January 31, 2011

To: DDTCResponseTeam@state.gov
cc: publiccomments@bis.doc.gov.
:
Subject: USML - Positive List; Category VII - Revision; Notice of Inquiry - CCL

Recommendations to revise each of the USML Categories follow. The revisions address ANPRM requests concerning Tiers, "bright line" between USML and CCL; and structural alignment.

Attachment 1 to my December 17, 2010, comments on Category VII Revision explains why what follows in this document recommends substitution of other words for USML expresssion similar to "specially designed" and subjecting all production items to EAR, rather than to ITAR.

The following recommendations apply to many USML Categories::

1 Delete definition of "specially designed" from Category VII - Revision VII(h)(1)(i)

2 Delete Groups B (production) and G (manufacturing) from the structural alignment for each USML Category.

3. Subject all structural materials and "composites" and their structures or laminates to EAR, as being insufficiently fabricated to be identified as a defense article; move armor items in Category VII - Revision from Group C to components in Group A; and delete Group C from all other USML Categories except V explosives and XIV toxicological agents.

4 Add Related Controls and Related Definitions to the structural alignment of USML Categories.

5 Revise definition of WMD in proposed VII(h)(1)(iii) to read as follows:
- A. Nuclear weapons, as defined by, and controlled by, the Department of Energy;
- B. Chemicals covered by Schedule I of the Chemical Weapons Convention; and
- C. Biological agents as defined in (presumably some portions of 1C351 to 1C354 and 1C360, since Category XIV (b) does not identify any such agents by name)

6 Revise definitions of Tiers in the third column on page 76939 of the December 10, 2010, ANPRM, USML - Positive List to read as follows:

1 A Tier 1 control shall apply to:
- a. A "Weapon of Mass Destruction";
- b. A "missile" (as defined in MTCR item 1.A.1)
- c. An item almost exclusively available from the United States that provides a critical military or intelligence advantage

2 A Tier 2 control shall apply to an item, not in Tier 1, almost exclusively available from (the 37 countries listed in proposed 15 CFR 740.20(c)(1) with possible additions suggested below) and provides a substantial military or intelligence advantage..

3 A Tier 3 control shall apply to an item, not in Tiers 1 or 2, that

a. Provides a significant military or intelligence advantage;

b. Produces or manufactures a Tier 1, 2, or 3.a item;

c. Is not a Tier 1, 2, 3.a, or 3.b item and is controlled for reasons of:

c.1 National security and is significant in supporting a Tier 1, 2, 3a, or 3b item and

c.1.a Almost exclusively available from the 37+ countries; or

c.1.b Not almost exclusively available from the 37+ countries; or

c.2 Foreign policy; or

c.3 Human rights

7 For Tier 2, consider adding:

NATO member Albania;

Night-vision eligible Cyprus, Malta, South Africa, 15 CFR 742.6(a)(2)(iii); and

Major non-NATO allies Bahrain, Egypt, Israel, Jordan, Kuwait, Morocco, Pakistan, Philippines, Thailand, per 22 CFR 120.32

8 Delete all references to parts, accessories, attachments, and associated equipment, as being inherently inadequately defined for export control purposes.

9. Establish a “bright line” between USML and CCL jurisdiction, especially for MTCR items, by using the same terminology in both and cross referencing each to the other in Related Controls sections.

Recommended Commodity Jurisdiction for MTCR Items

Each MTCR Item is accounted for, either in the USML Category control list or in the USML Related Controls section listing what is controlled on the CCL. The USML Category is IV unless otherwise indicated. The ECCN number shown for USML jurisdiction items does not mean that the item is also controlled on the CCL, although in some instances a non-USML portion of that ECCN would be controlled on the CCL. A few MTCR items are not now on either the USML or the CCL. They have been assigned underlined ECCN numbers. Some underlined numbers are new, some are not. A few existing USML sub-Categories, shown as strike through, would be deleted from the USML under these recommendations. ECCN 9A120 would be renumbered 9A112, because of its relationship to 9A012. MTCR definitions of terms in quotation marks would be included under Related Definitions in the applicable USML Category or CCL ECCN if used only in that Category or ECCN. If used in more than one Category or ECCN, these definitions would be included in 22 CFR 120 and/or 15 CFR 772.

		MTCR	ECCN.	USML:
USML jurisdiction				
A.	Equipment, Assemblies, and Components			
1.a.	"Missiles" (i.e., "range"> 300 km; "payload> 500 kg) Tier 1b	1.A.1	9A104	
1.b.	UAVs "range" > 300 km; "payload> 500 kg Tier 1b	1.A.2	9A112	
2	"Missile subsystems", "required" for "missiles, as follows Tier 2 or 3a, depending on foreign availability	2.A.1		
2.a	Individual rocket stages	2A1a	9A119	
2.b	Reentry vehicles	2A1b	9A116	
2.c	Solid propellant rocket motors or liquid propellant rocket engines rated for a total impulse capacity of 1.1 x 106 Ns or greater	2A1c	9A105 9A107	
2d	"Guidance sets" rated for system accuracy 3.33% or less of the "range" (e.g. "Circular Error Probability" (CEP) 10 km or less at a "range" of 300 km)	2A1d	7A117	XII
2.e	Thrust vector control sub-systems	2A1e	9A106	
2.f	Weapon or warhead safing, arming, fuzing, and firing mechanisms	2A1f	9A121	
3.a.	Apparatus and devices "required" for handling, control, activation or launching of "missiles" Tier 3a	12A1	9A115	

3b	Vehicles “required” for the transport, handling, control, activation or launching of “missiles” Tier 3a	12A2 9A115 VII

B. Test, Inspection, and Production Equipment N/A

C Materials Tier 3a

Hydrazine and hydrazine derivatives	4C2a,b	Vc3i-iv
Aluminum	4C2c 1C111a1	Vc5
Zirconium	4C2d 1C111a2	Vc6iiB
Beryllium	4C2d 1C111a2	Vc6iA
Magnesium	4C2d 1C111a2	Vc6iiB
Boron	4C2e 1C111a2	Vc6iiA
High energy density fuel substances	4C2f	Vb3
Perchlorates, chlorates, chromates	4C3	Vd11
Ammonium perchlorate	4C4b1	Vd2
AND	4C4b2	Vd1
HMX	4C4b3	Va12i
RDX	4C4b3	Va20i
HNF	4C4b4	Vd7
CL-20	4C4b5	Vd13
HTPB	4C5b 1C111b2	Ve7
GAP	4C5c	Ve6
MAPO	4C6a1	Vf10
BITA	4C6a2	Vf14
Tepanol	4C6a3	Vf17
Tepan	4C6a4	Vf16
polyfunctional aziridine amides	4C6a5	Vf14
TPB	4C6b	Vf18
Carboranes, decaboranes, pentaboranes	4C6c1	Ve2
ferrocene derivatives	4C6c2	Vf3
catocene	4C6c2a	Vf3ii
butacene	4C6c2b	Vf3i
BTTN	4C6d3	Ve3
iso DAMTR	4C6d5	Va31xi
NENA	4C6d6	Ve8
BDNPA	4C6d7a	Ve18
BDNOF	4C6d7b	Ve18
N-methyl-p-nitroaniline	4C6e2	Ve16

D Software
Except for D1 and D8, Tier 2 or 3a, depending on foreign availability

1.	Software “required” for coordination of more than one “missile” subsystem Tier 1c	1D2 9D105
2.	Software “required” for the “use” of A2c	2D2 9D104
3.	Software “required” for the “use” of A2d	2D3 7D101 XII
4.	Software “required” for the “use” of A2e	2D5 9D104

5. Software "required" for the "use" of A2f 2D6 9D104
6 Software "required" for the "use" of A3a 12D1 9D104
7 Software "required" for the "use" of A3b 12D1 9D104 VII
8. Software "required" for modeling, simulation, or design 16D1 9D103
integration of "missiles" or "missile subsystems" 7D103 XII
Tier 1c

E Technology

1. Technology "required" for the "development" or "use" of USML:
A1 or D1 1E1 9E101
A2a,b,c,e,f or D2,4,5 2E1 9E101
A2d or D3 2E1 7E001, 7E101 XII
A3a or D6 12E1 9E101
A3b or D7 12E1 9E101 VII
D8 16E1 9E101
7E001, 7E101 XII
"Development" of A1, D1, or D8 Tier 1c
"Development" of remainder Tier 2
"Use" Tier 3a

2 Technology for integration of flight control, guidance, and 10E2 7E104 XII
propulsion data into a flight management system "required"
to optimize "missiles" trajectory
Tier 1c

<u>USML Related Controls: MTCR items (recommended to be) subject to the EAR</u>
Group B items Tier 3b; all others Tier 3c1a orb, depending on foreign availability):
(<u>Underlining</u> means new ECCN coverage; strike <u>though</u> means deletion.)

Heat shields 2A1b1 9A116a
Heat sinks 2A1b2 9A116b
Electronic equipment for re-entry vehicles 2A1b3 9A116c XI
Turbojet and turbofan engines 3A1 9A101
Ramjet/scramjet/pulse jet/combined cycle engines and devices to 3A2 9A111
regulate the combustion of such engines;
Rocket motor cases, 'interior lining', 'insulation', and nozzles; 3A3 9A108
Staging mechanisms, separation mechanisms, interstages therefor 3A4 9A117
Liquid slurry propellant (including oxidizers) control systems; 3A5 9A106
Hybrid rocket motor components 3A6 9A109
Radial ball bearings 3A7 2A001
Liquid propellant tanks 3A8 9A103

Turboprop engine systems	3A9 9A102
Composite structures, laminates, manufactures	6A1 1A102 9A110 IVf

Resaturated pyrolized (carbon-carbon) components	6A2 1A102 XIIId.f
Integrated flight instrument systems	9A1 7A103b
Gyro-astro compasses	9A2 7A104 XIId
Linear accelerometers	9A3 7A101 VIIIe, XIId
Gyros with drift rate stability	9A4 7A102 VIIIe, XIId
Accelerators or gyros at high accceleration levels	9A5 7A001c XIId 7A002b
Inertial equipment with accelerometers or gyros	9A6 7A103a VIIIe, XIId
Integrated navigation systems	9A7 7A103c
Magnetic heading sensors	9A8 7A107
Hydraulic, mechanical, electro-optical, or electromechanical flight control systems (including fly-by-wire systems)	10A1 7A116
Attitude control	10A2 7A116
Flight control servo valves	10A3 9A106d
Radar, laser radar, altimeters	11A1 6A108a XIa3
Passive sensors	11A2 7A115 XI
Global Navigation Satellite Systems	11A3 7A105 XV
Electronic assemblies> 125°C	11A4 3A101c XI
Gravity meters	12A3 6A107
Telemetry	12A4 5A101
Tracking	12A5 6A108b
Thermal batteries	12A6 3A102
Computers, termperature-rated, ruggedized, radiation hardened	9 13A1 4A101 XIa6
Analog to digital converters	14A1 3A101
Hybrid computers for simulation	16A1 4A102 XIa6
Devices for reduced observables	17A1 1A101
Microcircuits radiation hardened	18A1 3A001a1a XVd
Detectors to protect against nuclear effects	18A2 6A102 XVI(c)
Radomes	18A3 6A103 XIa3
Rockets, range 300 km or greater, payload less than 500 kg	19A1 9A104
UAVs , range 300 km or greater, payload less than 500 kg	19A2 9A112 VIII
UAVs, aerosol dispensing	19A3 9A112 VIII
Rocket stages range 300 km or greater payload less than 500kg	20A1a 9A119
Rocket motors range 300 km or greater payload less than 500 kg	20A1b 9A105 9A107 9A109

