, in effect, **highlighted in bright yellow** the technologies on which ne'er-do-wells should focus their efforts.

26. At the beginning of these comments, I told you that I love a good puzzle, and because of this I have been actively watching, tracking and engaging US export controls reform. I understand that on March 8, 2013, Congress was notified of impending

changes to USML Categories VIII and XIX, that, barring Congressional opposition to the changes, in thirty (30) days the changes will be issued in the Federal Register, and that one hundred and eighty (180) days after that the changes will be operational. And, all that said, no one has yet shown me the picture on the outside of the puzzle's box. For example, there has been no change proposed at all to the backbone of jurisdiction under the ITAR, namely, 22 CFR 120.3. So it is like my brother's friends, in an act of frustration, have gathered up a couple of puzzles (both of which seem to be missing pieces) and have thrown them on the dining room table and ordered me to get to work. Is this a measured and rational approach to the problems we are trying to solve?

27. The USG has stated that the problems we are trying to solve by engaging US export controls reforms, include: 1) "the establishment of a 'bright line' between the USML and the CCL"; 2) "greater interoperability with U.S. allies"; 3) "enhancing the defense industrial base, and"; 4) "permitting the U.S. Government to focus its resources on controlling and monitoring the export and reexport of more significant items to destinations, end-uses, and end-users of greater concern than NATO allies and other multi-regime partners". None of these objectives require the wholesale dismissal of decades of hard-calculated jurisdictional and classification determinations or lessons learned by industry in the context of costly CAs.

28. For reasons already stated elsewhere in these comments, US export controls reform has so far in my opinion failed the first objective of establishing brighter lines. However, I am not sure whether this first objective was consciously abandoned until after the USG can tier and align the USML (i.e., use a brighter yellow highlighter for certain USML technologies). It appears that may be the case.

29. With respect to the third objective, I believe US industry believes that enhancing the defense industrial base means more work for the US defense industrial base. I am not sure this is what the USG means. It has been said that the US defense budget is bigger than the defense budgets of the next thirteen biggest spending countries' combined defense budgets. This means that if you are a defense company anywhere in the world you want to have access to the US defense budget. Is it instead possibly a purpose of US export controls reform to give the USG access to less expensive defense solutions by allowing more of the outsourcing currently heavily restricted by the ITAR? If so, the USG should communicate this objective more clearly to the US defense industrial base. I suspect that if US export controls reform goes forward as currently proposed, because of it, Americans will lose jobs.

30. With respect to the second objective, I am assuming that the US allies to which the USG refers is the same set of US allies and partners to which the fourth objective refers. As such, the second objective is, in my opinion, a restatement or subset of the fourth objective.

31. I believe the fourth objective of permitting the USG to focus its resources on greater concerns than NATO and multi-regime allies can be met without substantial reform to the ITAR or EAR, as follows:

32. On March 11, 2013, DDTC posted to its website revised procedures for using the exemption at 22 CFR 126.18. Although the Guidelines for Preparing Electronic Agreements have not yet been updated to reflect the revised procedures, I believe this is precisely the type of intelligent, informed reform aimed at reducing unnecessary burdens on both industry and the USG. It appears that, going forward, increased

access to the exemption at 22 CFR 126.18 will mean that industry will need to request, and the USG will need to review and issue, far fewer license applications in furtherance of previously approved Technical Assistance Agreements (TAA) and Manufacturing License Agreements (MLA).

33. DDTC could also reduce burdens on industry by recalling its rule that all foreign consignees to Warehouse and Distribution Agreements (DA) be listed in the DA application.

34. The ITAR should be amended to increase the value limitation to the license exemption at 22 CFR 123.16(b)(2). The value of \$500 was set in the 1970's and hasn't since been adjusted. The USG should, at the very least, increase the amount to reflect present-day value.

35. The ITAR should be amended to permit industry to export, reexport and retransfer defense articles without a license to or for end-use by the USG, wherever the USG is located in the world.

36. The USG should amend the license exemption at 22 CFR 124.16 to make it applicable outside the context of TAA/MLA, to remove the last sentence prohibiting permanent retransfer, and to expand the authorized territory commensurate with the scope of the EAR's license exception STA.