“Production facilities” for USML A1a and A1b	1B1 9B116
“Production facilities” for USML A2a-c,e,f	2B1 9B116
“Production facilities” for USML A2d	2B1 7B103 XII
“Production equipment” for USML A2a-c,e,f	2B2 9B115

"Production equipment" for USML A2d	2B2 7B103 XII
"Production facilities" for MTCR 3A1-6,8,9, 3C	3B1 9B116
"Production equipment" for MTCR 3A1-6,8,9, 3C	3B2 9B115

Flow-forming machines	3B3	2B109
“Production equipment” for MTCR 4C liquid	4B1	1B115a
“Production equipment” for MTCR 4C solid	4B2	1B115b
Batch mixers	4B3a	1B117
Continuous mixers	4B3b	1B118
Fluid energy mills	4B3c	1B119
“Production equipment” for MTCR 4C2c,d,e	4B3d	1B102
“Production” equipment for structural composites, fibers, prepregs, preforms	6B1	1B101
Nozzles for MTCR 6E3 processes	6B2	1B116
Isostatic presses	6B3	2B104
Chemical vapor desposition furnaces for carbaon-carbon	6B4	2B105
Densification and pyrolysis of structural composites	6B5	2B117
“Production equipment” for MTCR 9A	9B1	2B018
Scatterometer, reflectometer, profilometer	9B1a	7B102
Other intertial equipment	9B1b	7B101
Balancing machines	9B2a	2B119a
Indicator heads	9B2b	2B119b
Motion simulators	9B2c	2B120
Positioning tables	9B2d	2B121
Centrifuges	9B2e	2B122
Test equipment for flight control systems	10B1	7B001
Vibration test equipment	15B1	2B116
Wind-tunnels	15B2	9B105
Test benches	15B3	9B117
Environmental chambers	15B4	9B106
Accelerators	15B5	3A101b
Radar cross section measurement	17B1	6B108
“Production facilities” for MTCR 20A	20B1	9B116
“Production equipment” for MTCR 20A	20B2	9B115

C Materials

“Interior lining”	3C1	9A106a
“Insulation”	3C2	9A106a
composite and composite modified double base propellants	4C1	1C111d
dinitrogen trioxide	4C4a1	1C111a3a
nitrogen dioxide	4C4a1	1C111a3b
dinitrogen pentoxide	4C4a3	1C111a3c
mixed oxides ofnitrogen	4C4a4	1C111a3d

inhibited redfuming nitric acid	4C4a5 1C111a3e Vd10
fluorine compounds	4C4a6 1C018m
chlorine compounds	4C4a6 1C018m
CTPB	4C5a 1C111b1

PBAA	4C5d 1C111b3
PBAN `	4C5e 1C111b4
TPEG	4C5f 1C111b5
TEGDN	4C6d1 1C111c2
TMETN `	4C6d2 1C111c4
DEGDN	4C6d4 1C111c5
2-nitrodiphenylamine	4C6e1 1C111c3

prepregs and preforms for controlled composite structures	6C1 9C110
pyrolized carbon-carbon	6C2 1C102 XIIId,f
graphites with bulk density	6C3 1C107a
graphites, pyrolytic	6C4 1C107b
ceramic composites	6C5 1C107c
silicon carbide	6C6 1C107d
tungsten and molybdenum	6C7 1C117
maraging steel	6C8 1C116
titanium-stablized duplex stainless steel	6C9 1C118
materials for reduced observables	17C1 1C101

IVf, Va35, Vb7, Vc10, Vd12, Ve19, Vf21

D. Software

"Use" "software" for "production facilities" for USML A1a,b	1D1 9D101
"Use" "software" for "production facilities" for USML A2a-c,e,f	2D1 9D101
"Use" "software" for "production facilities" for USML A2d	2D1 7D101
"Use" "software" for USML A2c	2D2 9D104
"Use" "software" for USML A2d	2D3 7D101
"Use" "software" for MTCR 2a1b3	2D4 9D104
"Use" "software" for USML A2e	2D5 9D104
"Use" "software" for USML A2f	2D6 9D104
"Use" "software" for "production facilities" for MTCR 3B1	3D1 9D101
"Use" "software" for "production facilities" for MTCR 3B3	3D1 2D101
"Use" "software" for MTCR 3A1,2,4,5,6,9	3D2 9D104
"Development" "software" for MTCR 3A2,3,4	3D3 9D001
"Use" "software" for MTCR 4B fir "production" of MTCR 4C	4D1 1D101
"Use" "software" for MTCR 6B1	6D1 1D101
"Use" "software" for MTCR 6B3,4,5	6D2 2D101
"Use" "software" for MTCR 9A or 9B1	9D1 7D101
"Use" "software" for MTCR 9B2	9D1 2D101
Integration "software" for MTCR 9A1	9D2 7D102a
Integration "software" for MTCR 9A6	9D3 7D102b

Integration “software” for MTCR 9A7	9D4 7D102c
“Use” “software” for MTCR 10A1, 10A2, or 10B1	10D1 7D101
“Use” “software” for MTCR 10A3	10D1 9D101

“Use” “software” for MTCR 11A1,11A2	11D1	7D101
“Use” “software” for MTCR 11A4	11D1	3D101
“Use” “software” for MTCR 11A3	11D2	7D101
“Use” “software” for MTCR 12A1	12D1	9D104
“Software” to determine vehicle position throughout flight path	12D2	6D103
“Use” “software” for MTCR 12A4	12D3	5D101
“Use” “software” for MTCR 12A5	12D3	6D102
“Use” “software” for MTCR 15B1	15D1	2D101
“Use” “software” for MTCR 15A2,3,4	15D1	9D101
“Use” “software” for MTCR 15A5	15D1	3D101
Modeling, simulation, design integration “software”	16D1	9D103
		7D103
Reduced observables “software”	17D1	1D103
Coordination “software”	19D1	9D105
“Use” “software” for MTCR 20B1	20D1	9D101
“Use” “software” for MTCR 20A1b	20D2	9D104

E Technology

(dpu means “development”, “production”, or “use” technology)

Production technology for USML A1 or D1	1E1	9E101
dpu MTCR 1B1 abd 1D1	1E1	9E101
Production technology for USML A2a,b,c,e,f	2E1	9E101
Production technology for USML A2d	2E1	7E101
dpu MTCR 2A1b1,2,3; 2B1, 2B2; and 2D1 therefor	2E1	9E101
dpu MTCR 3A1-6,9, 3B1, 3B2, 3C1, 3D! For 3B1, 3D2, 3D3	3E1	9E101
dpu MTCR 3B3, 3D1 fir 3B3	3E1	2E101
dpu MTCR 4B, 4C	4E1	1E101
dpu MTCR 6A1,2, 6B1,2, 6C2-9, 6D1	6E1	1E101
dpu MTCR 6B3,4,5, 6D2	6E1	2E101
dpu MTCR 6A1	6E1	9E101
autoclave or hydroclave regulation	6E2	1E103
producing pyrolytically derived materials	6E3	1E104
dpu MTCR 9A, 9B1, 9D1 for 9A and 9B1, 9D2,3,4	9E1	7E101
dpu MTCR 9B2 and 9D! For 9B2	9E1	2E101
integration fuselage, ppropulsion system, lifting control surfaces	10E1	1E105
dpu MTCR 10A1,2, 10B1, 10D1 therefor	10E3	7E101
dpu MTCR 10A3, 10D1 for 10A3	10E3	9E101
protect avionics against EMP and EMI	11E1	7E102
dpu MTCR 11A1, 11D1 for 11A1	11E2	6E101
dpu MTCR 11A2,3, 11D1 for 11A2, 11D2 for 11A3	11E2	7E101
dpu MTCR 11A4, 11D1 for 11A4	11E2	3E101

dpu MTCR 12A1,2, 12D1 for 12A1 12E1 9E101

dpu MTCR 12A3,5, 12D2, 12D3 for 12A5	12E1 6E101
dpu MTCR 12A4, 12D3 for 12A4	12E1 5E101
dpu MTCR 13A1	13E1 4E001
dpu MTCR 14A1	14E1 3E101
dpu MTCR 15B1, 15D1 for 15B1	15E1 2E101
dpu MTCR 15B2,3,4. 15D1 for 15B2,3,4	15E1 9E101
dpu MTCR 15B5	15E1 3E101
dpu MTCR 16A1	16E1 9E101
dpu MTCR 17A1, 17C1, 17D1	17E1 1E101
dpu MTCR 17B1	17E1 6E101
dpu MTCR 18A1	18E1 3E101
dpu MTCR 18A2,3	18E1 6E101
dpu MTCR 19A1,2,3	19E1 9E101
dpu MTCR 20A1, 20B1,2, 20D1,2	20E1 9E101

Related Definitions:

"Circular Error Probable": In a circular normal distribution, the radius of the circle containing 50 percent of the individual measurements being made, or the radius of the circle within which there is a 50 percent probability of bine g located.

"Missiles": Rockets rated for a 'range' of 300 km or greater and a 'payload' of 500 kg or greater.

"Missile subsystems" The following "required" for "missiles"

a. Individual rocket stages;

b. Re-entry vehicles

c. Solid propellant rocket motors or liquid propellant rocket engines rated for a total impulse capacity of 1.1×10^6 N/s (2.5×10^5 lb.s) or greater

d Guidance sets rated for system accuracy of 3.33% or less of the 'range' (e.g. i.e., a 'circular error probable' (CEP) of 10 km or less at a 'range' of 300 km)

e Thrust vector control sub-systems, including the following methods of achieving control:

1. Flexible nozzle
2. Fluid or secondary gas injection;
3. Movable engine or nozzle;
4. Deflection of exhaust gas stream (jet vanes or probes);
5. Thrust tabs.

f Weapon or warhead safing, arming, fuzing, and firing mechanisms.

"Payload": The total mass that can be carried or delivered by the specified rocket system or unmanned aerial vehicle (UAV) system that is not used to maintain flight.

“Range”: The maximum distance that the specified rocket system or unmanned aerial vehicle (UAV) system is rated to travel in the mode of stable flight as measured by the projection of its trajectory over the surface of the Earth.

Individual USML Categories

What follows for individual USML Categories does not repeat above recommended MTCR USML items.

Delete Groups B and G (munitions production or manufacturing) from all USML Categories.

Delete Group C (materials) except in Categories V and XIV. This assumes that structural materials are subject to the EAR unless sufficiently fabricated to be identified as a "required" USML Group A item.

In Group D, identify specific software where possible, such as MTCR 1D2 and 16D1. Otherwise, where applicable, limit software to that "required" for "development" or the repair or overhaul portions of "use" for Group A items.

In Group E, identify specific technology where possible, such as MTCR 10E2. Otherwise, where applicable, limit technology to that "required" for "development" or the repair or overhaul portions of "use" for Group A items.

The following portions of Category XIV would be Tier 1a, by being on CWC Schedule 1:
a.1, a.3, c.1-4
"Development" technology would be Tier 2b in each Category.
Development aircraft in Category VIII.f would be Tier 2b.
Category XVIII (to the extent development prospects are sufficiently bright to continue this on an export control list) would be Tier 2b.

All other items recommended for retention on the USML would be Tier 1d. Tier 2 or Tier 3a, depending on foreign availability.

The following suggestions for individual USML Categories refer to existing texts by existing letters and numbers.

Category I

A. Equipment, Assemblies, and Components

(c) Delete unless "special military application" can be changed to technical description
(d) Combat shotguns. This includes any shotgun with a barrel length less than 18 inches
(e) ... and their specially designed, modified or adapted components and parts "required" therefor
(f) Riflescopes manufactured to military specifications (substitute some technical description, bearing in mind the Pulungan court case)
(h) Delete, on the assumption that (e) and (g) include the significant components.

Related Controls:(1) Category I does not cover BB, pellet, or muzzle-loading (black powder)

firearms or belts, slings, rubber grips, or cleaning kits. (2) See 123.17 and 123.18 for license exemptions. (3) See CCL ECCN 0A984 for other controlled shotguns and 0E984 for technology "required" therefor...

. (Delete Note)

Related Definitions: (Amend (j) to relate the definitions to the controls.)

Category II

A. Equipment, Assemblies, and Components

(b) Flame throwersspecifically designed or modified for military applications.
(If there are any non-military applications, add a technical specification to exclude them.)

(e) Signature control materials (e.g., parasitic, structural, coatings, screening) techniques, and equipment specifically designed, developed, configured, adapted or modified "required" to alter or reduce the signature ...

(f) Engines specifically designed or modified "required" for ...

(g) Tooling and equipment specifically designed or modified for the production of defense articles controlled by this category.

... specifically designed or modified "required" ...

(j) All other components, parts, accessories, attachments and associated equipment specifically designed or modified for the articles in paragraphs (a) through (I) of this category.This includes but is not limited to mounts and carriages for the articles controlled in this category....

(l)(1) The kinetic energy weapons systems in paragraph (d) of this category include but are not limited to are: ...

(2) The articles in this category include any end item, component, accessory, attachment part, firmware, software or system that has been designed or manufactured using technical data and defense services controlled gy this category.

(3) The articles specifically designed or modified for military application controlled in this category include anyarticle specificallydeveloped, configured, or adapted for military application.

Category III

A. Equipment, Assemblies, and Components

(b) ... specifically designed or modified "required" ...

(c) ... specifically designed or modified "required" ...

(d) Components, parts, accessories, attachments and associatedequipment specifically designed or modified for this articles in this category as follows:

(1) Guidanced and control components for the articles in paragraph(a) of this category;

(2) Safing, arming and fuzing components (including target detection and localization devices) for the articles in paragraph (a) of this category; and

A. Equipment, Assemblies, and Components

(3) All other components, parts, accessories, attachments and associated equipment for the articles in paragraphs (a) through (c) of this category, as follows:. (f)(1) The components, parts, accessories and attachment controlled in this category include, but are not limited to cartridge cases, powder bags (or other propellant charges), bullets, jackets, cores, shells (excluding shotgun shells), projectiles (including canister rounds and submunitions therefor), boosters, firing components therefor, primers, and other detonating devices for the defense articles controlled in this category.

(f)(4) The articles in this category include any end item, component, accessory, attachment part, firmware, software or system that has been designed or manufactured using technical data and defense services controlled gy this category.

(5) The articles specifically designed or modified for military application controlled in this category includeany article specifically developed, configured, or adapted for military n pplic

Category IV

(The MTCR analysis above, as it relates to Category IV, is not repeated here.)

A. Equipment, Assemblies, and Components

(c) Apparatus, and devices, and materials for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles in paragraphs (a) and (b).

(f) Ablative materials ...

(h) All specifically designed or modified components, parts, accessories, attachments, and associated equipment "required" for the articles in this category, as follows:

Unless "required" components can be specified, IV(h) should be deleted.)

Category V

(The MTCR analysis above, as it relates to Category V, is not repeated here.)

C Materials

Va35, Vb7, Vc10, Vd12, Ve19, Vf21

(i)(3) The resulting product of the combination of any controlled or noncontrolled substance compounded or mixed with any item controlled by this subchapter is also subject to the controls of this category.

(This is far too broad. At least a % threshold would help.)

Category VI

A. Equipment, Assemblies, and Components

(a) ... and any vessels specifically designed or modified for military purposes. ...

(c) ... and other significant naval systems specifically designed or modified for combatant vessels.

(d) ... and controls "required" therefor.

(e) Naval nuclear propulsion plants, their land prototypes, and special facilties , machinery, device, component or equipment "required" for their construction, support, and or maintenance. This includes any machinery, device, component or equipment specifically developed,designed or modified for use in such plants or facilities.

(f) All specifically designed or modified components, parts, accessories, attachments, and associated equipment for the articles in paragraphs (a) through (e) of this category.

Category VII

(The MTCR analysis above, as it relates to Category VII, and the separate December 17 comments on "Category VII Revision" are not repeated here.)

Category VIII

(The MTCR analysis above, as it relates to Category VIII, is not repeated here.)

A. Equipment, Assemblies, and Components

(a) "Aircraft", including but not limited to (the definition of which includes helicopters), non-expansive balloons, drones, and lighter-than-air aircraft, which are specifically designd, modified, or equipped for military purposes, This includes but is not limited to the following military purposes: Gunnery, bombing, rocket or missile launching, electronic and or other surveillance, reconnaissance, refueling, aerial mapping, military liaison, cargo carrying or dropping, personnel dropping, airborne warning and control, and or military training (except trainer aircraft bearing "T" designations and using reciprocating engines or turbo-prop engines with less than 600 horsepower, see ECCN 9A018.a on the Commerce Control List).

(b) Military aircraft engines ...

(c) Cartridge-actuated devices utilized in for emergency escape of personnel and airborne equipment (including but not limited to airborne refueling equipment) specifically designed or modified for use with the from aircraft and engines of the types in paragraphs (a) and (b) of this category

(d) Launching and recovery equipment required for the articles in paragraph (a) of this category, if the equipment is specifically designed or modified for military use. ...

(e) Inertial navigation systems ...specifically designed, modified, or configured for military use and all specifically designed components, parts and accessories.

For other inertial reference systems and related components refer to Category XII(d) ECCNs 7A003 and 7A103 on the Commerce Control List.

Note: ... quartz rate sensors...

A. Equipment, Assemblies, and Components

(d) Developmental aircraft (Tier 2b), engines, and components thereof specifically designed, modified, or equipped for military uses or purposes , or developed principally with U.S. Department of Defense funding, excluding such aircraft, engines, and components subject to the jurisdiction of the Department of Commerce

Note: Development aircraft, engines, and components thereof, having no commercial application at the time of this amendment and which have been specifically designed for military uses or purposes, or developed principally with U.S. Department of Defense funding, will be considered eligible for a CCL license when actually applied to a commercial aircraft or commercial aircraft engine program. Exporters may seek to establish commercial application either on a casebycase basis through submission of documentation demonstrating application to a commercial program in requesting an export license application from Commerce in respect of a specific export or, in the case of use for broad categories of aircraft, engines, or components, a commodity jurisdiction from State.

(e) Ground effect machines (GEMS) specifically designed or modified for military use, (including but not limited to surface effect machines and other air cushion vehicles,.and all components, parts, and accessories, attachments, and associated equipment

(1) Components specifically designed or modified for use with such machines.

(For surface effect vehicles, see ECCN 8A001 on the Commerce Control List.)

, parts, accessories, attachments, and associated equipment (including ground support equipment) specifically designed or modified for the articles in paragraphs (a) through (d) of this category, excluding aircraft tires and propellers used with reciprocating engines.

Note. The Export Administration Regulations ... control any component, part, accessory, attachment, and associated equipment (including propellers) designed exclusively for civil, nonmilitary aircraft ... A nonSME component or part ... that is not controlled under another category of the USML, that is (a) standard equipment; (b) is covered by a civil aircraft type certificate .. issued by the Federal Aviation Administration for civil, nonmilitary aircraft (this expressly excludes military aircraft certificied as restricted and any type certification of Military Commercial Derivative Aircraft); and (c) is an integral part of such civil aircraft is subject to the jurisdiction of the EAR. In the case of any part or component designated as SME in this or any other USML category, a determination that such item may be excluded from USML coverage based on the three criteria above always requires a commodity jurisdiction determination by the Department of State under 120.4 of this subchapter. The only exception to this requirement is where a part or component designed as SME in this category was integral to civil aircraft prior to August 14, 2008. For such part or components, U.S. exporters are not required to seek a commodity jurisdiction determination from State, unless doubt exists as to whether the item meets the three criteria above (See 120.3 and 120.4 of this subchapter). Also, U.S. exporters are not required to seek a commodity jurisdiction determination from State regarding any nonSME component or part (as defined in 121.8(b) and (d) of this subchapter) that is not controlled under another category of the USML, unless

doubt exists as to whether the item meets the three criterai above (See 120.3 and 120.4 of this

subchapter). These commodity jurisdiction determinations will ensure compliance with this section and the criteria of Section 17(c) of the Export Administration Act of 1979. In The following observations on "standard" and "integral" are relevant in determining whether the first and third of the three criteria above have been met, consider whether the same item is common to both civil and military applications without modification of the item's form, fit, or function. Some examples of parts or components that are not common to both civil and military applications are tail hooks, rotodomes, and low observable rotor blades. "Standard equipment" is defined as a part or component manufactured in compliance with an established and published industry specification or an established and published government specification (e.g., AN, MS, NAS, or SAE). Parts and components that are manufactured and tested to established but unpublished civil aviation industry specifications and standards are also "standard equipment," e.g., pumps, actuators, and generators. A part or componeent is not standard equipmet if there are any performance, manufacturing or testing requirements beyond such specifications and standards Simply testing a part or component to meet a military specification or standard for civil purposes does not in and of itself change the jurisdiction of such part or component. Integral is defined as a part or component that is installed in an aircraft. In determining whether a part or component may be considered as standard equipment and integral to a civil aircraft (e.g., latches, fasteners, grommets, and switches) it is important to carefully review all of the criteria noted above. For example, a part approved solely on a non interference/provisions basis under a type of certificate issued by the Federal Aviation Administration would not qualify. Similarly, unique application parts or components not integral to the aircraft would also not qualify.