37. The USG should amend the license exemption at 22 CFR 123.9(e) to include exports from the US, to include all defense articles (not just parts and components), to remove the requirement that the defense article be incorporated into a foreign defense article, to expand the scope to include private entities under contract to support the governmental end-users, and to clarify that US-origin defense articles that are part of a larger assembly which was previously authorized are also authorized.

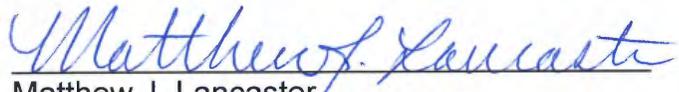
38. DDTC should permit, as a general rule, rolling signatures on TAAs.

39. DDTC should institute a rule whereby each License Officer each week nominates one (1) piece of technology from a license application to the Division Chief for a USG-initiated Commodity Jurisdiction determination (CJ). At the end of each week the Division Chiefs present the nominated technologies to the Director, and the Director chooses at least one (1) candidate for CJ. After the CJ, DDTC can inform the applicant and manufacturer of the CJ result, and post the result to the list of CJ determinations on DDTC's website.

40. It has been said that the ITAR cannot be amended to permit anything that the Arms Export Control Act (AECA) does not itself permit, and that this is at least part of the reason to migrate technologies from the USML to the CCL – to put them beyond the reach of the AECA. From a puzzle-solver's perspective I can understand and even appreciate that path, but from the standpoint of what is right and wrong it does not seem right.

41. How does a positively listed USML take into account future advances in technologies?

41. Initially the USG set about tiering defense articles into “critical”, “substantial” and “significant” piles. While the verbiage was subsequently abandoned, and with BIS preparing itself for jurisdiction over MDE and SME, I suspect establishing the tiered approach still dominates the mindset behind US export controls reform initiatives. But based on my experience, when an aircraft is on-the-ground (AOG), the only critical part is the part needed to get that aircraft back to work – even if just a headlight.


Matthew J. Lancaster
PRIVATE CITIZEN

March 11, 2013



The Boeing Company
1200 Wilson Blvd
Arlington, VA 22209-1989

March 18, 2013

Ms. Candace M. J. Goforth
Director
Office of Defense Trade Controls Policy
Directorate of Defense Trade Controls
13th Floor, SA-1
2401 E Street, N.W.
Washington, DC 20522-0112

Subject: Amendment to the International Traffic in Arms Regulations: Revision of U.S. Munitions List Category IV

**Reference: RIN 1400-AD19
Federal Register /Vol. 78, No. 21 /Thursday, January 31, 2013**

Dear Ms. Goforth,

The Boeing Company (“Boeing”) appreciates the opportunity to provide comments on the proposed revision to Category IV (launch vehicles, guided missiles, ballistic missiles, rockets, torpedoes, bombs and mines) of the U.S. Munitions List (“USML”), Part 121 of the International Traffic in Arms Regulations (“ITAR”). Boeing continues to support the Directorate of Defense Trade Controls’ (DDTC) engagement with industry during the export control reform process, and we reiterate our commitment to assist DDTC and the U.S. Government in the reform process by providing comments to this and other proposed rules.

Boeing welcomes a simplified, more narrowly-defined, positive-list Category IV. The transfer of less sensitive items from the USML to the Commerce Control List (CCL) will allow both government and industry to focus licensing and compliance resources on those products and technologies that are most critical to U.S. national security. These refocused controls will also strengthen the U.S. industrial base by facilitating and expanding legitimate overseas business opportunities for U.S. companies. More broadly, Boeing continues to support the Administration’s ultimate goal of creating a single control list and single licensing agency.

With respect to the two other regulatory changes outlined in this *Federal Register* notice, Boeing supports the new method identified in this proposed rule to identify Missile Technology Control Regime (MTCR) Annex items on the USML by adding the parenthetical “(MT)” at the end of each section containing such articles. This change improves the organization of the USML and clarifies the importance of the MTCR controls. Additionally, the language added to ITAR 123.12 clarifying the licensing requirements related to shipments of defense articles between U.S. possessions is appreciated.



Summary of Comments:

Generally speaking, we find DDTC's proposed rewrite of USML Category IV to be clear and understandable, setting mostly well-defined parameters. After reviewing the proposed rule, we have not identified any significant adverse impacts to Boeing. We would, however, like to take this opportunity to share with DDTC some general comments and recommendations for clarifying language for particular sections of the proposed rule.