Related Controls: CCL ECCN 9E003 controls hot section technology.

121.3 Aircraft and related articles

I_n Category VIII, *aircraft* means aircraft designed, modified, or equipped for a military purpose , including aircraft described as demilitarized. All aircraft bearing an original military designation are included in Category VIII. However, the following aircraft are not included so long as they have not been specifically equipped, reequipped, or modified for military operations:.

Category IX

A. Equipment, Assemblies, and Components

(a) Training equipment specifically designed, modified, configured or adapted for military purposes, including but not limited to weapons system trainers, radar trainers, gunnery training devices, antisubmarine warfare trainers, target equipment, armament training units, pilot-less aircraft trainers, navigation trainers, and human-rated centrifuges

(b) Simulation devices required for the items covered by this subchapter.

(c) Tooling and equipment specifically designed ormodified for

~~(d) Components, parts, accessories, attachments, and associated equipment specifically controlled by this category.~~

the production of arcticles controlledby this category.

(d) Components, parts, accessories, attachments, and associated equipment specifically

designed, modified, configured, or adapted for the articles in paragraphs (a), (b) and (c) of this category.

(f) ... (2) The articles in this category include any end item, components, accessory, part, firmware, software or system that has been designed or manufactured using technical data and defense services controlled by this category. ...

(4) Category IX does not control military instrument flight trainers for other than combat simulation (see CCL ECCN 9A018.f).

Category X

A. Equipment, Assemblies, and Components

(a) Protective personnel equipment specifically designed, developed, configured, adapted, modified, or equipped for military applications. This includes but is not limited to, as follows: ...

(5) Atmosphere diving suits designed, developed, modified, configured, or adapted for use in rated for rescue operations involving submarines controlled by this subchapter;

(6) Helmets specially designed, developed, modified, configured, or adapted rated to be compatible with military communication hardware or optical sights or slewing devices

(7) Goggles, glasses, or visors designed rated to protect against lasers or thermal flashes discharged by an article subject to this subchapter..

(b) Permanent or transportable shelters specifically designed and modified rated to protect against the effect of articles covered by this subchapter as follows:

(c) Tooling and equipment specifically designed or modified for the production of articles controlled by this category.

(d) Components, parts, accessories, attachments, and associated equipment specifically designed, modified, configured, or adapted for use with the articles in paragraphs (a) through (c) of this category.

(f) ... (1) ... Type 1, Type 2, Type 2a, or Type 3a Type I, Type II, Type II-A, and Type III-A ...

(2) The articles in this category include any end item, components, accessory, part, firmware, software or system that has been designed or manufactured using technical data and defense services controlled bythis category.

Category XI

(The MTCR analysis above, as it relates to Category XI, is not repeated here.)

A. Equipment, Assemblies, and Components

(a) Electronic equipment ....specifically designed, modified, orconfigured for/ military application. This equipment includes but is not limited to "required" for the following:

(3) Radar systems, with capabilities such as

(In the absence of technical characteristics which would distinguish

military from non military applications. (a)(3) should be deleted.)

(4) ... (iii) Radios (including transceivers) specifically designed or modified to which interfere with other communication devices or transmissions.

(5) Command, control and communications systems to include radios (transceivers), navigation, and identification equipment.

(6) Computers specifically designed or developed for military application and any computer specifically modified for use with any defense article in any category of the U.S. Munitions List.

(7) Any experimental or developmental electronic equipment specifically designed or modified for militaryapplication or specifically designed or modified for use with a military system having no commercial application

(b) Electronic systems or equipment specifically designed, modified or configured for intelligence, security, or military purposes for use in search, reconnaissance, collection, monitoring, directionfinding, display, analysis, and production of information from the electromagnetic spectrum and electronic systems or equipment designed or modified to counteract electronic surveillance or monitoring. A system meeting this definition is controlled under this subchapter even in instances where any individual pieces of equipment constituting the system may be subjedt to the controls of another U.S. Government agency7. Such systems or equipment desicribed above include, but are not limited to, those:

(1) Designed or modified to use cryptographic techniques to generate the spreading code for spread spectrum or hopping code for frequency agility. This does not include fixed code techniques for spread spectrum.

(2) Designed or modified using burst techniques (e.g., time compression techniques) for intelligence, security or military purposes.

(3) Designed or modified for the purpose of information security to suppress the compromising emanations of information-bearing signals. This covers TEMPEST suppression technology and equipment meeting or designed to meet government TEMPEST standards. This definition is not intended to include equipment designed to meet Federal Communications Commission (FCC) commercial electro-magnetic interference standards or equipment designed for health and safety....

(See CCL ECCNs 5A980 for surreptitious interception equipment; 5A0011.b.3, 5A002.a.5, and 5E001.b.4 for spread spectrum; and 5A002.a.4 for TEMPEST.).

(c) Components, parts, accessories, attachments, and associated equipment specifically designed of modified for the articles in this category, except for wuch items as are in normal commercial use.

Category XII ...

(The MTCR analysis above, as it relates to Category XII, is not repeated here.)

A. Equipment, Assemblies, and Components

~~(b)~~ Lasers specifically designed, modified or configured for military application including those used in military communication devices, target designators and range finders, target detection systems, and directed energy weapons

(See CCL ECCNs .5E001.b.2 for laser communications technology; 6A008 for laser radar or Light Detection and Ranging; and 7A106 for laser radar altimeters. See Category XVIII for lasers in directed energy weapons.)

~~(c)~~ Infrared focal plane array detectors specifically designed, modified, or configured for military use; image intensification and other night sighting equipment or systems specifically designed, modified or configured for military use; , second generation and above military image intensification tubes (defined below) specifically designed, developed, modified, or configured for military use, and infrared, visible and ultraviolet devices specifically designed, developed, modified, or configured for military application Military second and third generation image intensification tubes and military infrared

focal plane arrays identified in this subparagraph are licensed by the Department of Commerce (ECCN 6A002A and 6A003A) when part of a commercial system (i.e., those systems originally designed for commercial use). This does not include any military system comprised of nonmilitary specification components. Replacement tubes or focal plane arrays identified in this paragraph being exported for commercial systems are subject to the controls of the ITAR.

Note: Special Definition ... second and third generation image intensification tubes ...

(See CCL ECCNs 6A002 for infrared focal plane arrays and 6A003 for cameras using such arrays/)

(d) Inertial platforms and sensors "required" for weapons or weapon systems; guidance, control and or stabilization systems except for those covered in Category VIII; astro compasses and star trackers and military accelerometers and gyros. For aircraft inertial reference systems and related components refer to Category VIII.

(See CCL ECCNs in category 7 for inertial navigation equipment.).

(e) Components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles in paragraphs (a) through (d) of this category, except for such items as are in normal commercial use.

Category XIII

(The MTCR analysis above, as it relates to Category XIII, is not repeated here.)

A. Equipment, Assemblies, and Components

'a' Cameras and specialized processing equipment therefor, photointerpretation, stereoscopic plotting, and photogrammetry equipment which are specifically designed, developed, modified, adapted, or configured for military purposes, and components specifically designed or modified therefor;

(CCL ECCNs 6A003, 6A203, 6A993, 8A002, and 8A992 cover cameras.)

(b) Military Information Security Assurance Systems and equipment, cryptographic devices, software, and components specifically designed, developed, modified, adapted, or configured for military applications (including command, control and intelligence applications). This includes:

(1) Military cryptographic (including key management) systems, equipment assemblies, modules, integrated circuits, components or software with the capability of maintaining secrecy or confidentiality of information or information systems, including equipment and software for tracking, telemetry and control (TT&C) encryption and decryption;

(2) Military cryptographic (including key management) systems, equipment assemblies, modules, integrated circuits, components of software which have the capability of generating spreading or hopping codes for spread spectrum systems or equipment;

(3) Military cryptanalytic systems, equipment, assemblies, modules, integrated circuits, components or software;

(4) Military systems, equipment, assemblies, modules, integrated circuits, components or software providing certified or certifiable multilevel security or user isolation exceeding Evaluation Assurance Level (EAL) 5 of the Security Assurance Evaluation Criteria and software to certify such systems, equipment or software;

(5) Ancillary equipment specifically designed, developed, modified, adapted, or configured for the articles in paragraphs (b)(1), (2), (3), and (4) of this category.

(CCL ECCN 5A002 covers information security items. Key management was an earlier control attempt which has been abandoned. Spread spectrum is explicitly controlled in 5A002.a.5. and cryptanalytic in 5A002.a.2.)

(c) Selfcontained diving and underwater breathing apparatus as follows:

(1) Closed and semiclosed (rebreathing) apparatus;

(2) Specially designed components and parts for use in the conversion of open circuit apparatus to military use;

(3) Articles exclusively designed for military use with selfcontained diving and underwater swimming apparatus.

(CCL ECCNs 8A002.h, 9A018.d, and 9A991.e control breathing equipment.)

(d) Carbon-carbon parts are reinforced with continuous unidirectional tows, tapes orwoven cloths in three or more dimensional planes (e.g. 3D, 4D) specifically designed, developed, modified, configured or adapted for defense articles.

(If the carbon-carbon were sufficiently fabricated to be recognizable as an equipment end-item or component, its export control status should be determined by the nature of that end-item or component, e.g., missile component vs. brakes for commercial aircraft or high speed trains. If not, its export control status should be subject to the EAR, rather than ITAR, because there is, inherently, no "bright line" to determine agency jurisdiction for such structural materials.)

(e) Armor (e.g., organic, ceramic, metallic), and reactive armor and components, parts and

accessories not elsewhere controlled by this subchapter which have been specifically designed, developed, modified, configured or adapted for a military application

(If the material suitable for armor were sufficiently fabricated to be recognizable as an equipment end-item or component, its export control status should be determined by the nature of that end-item or component, e.g., Category VII vehicle component or Category X protective personnel equipment vs. more benign uses.. If not, its export control status should be subject to the EAR, rather than ITAR, because such raw materials inherently cannot provide a critical, substantial, or significant military or intelligence advantage.)

(f) Structural materials, including carbon/carbon and metal matrix composites, plate, forgings, castings, welding consumables and rolled and extruded shapes that have been specifically designed, developed, configured, modified or adapted for defense articles

(See comment re XIII(d) above.)

(g) Concealment and deception equipment specifically designed, developed, modified, configured or adapted for military application, including but not limited to as follows: special paints, decoys, smoke or obscuration equipment and simulators and components, parts and accessories specifically designed, developed modified, configured or adapted therefor.

(CCL ECCN 1C001 controls special paints.)

(h) Energy conversion devices for producing electrical energy from nuclear, thermal, or solar energy, or from chemical reaction that are specifically designed, developed, modified, configured or adapted for military application.