Within this framework, we provide the following comments on the proposed revision to Category IV:

- Paragraph (c): *Apparatus and devices "specially designed" for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles enumerated in paragraphs (a) and (b) of this category (MT for those systems enumerated in paragraphs (a)(1), (a)(2), and (b)(1) of this category)*. Commercial aircraft operators are increasingly concerned about threats posed by misuse of Man Portable Air Defense Systems (MANPADS). To respond to this threat, companies are already offering for commercial application countermeasure systems which would necessarily have monitoring and detection capability for MANPAD systems that would be captured by this paragraph. The use of ITAR-controlled items on commercial transport systems would require ITAR level protection of those platforms, which is impractical for the civil transport case. Considering the increasing commercial need for missile detection, monitoring, and countermeasure systems on civil aircraft, we request DDTC establish a policy that addresses this issue. Possible options include transferring these items to the "600-Series", establishing a flexible licensing structure for instances where such systems are installed on civil aircraft platforms, or adding a note to this paragraph that articulates a different control structure under a defined set of circumstances. We recognize the challenges in developing such a policy and would support, through the DTAG or TAC, efforts to address it.
- Paragraph (h)(23): *Systems, subsystems, parts, components, accessories, attachments, or associated equipment, as follows: Payload fairings*. The text of this listing does not limit the control scope to payload fairings that are designed for Category IV end items, unless it is intended that Note 2 to paragraph (a) is applicable in (h). Any commercial transport airplane or helicopter that requires aerodynamic fairing of the payload compartment will have "payload fairings". Boeing believes the listing is intended to cover payload fairings for launch vehicles and missiles only.

In order to clarify the scope of control of (h)(23), Boeing proposes the following change: (h) Systems, subsystems, parts, components, accessories, attachments, or associated equipment, **specially designed for articles enumerated in paragraph (a)** as follows.

If Note 2 to paragraph (a) is intended to provide the definition of payload for all of Category IV, Boeing proposes the following control text as an alternative: (h)



Systems, subsystems, parts, components, accessories, attachments, or associated equipment, as follows: (23) Payload fairings (see Note 2 to paragraph (a)).

- Under IV(h)(6), (9), (11), (20), (21), (22) and (25), the qualifier “MT for xxx usable in systems enumerated in paragraphs (a)(1) and (a)(2).....” is used. The words “usable in” could be interpreted quite broadly and could make items “MT controlled” by the mere fact they could be used in such systems. Boeing requests DDTC revise this language to read “*MT for xxx “specially designed” for systems enumerated in paragraphs (a)(1) and (a)(2).....*” in order to prevent capture of items not intended to be controlled for MT reasons.
- Based on our reading and understanding of this proposed rule, it appears that “pulse weapons and components” are not captured on the USML (or on the Export Administration Regulations (EAR)). Pulse weapons can take many forms such as electromagnetic pulse (EMP), magnetic, sonic, electric, or microwave. These weapons are used in the battle field and for civilian crowd control. In order to prevent an unintended release of items that should be controlled, we recommend that DDTC add coverage for such weapons in Category IV, being mindful of commercial impact as many fields of science and medicine have applications for these technologies.

In summary, we appreciate DDTC’s and the U.S. Government’s efforts in amending USML Category IV into a more positive control list. Thank you for the opportunity to provide comments. Please do not hesitate to contact me if you have any questions or need additional information. I can be reached at 703-465-3505 or via e-mail at stephanie.a.reuer@boeing.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Stephanie A. Reuer', written over a large, stylized, looping flourish.