(CCL ECCN 3A001.e contains many technical bases for determining export controls for such devices. No information is available to indicate a need for different technical specifications for an item on the USML.)

(i) Metal embrittling agents.

(The meaning of this term is not understood.)

(j) Hardware and equipment, which has been specifically designed or modified rated for military applications, that is associated with the measurement or modification of system m signatures of defense articles. This includes but is not limited to measurement equipment, data, techniques and signature treatments; and signature control design methodology. 7

(The first sentence of XIII(j) covers signature measurement equipment. Reduction techniques and design technology are covered by CCL ECCN 1E001. Signature materials are covered by CCL ECCNs 1A101, 1C001, and 1C101.)

(k) Tooling and equipment specifically designed or modified for the production of Aarticles1 controlled by this category. 0

(To remove concurrent jurisdiction.)

(m ... (1) Paragraph (d) of this category does not control carbon/carbon billets and d preforms where reinforcement fibers are limited to one or two dimensions, or carbon/carbon 3D and 4D preforms that have been specifically designed o modified for military r applications (e.g., brakes for

commercial aircraft or high speed trains); 1

A. Equipment, Assemblies, and Components

(a) Chemical agents, to include as follows:

(b) Biological agents and biologically derived substances specifically designed, developed, configured, adapted, or modified for the purpose of increasing their capability to produce casualtiesin humans or livestock, degrade equipment or damage crops as follows:

(List biological agents not covered by 1C351 to 1C354 or 1C360, if any, which should be controlled. If none, delete XIV(b).)

Related Controls: See CCL ECCNs 1C351 to 1C354 and 1C360.

(d) Tear gases and riot control agents including as follows:

(3) Formulation containing more than 1 percent of CN ...

Related Controls: See CCL ECCN 1A984. (5)

Formulation containing more than 1 percent of CS ...

Related Controls: See CCL ECCN 1A984.

(f) [illegible]

or modified for military operations and compatibility with military equipment as follows:

...

(2) The detection, identification, warning or monitoring of the chemical agents and biological agents listed in paragraph (a) and (b) of this category

(In the absence of a technical basis to distinguish jurisdiction, ECCNs 1A004 and 2B351 appear to be the reasonable way to control such equipment.)

(g) Antibodies, polynucleoides polynucleotides, biopolymers or biocatalysts specifically designed or modified for use with "required" for articles controlled in paragraph (f) of this category

(h) Medical countermeasures, to include pre and posttreatments, vaccines, antidotes and medical diagnostics, specifically designed or modified for use with the chemical agents listed in paragraph (a) of this category and vaccines with the sole purpose of protecting against biological agents identified in paragraph (b) of this category. Examples include barrier creams specifically designed to be applited to skin and personal equipment to protect against vesicant agents controlled in paragraph (a) of this category; atropine auto injectors specifically designed to counter nerve agent poisoning.

(i) Modeling or simulation tools specifically designed or modified "required" for chemical or biological weapons design, development, or employment. The concept of modeling and simulation includes software covered by paragraph (m) of this category specifically designed to reveal susceptibility or vulnerability to biological agents or materials listed in controlled by paragraph (b) of this category.

(If nothing is listed in paragraph (b), the reference should be to the applicable agents controlled on the CCL.)

(j) Test facilities specifically designed or modified for the certification and qualification of articles controlled in paragraph (f) of this category.

(Test facilities are part of CCL-controlled munitions production equipment.)

(k) Equipment, components, parts, accessories, and attachments, exclusive of incinerators (including those which have specially designed waste supply systems and special handling facilities), specifically designed or modified "required" for destruction of the chemical agents in paragraph (a) or the biological agents in paragraph (b) of this category. This destruction equipment includes facilities specifically designed or modified for destruction operations.

(l) Tooling and equipment specifically designed or modified for the production of articles controlled by paragraph (f) of this category.

(n) ... (1) A chemical agent in category XIV(a) is a substance having military application, which by its ordinary and direct chemical action, produces a powerful physiological effect.

~~(2)~~ The biological agents or biologically derived substances in paragraph (b) of this category are those agents and substances capable of producing casualties in humans or livestock, degrading equipment or damaging crops and which have been modified for the specific purpose of increasing such effects. Examples of such modifications include increasing resistance to UV radiation or improving dissemination characteristics. This does not include modifications made only for civil applications (e.g., medical or environmental use).

~~(3)~~ The destruction equipment controlled by this category related to biological agents in paragraph (b) is that equipment specifically designed to destroy only the agents identified in paragraph (b) of this category.

(Use of the word "required" in (k) above makes (n)(3) redundant.):

(4)(i) The individual protection against the chemical and biological agents controlled by paragraph (f) of this category includes military protective clothing and masks, but not those items designed does not control items rated for domestic preparedness (e.g., civil defense) items. Domestic preparedness devices for individual protection that integrate components and parts identified in this subparagraph are licensed by the Department of Commerce when such components are:

(A) integral to the device
(B) Inseparable from the device; and
(C) incapable of replacement without compromising the effectiveness of the device.

Related Controls: See CCL ECCN 1A004.)

~~(ii)~~ Components and parts identified in this subparagraph exported for integration into domestic preparedness devices for individual protection are subject to the controls of the ITAR;

(5) Related Definition: Technical data and defense services in paragraph (l) include libraries, databases and algorithms specifically designed or modified for use with articles controlled in paragraph (f) of this category.

~~(6)~~ The tooling and equipment covered by paragraph (l) of this category includes molds used to produce protective masks, overboots, and gloves controlled by paragraph (f) and leak detection equipment specifically designed to test filters controlled by paragraph (f) of this category.

(7) The resulting product of the combination of any controlled or noncontrolled substance compounded or mixed with any item controlled by this subchapter is also subject to the controls of this category.

Note 1. This Category does not control formulations containing 1% or less CN or CS or individually packaged tear gases or riot control agents for personal and self defense purposes.
Note 4. Related Controls: With respect to U.S. obligations under the Chemical Weapons Convention (CWC), refer to Chemical Weapons Convention Regulations (CWCR) (15 CFR parts 710 through 722, 742.2, 744.4, 744.6, and 745 and ECCNs 1C350.b, 1C355, 1C395, 1C995, 1D390, 1E001, 1E350, and 1E355 on the Commerce Control List). ...

Category XV

(The MTCR analysis above, as it relates to Category XV, is not repeated here.)

A. Equipment, Assemblies, and Components

(a) Spacecraft, including ... satellites, excluding international space station
Related Controls: See CCL ECCNs 9A004 and 9A104.

(c) Global Positioning Navigation Satellite System (GPS) (GNSS) receiving equipment with any of the following characteristics:

(1) Designed for encryption or decryption (e.g., Y code of GPS precise positioning service (PPS) signals Employing a decryption algorithm "required" for government use to access the ranging code for position and time;

(2) Designed for pProducing navigation results above 60,000 feet altitude and at 600 m/s (1,000 1,165 knots) velocity or greater;

(3) Specifically designed or modified for use with a null steering antenna or including a null steering antenna designed to reduce or avoid jamming signals Employing 'adaptive antenna systems';

Technical Note: 'Adaptive antenna systems' dynamically generate one or more spatial nulls on an antenna array pattern by signal processing in the time domain or frequency domain.

(Above revisions in (c)(1), (c)(2), (c)(3), and Technical Note were agreed in Wassenaaar December 2009.)

(4) Designed or modified for use with unmanned air vehicle systems capable of delivering at least a 500 kg payload to a range of at least 300 km rated for a "range" of 300 km or greater and a "payload" of 500 kg or greater..

Note. GPS receivers designed or modified for use with military unmanned air vehicle cl-las»»7:11-is dmn r are n As» :der01[1] to be eci-gcally desi ed vssesel;+.1.el cyS3,111sV•14111esl3,C4pabi4y vlist W M . , 1 1 = 1 ,/ % 1 1 1 1 , , L o 1 configured for military use and therefore covered under this paragraph (d)(4). ...

Note: Paragraph (c) of this category does not control GNSS receiving equipment that only uses components to filter, switch or combine signals from multiple omni-directional antennae that do not implement adaptive antenna techniques.

(d) Radiationhardened microelectronic circuits that meet or exceed all five of the following

characteristics: ...
(CCL ECCN 3A001.a.1.a covers these same radiation-hardened microelectronic circuits. Although USML XV(d) consists of a technical defined "bright line" to differentiate agency jurisdiction, this "bright line" does not in fact differentiate between predominant military and predominant civil use.)

(e) All specifically designed or modified systems or subsystems, components, parts, accessories, attachments, and associated equipment for the articles in this category, including tThe articles identified in section 1516 of Public Law 105-261: satellite fuel ground support equipment, test equipment, payload adapter or interface hardware, replacement parts and non-embedded solid propellant orbit transfer engines

Related Controls:. (see also categories IV and V in this section and ECCN 9A004 on the Commerce Control List)

Note: This coverage by U.S. Munitions List does not include the following unless specifically designed or modified for military application. (see 120.3 of this subchapter): (For controls on these items see the Export Administration Regulations, Commerce Control List (15 CFR Parts 730 through 799 774).)

(6) Space qualifieed telecommunications systems, equipment and components not designed or modified for satellite uses not rated for satellites.

(7) Technology required for the development or production of telecommunications equipment specifically designed for nonsatellite uses not rated for satellites.

(Repeal of section 1516 of Public Law 105-261:is recommended, in order to improve the "bright line" between ITAR and EAR jurisdiction for Category XV Group A.)

E. Technology

(f) Technical data ... directly related to "required" for the defense articles enumerated designated in paragraphs (a) through (e) of this category, as well as detailed design, development, manufacturing or production data for all spacecraft and specifically designed or modified components for all spacecraft systems. This paragraph includes all technical data, without exception, for all launch support activities (e.g., technical data provided to the launch provider on form, fit, function, mass, electrical, mechanical, dynamic, environmental, telemetry, safety, facility, launch pad access, and launch parameters, as well as interfaces for mating and parameters for launch.)

Related Controls: (See 124.1 for the requirements for technical assistance agreements before defense services may be furnished even when all the information relied upon by the U.S. person in performing the defense service is in the public domain or is otherwise exempt from the licensing requirements of this subchapter.) Technical data directly related to the manufacture or production of any defense articles enumerated elsewhere in this category that are designated as Significant Military Equipment (SME) shall itself be designated SME. Further, technical data directly related to the manufacture or production of for all spacecraft except for the International Space Station, notwithstanding the nature of the intended end use (.e.g., even where the hardware is not SME), is designated SME

is controlled.
~~Note~~ Related Controls: The special export controls contained in 124.15 of this subchapter are always required before a U.S. person may participate in a launch failure investigation ... Such special export controls also may be imposed with respect to any destination ...

(Repeal of section 1516 of Public Law 105-261:is recommended, in order to improve the "bright line" between ITAR and EAR jurisdiction for Category XV Group E.)

Category XVI

(The MTCR analysis above, as it relates to Category XVI, is not repeated here.)

A. Equipment, Assemblies, and Components

~~(a)~~ Any article, material, equipment, or device which is specifically designed or modified for use in the design, development, or fabrication of nuclear weapons or nuclear explosive devices.
Related Controls: See 123.20 of this subchapter and Department of Commerce Export Administration Regulations, 15 CFR 742.3 and 744.2 and all CCL ECCNs designated NP (Nuclear Proliferation) as reason for control.

Section 123.20

(a) The provisions of this subchapter do not apply to ... Category VI() and XVI ... to the extent such equipment, technical data, or services items are under the export control of the Department of Energy or the Nuclear Regulatory Commission or the Department of Commerce pursuant to the Atomic Energy Act ...

Definition of Weapons of Mass Destruction in Category VII Revision:

... This includes, but is not limited to:

(A) Nuclear explosive devices and their major subsystems Nuclear weapons as described and controlled by the Department of Energy

(Category XVI(a) is controlled for nuclear weapons by the Department of Energy; for nuclear materials by NRC (see reference to NRC inCCL ECCN 1C012); and for items of significance for nuclear explosives by the Department of Commerce. Section 309(c) of the Nuclear Non-Proliferation Act of 1978 provides for

"control by the Department of Commerce over all export items, other than those licensed by the [Nuclear Regulatory] Commission, which would be, if used for purposes other than those for which the export is intended, of significance for nuclear explosive purposes."

There is no apparent need for involvement by the Department of State as a fourth agency. However, it is not clear whether the Department of Energy export controls cover XVI(a), or indeed whether any agency controls the export of nuclear weapons themselves! But it was surely not intended that all CCL NP items be moved to the USML or that all such items be construed to be WMD and

in Tier 1a.)

(b) Any article, material, equipment, or device which is specifically designed or modified for use in the devising, carrying out, or evaluating of nuclear weapons tests or any other nuclear explosions (including for modeling or simulating the employment of nuclear weapons or the integrated operational use of nuclear weapons), except such items as are in normal commercial use for other purposes.

(Recommended deletion is based on the assumption that DoE, NRC, and DoC export controls cover, or are intended to cover, what is described. One supposes that DoE, as the agency responsible for nuclear weapons, controls items "required" for evaluating nuclear weapons tests. However, a specific citation has not been found.)

(c) Nuclear radiation detection and measurement devices specifically designed or modified formilitary applications.

Related Controls: See CCL ECCNs 6A102 and 1A999.a for radiation detection and measurement.

(d) All specifically designed or modified ecomponents and parts, accessories, attachments, and associated equipment for thearticles in this category

Category XVII Classified Articles, Technical Data and Defense Services Not Otherwise Enumerated

(a) All articles, technical data (as defined in 120.10 of this subchapter) and defense services (as defined in 120.9 of this subchapter) relating thereto which are classified in the interests of national security and which are not otherwise enumerated in the U.S. Munitions List.

(Category XVII is an empty box. All the relevant articles, technical data, and defense services are otherwise designated in other categories in the U.S. Munitions List. The other categories cover such items whether or not they are "classified in the interests of national security.")

Category XVIII

A. Equipment, Assemblies, and Components

(Robert L. Park, Director of the Washington Office of the American Physical Society, writes on pp. 187-188 of Voodoo Science copyright 2000:

" ... many scientists ... questioned whether s0-called directed-energy weapons (DEW) were feasible. (A study panel), headed jointly by Professor Nicolass Bloembergen of Harvard, who won the Nobel Prize in 1981 for his research with lasers, and Dr. Kumar Patel, the director of research at Bell Laboratories and the inventor of the CO_2 laser, (concluded, on April 23, 1987) in an unclassified version of "The Science and Technology of Diected Energy Weapons" ... that at least ten years would be needed just to determine if the

concept was feasible - and it did not look promising."

This suggests that inclusion of Category XVIII on the USML is questionable.)

(a) Directed energy weapon systems specifically designed or modified for military applications (e.g., destruction, degradation or rendering mission-abort of a target). These include, but are not limited to , as follows:

(1) Laser systems, including continuous wave or pulsed laser systems, specifically designed or modified"[1] rated to cause blindness;

(9) Systems capable or assessing rated to damage or destroy targets, abort missions, or assess target damage, destruction or mission-abort

(11) Equipment with rapid beam slew capability rated to slew beams rapidly for rapid multiple target operations;

(b) Equipment specifically designed or modified "required" for the detection or identification of, or defense against, articles controlled in paragraph (a) of this category

(c) Tooling and equipment specifically designed or modified for the production of defense articles controlled by this category.

(d) Test and evaluation equipment and test models specifically designed or modified "required" for the defense articles controlled by this category. ...

(e) Components, parts, accessories, attachments and associated equipment specifically designed or modified for the articles in paragraphs (a) through (d) of this category

Adaptive optics, phase conjugators, space-qualified accelerators, targets, target diagnostic equipment, current injectors for negative hydrogen ion beans, and space-qualified foils for neutralizing negative hydrogen isotope beams

(g) ... (1) The components, parts, accessories, attachments and associated equipment include, but are not limited to, adaptive optics and phase conjugators components, and accelerator components, targets and specifically designed diagnostic, current injectors for negative hydrogen ion beans, and space qualified foils for neutralizing negative hydrogen isotope beams.

(2) The particle beam systems in paragraph (a)(3) of this category include devices embodying particle beam and electromagnetic pulse technology and associated components and subassemblies (e.g., ion beam current injectors, particle accelerators for neutral or charged particles, beam handling and projection equipment, beam steering, fire control, and pointing equipment, test and diagnostic instruments, and targets) which are specifically designed or modified required for directed energy weapons applications

(3) The [illegible] components, accessories, attachments, software and associated equipment specifically designed or modified for articles controlled by this category

~~(4)~~ The aids specifically designed or modified for any application under this category include any aids specifically developed, configured, or adapted for any application.

Categoru XX Submersible Vessels, Oceanographic and Associated Equipment Swimmer Delivery Vehicles

A. Equipment, Assemblies, and Components

(a) Submersible vessels, manned or unmanned, tethered or untethered, designed or modified for military purposes, or powered by nuclear propulsion plants (Also see ECCN 8A001 on the Commerce Control List.)

(No need to supplement CCL ECCN 8A001 controls is presented.)

(b)Swimmer delivery vehicles designed or modified for military purposes.

(No need to supplement CCL ECCNs 8A002.q and 8A992.h is presented.)

(c)Equipment, components, parts, accessories, and attachments specifically designed or modified for any of the articles in paragraph (a) and (b) of this category.

Category XXI

A. Equipment, Assemblies, and Components

(a) Any article not specifically enumerated in the other categories of the U.S. Munitions List which has substantial military applicability and which has been specifically designed, developed, configured, adapted, or modified for military purposes. The decisions on whether any article may be included in this category shall be made by the Director, Office of Defense Trade Controls Policy.

(Retention of Category XXI would undermine the objective of a "bright line" to distinguish EAR from ITAR jurisdiction.)

January 31, 2011

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

From: Bill Root 301 987 6418; waroot23@gmail.com

Subject: License Exception STA Proposed Rule RIN 0694-AF03;
Notice of Inquiry - CCL;
USML - Positive List; and
Category VII Revision

Ten separate documents sent with this email contain comments on each of the ten categories of the Commerce Control List (CCL). These are relevant to each of the four requests for public comments listed in the subject line of this message.

An eleventh document addressing ANPRM USML - Positive List is also attached. This includes detailed recommendations for State or Commerce jurisdiction for each MTCR item or portion thereof and positive list and bright line jurisdictional recommendations for each Category on the USML.

License Exception STA

The ten CCL category documents describe in detail the applicability, or inapplicability, of STA to each ECCN or part thereof.. They include the precise countries of applicability and the reasonableness of using License Exceptions GBS, CIV, TSR, APP, or ENC as an alternative to STA. It is strongly urged that the CCL be similarly annotated in the final STA rule.

Based only on the December 9 proposed rule, a great deal of research is required to figure out this information. Each of the many members of the public and many government officials who must understand this rule should not have to conduct this painstaking research separately. If they did, it is almost certain that many different, and conflicting, conclusions would be reached.. For example, even some former high officials in BIS seem to believe, incorrectly, that the "STA exclusion" ECCNs are ineligible for STA to (c)(1) countries as well as to (c)(2) countries. Many others probably believe, also incorrectly, that ECCNs would be ineligible for STA if controlled for more than the six specified reasons for control to (c)(1) or more than NS to (c)(2). However, the applicability of STA to "transactions" makes exports of ECCNs controlled for additional reasons STA-eligible if to those (c)(1) or (c)(2) countries without an X on the Country Chart for those additional reasons.

Notice of Inquiry - CCL

The ten documents for each CCL Category respond to the request for comments on how to make the CCL more clear and "positive." This includes recommended deletions of unclear terminology

such as “specially designed”, “specially designed or modified”, “designed”, “capable of”, “having”, “with”, “usable”, “used for”, “used in”, “parts”, “accessories”, “attachments”, “associated equipment”, etc.. Recommended substitute terms are, in most cases, “required” or rated. The existing Wassenaar definition of “required” would be expanded to apply that term to commodities and software in addition to technology. Published documents record rated specifications.

It is recommended that the vast majority of ECCNs on the CCL be included in Tier 3.c (controlled for national security, foreign policy, or human rights reasons). For this reason, the descriptions of individual ECCNs in the ten documents for each CCL category do not repeat this recommendation in the hundreds of instances where it applies. Comments on other Tiers follow:

Tier 1.a (Weapons of Mass Destruction) Part A Nuclear weapons: (Presumably DoE controls these. However it is not evident that they are on the export control list of any U.S. agency).

Tier 1.a (WMD) Part (B) Chemicals covered by Schedule 1 of the Chemical Weapons Convention: 1C351.d.5 and d.6 (remainder of CWC Schedule 1 is USML)

Tier 1 a (WMD) Part (C) Biological agents: remainder of 1C351 and 1C352 to 1C354 (This may be too broad. However, these ECCNs are the only U.S. export control items which list explicit biological agents and they do not now distinguish between WMD and non-WMD agents.)

Tier 1.b (WMD-capable unmanned delivery system): 9A104 and 9A112 (9A120 renumbered) (The eleventh document re USML - Positive List contains detailed recommendations for jurisdiction for each MTCR item. “Missiles” and UAVs range 300 km payload 500 kg would be USML; rockets and UAVs range 300 km payload less than 500 kg would be CCL. However, this eleventh document also recommends that Tier 1.b be redefined as “missiles” 300 km payload 500 kg.)