Stephanie A. Reuer
Director, Global Trade Controls

VIRGIN GALACTIC, LLC
65 Bleecker Street, 6th Floor
New York, NY 10012



March 18, 2013

Via E-Mail (DDTCResponseTeam@state.gov)

Directorate of Defense Trade Controls
Office of Defense Trade Controls Policy
U.S. Department of State
PM/DDTC, SA-1, 12th Floor
Washington, DC 20522-0112

ATTN: Regulatory Changes - Revision of U.S. Munitions List Category IV,
Bureau of Political Military Affairs

Re: Comments on proposed revision to U.S. Munitions List Category IV
(launch vehicles, guided missiles, ballistic missiles, rockets, torpedoes,
bombs and mines) to describe more precisely the articles warranting
control on the USML
RIN: 1400- AD19

Dear Sir or Madam:

On behalf of Virgin Galactic, LLC (“Virgin Galactic”), I respectfully submit these comments concerning the proposed rule on changes to U.S. Munitions List Category IV under the International Traffic in Arms Regulations (“ITAR”), as issued by the Department of State and published in the Federal Register on January 31, 2013 (78 Fed. Reg. 6765).

The future growth of commercial space tourism globally could hinge largely on how export controls, especially those implemented by the United States, are applied and implemented relative to this industry. It is our view that a strong domestic industry in this emerging field will support the overall strategic and economic standing of the United States.

1. General Comments

Virgin Galactic appreciates the opportunity to comment on the proposed revisions to U.S. Munitions List (“USML”) Category IV contained in the proposed rule referenced above.

VIRGIN GALACTIC, LLC
65 Bleecker Street, 6th Floor
New York, NY 10012



We strongly support the President’s Export Control Reform effort and more broadly the Administration’s National Export Initiative.

The ITAR and Export Administration Regulations (“EAR”), as originally drafted, did not contemplate the emerging space tourism industry, and as such the existing controls—designed in an era when commercial non-governmental spaceflight was inconceivable—do not, in our view, adequately address this new commercial manned suborbital spaceflight industry.

USML Category IV, and the associated Missile Technology Control Regime (MTCR), are a case in point. Many items that fall within the controls of USML Category IV are thereby subject to an onerous “presumption of denial” licensing policy that is also a strong disincentive for investment in the fledgling commercial space industry which has a long-term vision for a global net of spaceports to support eventual point-to-point commercial space travel. U.S. Government support for the development of this industry is codified in the Commercial Space Launch Act and the Congressional finding contained therein that “...providing launch services and reentry services by the private sector is consistent with the national security and foreign policy interests of the United States and would be facilitated by stable, minimal, and appropriate regulatory guidelines that are fairly and expeditiously applied...” 49 U.S.C. §70101.

We recognize that the proposed rule is focused on determining which items may be shifted from the USML to the CCL as part of the broader Export Control Reform effort. We believe that the intent of Export Control Reform, focusing on higher walls around fewer items, should include lessening controls on items designed and developed for the commercial space tourism industry and moving commercial space items off of the USML, especially when those items were developed commercially, wholly with private funding and without a defense application in mind.

We recognize that the U.S. Government may not be in a position to decontrol these items unilaterally. We would like to see the U.S. Government and its multilateral partners that subscribe to the MTCR commence a serious discourse on how to modernize export controls to address our nascent but growing industry. Specific actions that could be taken include removing the presumption of denial for the export of manned spacecraft vehicles with integrated propulsion systems. An important element of this reform effort would be to clearly define the export classification of these types of commercial spacecraft vehicles under USML Category XV, or better yet, create a new home for them on the Commerce Control List.



2. Specific Comment on the Proposed Revisions to Category IV

The proposed rule published in the Federal Register requested that the public provide specific examples of launch vehicles whose jurisdiction (and presumably classification) would be in doubt based on the revision to the USML.

In that regard, we note that the proposed Note 1 to paragraph (b) of Category IV, states that “*Launcher mechanisms for use on aircraft are controlled in Category VIII(h)*” and that Note 2 to paragraph (b) also states “*Launcher mechanisms which have been integrated onto a vessel, ground vehicle, or aircraft are controlled in USML Categories VI, VII, and VIII, respectively.*” This language strongly supports the position that any aircraft that utilize such launcher mechanisms would also be properly controlled in Category VIII (Aircraft) – rather than in Category IV(b) as “*Launchers for rockets, SLVs and missiles.*” The mere incorporation of a launcher mechanism into an aircraft should not be sufficient to render the aircraft controlled under USML Category IV when the launcher mechanism itself would not be controlled in Category IV. We respectfully request that the final rule on USML Category IV clarify that the aircraft that incorporate these “launcher mechanisms” are not controlled by Category IV.