Tier 1.c (production) (i) WMD (A) nuclear (DoE and NRC)
Tier 1.c (production) (i) WMD (B) CWC Schedule 1 (No existing control found. 2B350 is for production of 1C350 precursors)
Tier 1.c (production) (i) WMD (C) biological (No existing control found. 2B351, 2B352, and Category XIV(f) indirectly relevant)
Tier 1 c (production (ii) special nuclear materials (DoE and NRC)
Tier 1 c (production (iii) WMD delivery systems (No existing control. Recommend expansion of 9B116 to cover MTCR 1.B.1)
Tier 3.a (significant intelligence advantage): 5A980, 5D980, 5E980;
Tier 3.b (significant contribution to production of Tier 1, 2, 3:
2B018, 2D018, 2E018, 7B103, 9B115, 9B116 plus potentially all other xB0xx, xB1xx, xB2xx, xB3xx and related software and technology. Also see recommended 744 munitions production end-use control..
Tier 3.c all other retained ECCNs (several xx99x are recommended candidates for deletion)

USML - Positive List

The 10 documents for CCL categories are also relevant to the USML - Positive List.. Conversely, the eleventh document on MTCR and USML Categories is also relevant to the CCL They include many recommendations to revise existing CCL annotations or USML texts concerning State vs. Commerce jurisdiction. Many recommendations are in response to the desired jurisdictional "bright line."

Category VII Revision

The 10 documents for CCL categories and the eleventh concerning USML are also relevant to Category VII Revision. My December 17 comments on Category VII Revision included extensive information on specially designed and on munitions production, which are relevant to the CCL and USML recommendations now being submitted. Today's comments constitute a revision to the December 17 Category VII Revision recommendation that armor be treated as a material rather than a component. Today's comments suggest that materials be CCL jurisdiction and that USML become involved only if fabrication has proceeded sufficiently to recognize the item as a component of an item on the USML for some reason other than the materials used. Therefore, please revise my December 17 comments to show armor as component rather than material.

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 0

0A001 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
... specially designed or prepared for use in connection with: "required" for

0A002 STA(c)(1) N/A (ITAR)
STA(c)(2) N/A
... specially designed for use with "required" for
... 22 CFR part 121 Categories VI(e) and XV(e)
Related Controls: See ECCN 2A290.

0A018 STA(c)(1) Yes
STA(c)(2) Yes
UN applies ... and Rwanda
LVS ... $0 for Rwanda
Items
a. Construction equipment built to military specifications, specially designed "required" for airborne transport items on the United States Munitions List and specially designed components "required" therefor Tier 3
(Proposed revision of WML 17.b, which now reads "Construction equipment specially designed for military use.")
b. Specially designed components and parts "required" for ammunition ... (Also see 770.2(g) re ITAR vs. EAR jurisdiction for scrap ammunition components). Tier 3
c. Muzzle loading (black powder) firearms.
(Muzzle-loading firearms are not on the WML.)

0A918 STA(c)(1) Yes to Argentina, South Korea, Ukraine
(RS2 NLR to all other (c)(1) countries)
STA(c)(2) N/A
UN applies ... and Rwanda
LVS ... $0 for Rwanda
Items
a. Power controlled searchlights and control units therefor, designed for military use, and equipment mounting such units, and specially designed parts and accessories components "required" therefor Tier 3
b. Bayonets Tier 3

0A919 STA(c)(1) Yes (Canada only NS1 NLR)
STA(c)(2) N/A
Military commodities described on the United States Munitions List as follows Tier 2
UN applies to entire entry Rwanda 746.7 of the EAR

Related Controls: (1) Military commodities ... (2) Military commodities....
Items: "Military commodities" Commodities with all of the following characteristics:
a Described on either the United States Munitions List (22 CFR part 121) or the Export Controlls for Conventional Arms and Dual Use Goods and Technologyies ((as set out in website at http://www.wassenaar.org) But not any item listed in an Export Control Classification Number for which the last three characters are 018 (ECCNs xx018 are supposed to cover all Wassenaar Munitions List items not on the United States Munitions List.)

...

0A978 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, and Ukraine (CC1 NLR to all other (c)(1) countries)
STA(c)(2) N/A

0A979 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, and Ukraine (CC1 NLR to all other (c)(1) countries)
STA(c)(2) N/A
Police helmets and shields; and parts, n.e.s.
(There are probably no parts of helmets and shields which are of sufficient concern to warrant separate controls. Neither 0A018.ds nor 0A988 helmet controls cover parts.)
Related Controls: N/A See also 0A018, 0A988, and USML Category X(a).

0A980 STA(c)(1) N/A (SS)
STA(c)(2) N/A

0A981 STA(c)(1) N/A (ineligible ECCN)
STA(c)(2) N/A

0A982 STA(c)(1) N/A (ineligible ECCN)
STA(c)(2) N/A
... and parts and accessories, n.e.s. components "required" therefor

0A983 STA(c)(1) N/A (ineligible ECCN)
STA(c)(2) N/A
Specially designed implements of torture, thumbscrews thumbcuffs, fingercuffs, spiked batons and parts and accessories, n.e.s. as defined in the Geneva Conventions

0A984 STA(c)(1) Yes to Austria, Finland, Ireland, South Korea, Sweden, Switzerland, and Ukraine (CC1 NLR to all other (c)(1) countries; Argentina omitted because of FC1)
STA(c)(2) N/A
Shotguns ... except equipment used exclusively rated to tranquilize animals, and except arms designed solely rated for signal flair or saluting use
CC applies to shotguns with a barrel length greater than or equal to

18 in. (45.72 cm) but less than 24 in. (60.96 cm); or, if for sale or resale to police or law enforcement, witha barrel length greater than or equal to 24 in. (60.96 cm); or buckshot shotgun shells controlledby this entry regardless of end-user CC Column 1
CC applies to shotguns with a barrel length greater than or equal to 24 in. (K60.96 cm) regardless of end-user if for sale or resale to other thanpolice or law enforcement CC Column 2
CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm) if for sale or resale to police or law enforcement CC Column 3
UN applies ... and Rwanda
Related Controls: (1) ... Defense Trade Controls USML Category I. (2) See also 0A986.

0A985 STA(c)(1) N/A (Ineligible ECCN)
STA(c)(2) N/A
Discharge type arms ... except equipment used exclusively rated to tranquilize animals, and except arms designed solely rated for signal flair or saluting use
UN applies ... and Rwanda

0A986 STA(c)(1) N/A (NLR to all (c)(1) countries.)
STA(c)(2) N/A
... and parts
UN applies ... and Rwanda

0A987 STA(c)(1) Yes to Austria, Finland, Ireland, South Korea, Sweden, Switzerland, and Ukraine (CC1 NLR to all other (c)(1) countries; Argentina omitted because of FC1)
STA(c)(2) N/A
... and parts, n.e.s.
UN applies ... and Rwanda
Related Controls: N/A See also USML Category I(b)

0A988 STA(c)(1) N/A (NLR to all (c)(1) countries)
STA(c)(2) N/A
Controls: ... and Rwanda
Related Controls: N/A See also 0A018, 0A9979, and USML Category X(a).

0A999 STA(c)(1) N/A (NLR to all (c)(1) countries)
STA(c)(2) N/A
Related Controls: N/A See also 0B001.c.10

0B001 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
... specially designed or prepared equipment and components "required" therefor
Controls: ... 10 CFR part 110 Item 8(b)

Related Controls: N/A See also 0A999, 2A226, 2A292, 2A999, 2B228, 2B229, 2B350, 3A992,am 6A005, 6A205, abd 6A995.

Items

a Plant specially designed "required" for ...

b ... specially designed or prepared "required" for

c ... specially designed or prepared "required" for

d ... specially designed or prepared "required" for

e ... specially designed or prepared "required" for

f ... specially designed or prepared "required" for

g ... specially designed or prepared "required" for

h ... specially designed or prepared "required" for

i ... specially designed or prepared "required" for

j ... specially designed or prepared "required" for

0B002 STA(c)(1) N/A (NRC)

STA(c)(2) N/A

Specially designed or prepared "Required"auxiliary systems, equipment and components, as follows

Controls: ... 10 CFR part 110 Item 8(b)

Related Controls: N/A See also 0C201 and 3A233

Items

e Piping systems and header systems specially designed "required" for ...

g ... specially designed or prepared "required" for

0B003 STA(c)(1) N/A (NRC)

STA(c)(2) N/A

Plant for the conversion of uranium and equipment specially designed or prepared "required" therefore ...

Related Controls: N/A See also 0C201 and 10 CFR part 110 Item 8(f)

0B004 STA(c)(1) N/A (NRC)

STA(c)(2) N/A

Plant for the production of heavy water ... and specially designed or prepared equipment and components "required" therefor

Controls: ... 10 CFR part 110 Item 8(g)

0B005 STA(c)(1) N/A (NRC)

STA(c)(2) N/A

Plant specially designed "required" for the fabrication of "nuclear reactor" fuel elements and specially designed equipment "required" therefor

Controls: ... 10 CFR part 110 Item 8(e)

0B006 STA(c)(1) N/A; STA(c)(2) N/A

Plant for the reprocessing of irradiated "nuclear reactor" fuel elements, and specially

designed equipment and components "required" therefor ...
Controls: ... 10 CFR part 110 Item 8(d)
Items
b ... specially designed or prepared "required" for
c ... specially designed or prepared "required" for
d ... specially designed or prepared "required" for
e ... specially designed or prepared "required" for

0B986 STA(c)(1) N/A (NLR to all (c)(1) countries)
(Does not require a license to any (c)(1) eligible country.)
STA(c)(2) N/A
Equipment specially designed "required" for manufacturing shotgun shells
Controls: ... and Rwanda
Related Controls: N/A See also 2B018 and USML Category III(d).

0B999 STA(c)(1) N/A (NLR to all (c)(1) countries)
STA(c)(2) N/A
Specific Processing Equipment, as Follows
Related Controls: N/A See also1A004 and 2A291
b Glove boxes suitable for use with "required" for radioactive materials

0C001 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
Controls: ... 10 CFR part 110 Item 9(b)

0C002 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
Controls: ... 10 CFR part 110 Item 9(a)
Related Controls: N/A See also 1C012

0C004 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
Controls: ... 10 CFR part 110 Item 9(d)
Related Controls: N/A See also 0C201 and 3A233

0C005 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
Controls: ... 10 CFR part 110 Item 9(e)
Related Controls: N/A See also 1C107

0C006 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
Controls: ... 10 CFR part 110 Item 8(b)

0C201 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
Controls: ... 10 CFR part 110 Item 8(b)
Related Controls: N/A See also 0B002 and 0B003

0D001 STA(c)(1) N/A (ITAR and NRC)
STA(c)(2) N/A
"Software" specially designed or modified "required" for ...
Controls: "Software" for items described in controlled by 0A001 ... (see 10 CFR part 110 Items 8(a,b,d-g)). "Software" for items described in controlled by 0A002 ... (See 22 CFR part 121.1 Categories VI(g) and XV(f)).
Related Controls: N/A See also 0D999

0D018 STA(c)(1) Yes
STA(c)(2) Yes
Software "required" for the "development", "production", or "use" of 0A018.a, b, or d. NS Column 1
(For consistency with WML 21.a.)
TSR: Yes
Related Controls: See also USML Categories I(i) and III(e)

0D999 STA(c)(1) N/A (NLR to all (c)(1) countries)
STA(c)(2) N/A
Specific software, as follows Software "required" for the following:

0E001 STA(c)(1) N/A (ITAR and NRC)
STA(c)(2) N/A
"Technology" according to the Nuclear Technology Notes "required" for ...
Controls: "Technology" for items described in controlled by 0A001 .... "Technology" for items described in controlled by 0A002 ... (See 22 CFR part 121.1 Categories VI(g) and XV(f)).
Related Controls: N/A See also 10 CFR part 110 items 8(a,b,d-g)

0E018 STA(c)(1) Yes
STA(c)(2) Yes
"Technology" "required" for ...
UN applies ... and Rwanda
TSR: Yes except N/A for Rwanda

0E918 STA(c)(1) Yes to Argentina, South Korea, and Ukraine (RS2 NLR to all other (c)(1) countries)
STA(c)(2) N/A
"Technology" "required" for the "development", "production", or "use" of bayonets

...