3. Conclusion

The revision of U.S. Munitions List Category IV is an essential element in the Administration’s efforts to reform U.S. export controls. A key element of this reform is the modernization of controls to take into consideration the commercial realities facing affected businesses, including the developing commercial space industry.

Virgin Galactic greatly appreciates the hard work of the Government to achieve this objective and we would welcome the opportunity to discuss the foregoing comments in more detail with DDTC.

Sincerely,

A handwritten signature in black ink that reads "Bruce Jackson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Bruce Jackson
VP, Trade Controls & Export Strategy



March 18, 2013

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: Ms. Candace M. J. Goforth, Director, Office of Defense Trade Controls Policy,
Department of State

RE: Regulatory Change, USML Category IV

Dear Ms. Goforth:

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 IV (launch vehicles, guided missiles, ballistic missiles, rockets, torpedoes, bombs, and mines) of the U.S. Munitions List (USML) to describe more precisely which items 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.

Space Tourism:

Space tourism is an emerging industry. Current regulations fail to adequately address this growing and changing industry. USML Category IV, and for that matter the Missile Technology Control Regime (MTCR), create a disincentive for investment in the commercial space industry. Point-to-point commercial space travel will be a reality in the not too distant future and it should be encouraged to develop. Additionally, the U.S. government should look to create regulatory/investment incentives as they are relying on the commercial space industry to deliver supplies to the ISS. A strong space industrial base is a national security priority and will ensure the U.S. remains a world leader in space.

Recommendation: The Administration should continue to adopt language and policies that will encourage further investment in and development of the commercial space industry. Among possible policy changes to encourage investment/development is removal of the MTCR

“presumption of denial” for the export of manned spacecraft vehicles with integrated propulsion systems.

Missile Detection:

There is an increasing commercial interest in missile detection, monitoring, and countermeasure systems on civil aircraft.

Recommendation: DDTC should establish a policy that addresses the commercial interest in above capabilities. Possible options include transferring the items currently captured by Paragraph (c) to the “600-Series”, establishing a flexible licensing structure for instances where such systems are installed on civil aircraft platforms, or adding a note to Paragraph (c) that articulates a different control structure under a defined set of circumstances.

Missile Technology Controls:

Does the use of a Missile Technology (MT) component in conjunction with non-MT components make the whole item MT?

Classified Information:

In some cases, the identification of certain parameters of a controlled item (such as range) may be relevant to its level of control, but classified. Typically, if a range is classified, companies identify that the vehicle is “> than XXX nm” to ensure appropriate control. However, by identifying the more specific USML category – e.g., on licenses and shipping documents which reflect the USML category – it is possible that an exporter would be revealing that a shipment may contain sensitive items.

Recommendation: In order to ensure appropriate protections of this type of information, we recommend that the Department of State clarify that identifying an item as IV(a) – rather than IV(a)(2) – is sufficient for export purposes, if range/missile characteristics are classified.

Launchers:

Regarding IV(b), most fixed launch sites are predominantly steel and concrete structures with no inherent sensitive technologies. As a general matter, the ground support equipment are the sensitive items that warrant control on the USML. For example, as written, the proposed controls could potentially include: bridge cranes, mobile service towers, umbilical towers, flame buckets, water suppression systems, fire control systems, etc.

Recommendation: The final rule may want to consider whether the structure of launch facilities are inherently military and sufficiently sensitive to be controlled on the USML.

Payload Fairings:

IV(h)(7) controls parts and components, accessories and attachments, and associated equipment, including nose tips, nose fairings, or aerospikes.

Recommendation: We recommend that this section also identify composite and metallic payload fairings, unless the intent is to control these items under 9A604.x.

Pneumatic Control Systems:

Similarly, IV(h)(28) controls hydraulic, mechanical, electro-optical, or electro-mechanical flight control systems.

Recommendation: We recommend that this category also include pneumatic control systems.

Transportation and Handling Equipment:

There are other items that are not enumerated in the proposed Department of State and Department of Commerce rules. For example, transportation and handling equipment for rockets, SLVs, and missiles – e.g., slings, Lifting mechanisms/equipment, trailers, storage containers, and dollies or bogies are not referenced in the controls. Other types of flight hardware, such as active wind sensing, pressurization systems, air liquefaction systems, and telemetry systems are not identified.

Recommendation: AIA recommends that the Departments of State and Commerce identify these items on the appropriate control lists.

Specific Category IV Language:

Based on the proposed rule, AIA is seeking clarification of the following:

Note 1 and Note 2 to Paragraph B: Manned Aircraft

Regarding manned aircraft designed to carry and launch Space Launch Vehicles (SLV). Note 1 in paragraph (b) of Category IV states that “*Launcher mechanisms for use on aircraft are controlled in Category VIII(h)*”. Note 2 states “Launcher mechanisms which have been integrated onto a vessel, ground vehicle, or aircraft are controlled in USML Categories VI, VII, and VIII, respectively.” These Notes would also seem to support the notion that the actual aircraft that utilize such launcher mechanisms should also be controlled in Category VIII (Aircraft) – rather than in Category IV(b) as “*Launchers for rockets, SLVs and missiles.*”

Recommendation: The final rule on USML Category IV should provide additional clarity with respect to the export control jurisdiction and classification of manned aircraft which are designed to carry and launch SLVs.

Section (d):

”Catch All” Category for Rockets, SLVs, and Missiles: Section (d)(7) reads, “(7) Rocket, SLV, and missile engines and motors, not otherwise enumerated in paragraphs (d)(1) through (d)(6) of this category, USML Category XIX, or CCL ECCN 9A619.” Using the phrase “not otherwise enumerated” and citing the CCL in the proposed regulations negates the goal of creating a “positive list.”

Recommendation: The final rule should make clear whether there are commercial sounding or research rockets (below a range of 300 km) that are not controlled on the USML.

Section (h):

Paragraphs (h)(6), (9), (11), (20), (21), (22) and (25): The words “usable in” could be interpreted quite broadly and could make items “MT controlled” by the mere fact they could be used in such systems.

Recommend: DDTTC should revise this language to read “*MT for xxx “specially designed” for systems enumerated in paragraphs (a)(1) and (a)(2).....*” in order to prevent capture of items not intended to be controlled for MT reasons.

Note to paragraph (h)(17) reads, in part, “For controls on spacecraft, see USML Category XV or CCL ECCN 9A515. Using ‘or’ implies practitioners can review either. Suggest replacing ‘or’ with ‘then’; since the requirement is to first review the USML then the CCL.

The word ‘related’ is missing from Section (i). Section (i) should read, in part: “...paragraphs (a) through (h) of this category and classified technical data directly *related* to items controlled in CCL ECCN 0x604...”

In order to clarify the scope of control of (h)(23), the following change is recommended: (h) Systems, subsystems, parts, components, accessories, attachments, or associated equipment, **specifically designed for articles enumerated in paragraph (a)** as follows. If Note 2 to paragraph (a) is intended to provide the definition of payload for all of Category IV, the following control text as proposed as an alternative: (h) Systems, subsystems, parts, components, accessories, attachments, or associated equipment, as follows: (23) Payload fairings (see Note 2 to paragraph (a)).

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,



Remy Nathan
Vice President, International Affairs
Aerospace Industries Association

March 18, 2013

Via E-Mail (DDTCResponseTeam@state.gov)

Directorate of Defense Trade Controls
Office of Defense Trade Controls Policy
U.S. Department of State
PM/DDTC, SA-1, 12th Floor
Washington, DC 20522-0112

ATTN: Regulatory Changes - Revision of U.S. Munitions List Category IV,
Bureau of Political Military Affairs

Re: Comments on proposed revision to U.S. Munitions List Category IV (launch vehicles, guided missiles, ballistic missiles, rockets, torpedoes, bombs and mines) to describe more precisely the articles warranting control on the USML

RIN: 1400-AD19

The Commercial Spaceflight Federation (“CSF”) is the industry association of leading businesses and organizations working to make commercial spaceflight a reality. Our mission is to promote the development of commercial spaceflight, pursue ever higher levels of safety, and share best practices and expertise throughout the industry. On behalf of the CSF, I respectfully submit these comments concerning the proposed rule on changes to U.S. Munitions List Category IV under the International Traffic in Arms Regulations (“ITAR”), as issued by the Department of State and published in the Federal Register on January 31, 2013 (Volume 78 Issue 21, Pages 6765-6769).

At the genesis of the International Traffic in Arms Regulation (“ITAR”) regime, spaceflight was the province of government, and even as that paradigm has changed, government has continued to be the largest market for American space launch services. However, today there is a burgeoning American commercial space sector that has made it clear that most future launches will be for nongovernmental purposes. In particular, several suborbital spacecraft currently under development and testing are primarily aimed at the tourism, research and education markets. Unfortunately, the current approach of the ITAR and the United States Munitions List (“USML”) is better suited to regulate technologies with primarily military applications and is a barrier to the growth of the commercial space industry, an industry that is returning high-tech jobs to the U.S. The security of the nation is of paramount importance to our members, but in many cases the current rules harm the nation’s international competitiveness without preventing the development of advanced weapons technologies by our current or future adversaries. In particular, they limit the potential sales of U.S. space services overseas, incentivizing other countries to develop their own capabilities.

We understand that the current proposed revisions are intended to clearly determine which items should remain on the USML and which should be moved to the Commerce Control List (“CCL”) Unfortunately, the proposed revision to Category IV controlled items does not establish a “bright line” between the USML and the CCL for items related to spacecraft and their propulsive systems. Commercial companies are building and testing reusable vehicles to provide routine space access and quick turn-around times for passengers and payloads. This type of ground-breaking functionality is enabled more by better processes

than by advanced technology, including the integration of the propulsive systems and the space vehicle, and the use of modified off-the-shelf parts. A reusable space vehicle has elements of both a rocket and a spacecraft, and this rule does not clarify how such a system, or its parts, would be classified.

While the CSF commends the goal of the broader Export Control Reform to describe USML controls without using design intent criteria, in many places, this revision uses the term “specially designed,” which is still currently defined by the Department of State in 77 FR 36428 as:

“..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.”

This broad definition applies to almost any part, including modified off-the-shelf parts that are adapted for the purposes of a space vehicle. This unnecessarily burdens many of our innovative companies and greatly increases USML compliance costs. Since many of the commercial companies in this nascent industry are still relatively small, the effort entailed to ensure compliance would have a serious adverse effect on their business and could potentially prevent sales to customers from allied foreign nations.

Consider the example of control systems. In an integrated rocket vehicle, these systems control both the rocket engine and the spacecraft. Are they controlled under Category IV of the ITAR or Category XV? If parts of the system are modified versions of components built for aircraft, are they controlled? This revision does not provide a “bright line” to our industry.

As commercial space vehicles complete development and testing, the U.S. Government must begin a serious discussion on the modernization of export reform measures to avoid stifling the burgeoning industry of commercial spaceflight. I commend the Administration for its efforts on Export Control Reform, and the commencement of the discussion on Category IV, however the CSF does not believe that these proposed revisions adequately address the commercial space industry and its potential for the U.S. economy. The CSF greatly appreciates the hard work that many public servants have put toward the objective of effective and efficient export controls, and we would welcome the opportunity to discuss in more detail the concerns we have outlined here and broader questions about the appropriate regulation of vehicles that are designed for primarily commercial purposes.

Sincerely,



Michael Lopez-Alegria
President, Commercial Spaceflight Federation



PUBLIC SUBMISSION

Docket: DOS-2013-0003

Amendment to the International Traffic in Arms Regulations: Revision of U.S. Munitions List Category IV

Comment On: DOS-2013-0003-0001

International Traffic in Arms: Revision of U.S. Munitions List Category IV

Document: DOS-2013-0003-DRAFT-0002

Comment on DOS-2013-0003-0001

Submitter Information

General Comment

First, thank you for the effort put forth by all involved parties to drive reform in this important area and also for allowing the public to provide feedback to this proposed rule. Our company believes export control reform is critical to helping our business become more efficient and competitive, while at the same time better protecting the critical technologies that are national assets. Current export laws require our company to control launch vehicle hardware and technology that in many cases is less sophisticated and advanced than that found in commercial aviation. We are also required to control all uniquely designed support equipment, no matter how basic the technology level may be, such as brackets, slings, and simple tools. Such broad controls add cost, complexity and risk to our business - yet arguably provide less protection for our war fighter. The language in the proposed new CAT IV will enable our company to focus our limited compliance resources on more clearly defined, understandable, and specific critical technologies. Thanks again for your efforts in this important area.