0E982 STA(c)(1) N/A (Ineligible ECCN)
`STA(c)(2) N/A
"Technology" exclusively "required" for ...

0E984 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, and Ukraine (CC1 NLR to all other (c)(1) countries)
STA(c)(2) N/A
"Technology" "required" for ...
CC applies to "technology" for shotguns with a barrel length greater than or equal to 18 in. (45.72 cm) but less than 24 in. (60.96 cm); or, if for sale or resale to police or law enforcement, with a barrel length greater than or equal to 24 in. (60.96 cm); or buckshot shotgun shells controlled by this entry regardless of end-user CC Column 1
CC applies to "technology" for shotguns with a barrel length greater than or equal to 24 in. (K60.96 cm) regardless of end-user if for sale or resale to other than police or law enforcement CC Column 2
CC applies to "technology" for shotguns with a barrel length greater than or equal to 24 in. (60.96 cm) if for sale or resale to police or law enforcement CC Column 3
UN applies ... and Rwanda

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 1

1A001 STA(c)(1) Yes to Argentina and Ukraine
(NS2 NLR to all other (c)(1) countries)

STA(c)(2) Yes

Components made from fluorinated compounds, not controlled by USML Category??, as follows:

Related Controls: (1) Items specially designed or modified for missiles or for items on the U.S. Munitions List are subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (see 22 CFR 121.1 Category XXI) (2) See also 1C009.

(No portion of 1A001 appears on the MTCR list.)

a Seals, gaskets, sealants or fuel bladders specially designed "required" for "aircraft" or aerospace use ...

c.2. Specially designed "Required" for "aircraft," aerospace or missile use.
(No part of 1A001 is controlled for MT reasons.)

1A002 STA(c)(1) Yes Structures or laminates"required" for "missile subsystems" or UAVs rated for a "range" of 300 km or greater.
(MT)
Yes Not MT to Argentina and Ukraine

STA(c)(2) N/A (STA (c)(2) exclusion)

"Composite" structures or laminates, not controlled by NRC, having rated for any of the following..

MT applies to structures or laminates "required" for "missiles", "missile subsystems", or UAVs rated for a "range" of 300 km or greater and a "payload" of 500 kg or greater

(To conform with MTCR 6.A.1.)

Related Controls: (1) ... (2) Also see ECCNs 1A102, 1A202, 1C010, 9A010, and 9A110 . (3) Other "composite" structures specially designed" "required" for missile applications (including specially designed subsystems and components) "missiles" or "missile subsystems" are controlled by ECCN 9A110.(4) The relevant NRC items are limited to those "required" for "Composite" structures or laminates specially designed or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A "Missile subsystems" - Items controlled by USML but described in ECCNs 9A116 or 9A121 or the Related Controls sections of ECCNs 7A117, 9A105, 9A106, 9A107, 9A108, or 9A119

(9A121 would be a new item
Weapon or warhead safing, arming, fuzing, and firing mechanisms "required" for "missiles"

Items

to conform with MTCR 2.A.1.f.)

a. ... Note: 1A002.a does not control finished or semi-finished items specially designed rated for purely civilian applications as follows the following:

b. ... Note: 1A002.b does not control finished or semi-finished items specially designed rated for purely civilian applications as follows the following

1A003 STA(c)(1) Yes to Argentina and Ukraine
(NS2 NLR to all other (c)(1) countries)
STA(c)(2) Yes, except N/A to Hong Kong
(Hong Kong only NS2 NLR country in (c)(2) countries.)

1A004 STA(c)(1) N/A 1A004.c also described in 6A102 (MT)
Yes to Argentina, South Korea, Ukraine for 1A004.d
(RS2 NLR for all other (c)(1) countries)
Yes to Argentina, Ukraine for 1A004.a,b, and .c not also 6A002
(NS2 NLR for all other (c)(1) countries)
STA(c)(2) Yes to Albania, and Malta for 1A004.a,b, and portion of .c not described in 2B351.a or 6A102;
Yes to Albania, Hong Kong, and Malta for portion of 1A004.c described in 2B351 and for 1A004.d

Protective and detection equipment and components, not specially designed for military use controlled by USML Categories X or XIV(f), as follows:

(However, the absence of technical descriptions to determine jurisdiction suggests that such equipment should be subject to the EAR rather than to ITAR.)
MT applies to portion of 1A004.c also described in 6A102.

Related Controls: (1) See ECCNs 0B999, 1A995, 1B999, 2B351, and 2B352. (2) See ECCN 1D003 for "software"specially designed or modified to enable equipment to perform the functions of equipment controlled under section 1A004.c (Nuclear, biological, and chemical (NBC) detection systems) "required" for 1A004.c.. (3) See ECCN 1E002.g for control libraries (parametric technical data bases) specially designed or modified to enable equipment to perform the functions of equipment controlled under section 1A004.c (Nuclear, biological, and chemical (NBC) detection systems) "required" for 1A004.c..(4) Chemical and biological protective and detection equipment specifically designed ,developed, modified, configured, or adapted for military applications is subject tt othe export licensing jurisdiction of the Department of State, Directorate ofr Defense TradeControls (see 22 CFR part 121, Category XIV(f)), as is commercial equipment that incorporates components or parts controlled under this Category unless those components or parts are (1) integral to the device, (2) inseparable from the device, and (3) incapable of replacement without compromising the effectiveness of the device, in which case the equipment is subject to the export licensing jurisdiction of the Department of Commerce under ECCN 1A004.1.

(Such USML coverage is not described in the USML.)

a Gas masks, filter canisters and decontamination equipment therefor, designed or modified "required" for defense against any of the following, and specially designed component "required" therefor: ...

b. Protective suits, gloves and shoes, specially designed or modified "required" for defense against any of the following:

c. Nuclear, biological and chemical (NBC) detection systems, specially designed or modified "required" for detection or identification of any of the following, and specially designed components "required" therefor

d. Electronic equipment designed "required" for automatically detecting or identifying the presence of the residues of the "explosives" (as listed in the annex at the end of Category 1) resideues and utilizing 'trace detection techniques' ...

1A005 STA(c)(1): Yes to Argentina and Ukraine,

(GBS is a reasonable alternative to STA for Argentina (but not to Ukraine)

STA(c)(2) Yes

(GBS is a reasonable alternative to STA for non-MT portion of 9B002 except to following twelve (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

Body armor and specially designed components therefor, not manufactured to military standards or specifications, nor to their equivalents in performance

UN applies to ... and Rwanda

GBS: Yes, Except UN

Related Controls: (1) Bulletproof and bullet resistant vests (body armor) NIJ levels III and IV, are subject to the export licensing authority of the U.S. Derpartment of State, Directorate of Defense Trade Controls (see 22 CFR 121.1 Categories X(a) and XIV(f)).

(9A018.b suggests that NIJ levels III and IV are Commerce jurisdiction.)

Note 2. This entry does not control body armor designed rated to provide frontal protection only ...

Note 3. 1A005 does not control items for protection against chemical or b iological agents that are consumer goods, packaged for retail sale or personal use, or medical products, such as latex exam gloves, latex surgical gloves, liquid disinfectant soap, disposable surgical drapes, surgical gowns, surgical rfoot covers, and surgical masks. Such items are classified as EAR99.

(Recommended Note 3, which now appears in 1A995, is equally applicable to 1A005.)

1A006 STA(c)(1) Yes to Argentina and Ukraine

STA(c)(2) Yes

Equipment, not controlled by USML Category IV, specially designed or modified "required" for the disposal of improvised explosive devices, as follows:

Related Controls: Equipment specially designed for military use for the disposal of improvised explosive devices is subject to the export licensing jurisdiction of the Department of State, Directorate of Defense Trade Controls (see 22 CFDR part 121, Category IV. N/A

(Such equipment is not described in the USML.)

Related Definitions: ‘Disruptors’ - Devices specially designed for the purpose of preventing the operation of an explosive device by projecting a liquid, solid or frangible projectile.

1A007 STA(c)(1) Yes to Argentina and Ukraine if described in 3A229 and to Argentina, Estonia, Iceland, and Lithuania if not described in 3A229
STA(c)(2) Yes to Albania, Malta if not described in 3A229
Equipment and devices, specially designed not controlled by USML Category ??, to initiate charges and devices containing energetic materials, by electrical means, as follows

Controls: This entry does not control detonators using only primary explosives, such as lead azide.
Related Controls: High explosives and related equipment specially designed for military use is subjedct to the export licensing jurisdiction of the Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121). This entry does not control detonators using only primary explosives, such as lead azide. See also 3A229. See 1E001 .(“Military use”" is not a bright jurisdictional line.)

1A008 STA(c)(1) Yes to Argentina and Ukraine
STA(c)(2) Yes
Charges, devices and components, not controlled by USML Category V, as follows:
UN applies ... and Rwanda
Related Controls: (1) All of the following are subject to the export licensing jurisdiction of the Department of State ... (2) See also ECCNs 1C011, 1C018, 1C111, and 1C239 for additional controlled energetic materials. See ECCN 1E001 for .. , but not for explosives or commodities that are under the jurisdiction of U.S. Department of State, Directorate of 1 Defense Trade Controls.(“Military use”" is not a bright jurisdictional line.)

1A101 STA(c)(1) N/A
STA(c)(2) N/A
“missiles”" and their subsystems“missile subsystems”"
...• (See 1A002 above for definition of“missile subsystems.”))
Related Controls: See also 1A191 and 1C101. For commodities that meet the definition

[illegible]

Defense Trade Control.• .•
(See below for recommended new ECCN 1A191, MTCR 17 is controlled by BIS. No corresponding USML item is identified.)

1A102 STA(c)(1) N/A (MT)
STA(c)(2) N/A
Resaturated pyrolized carbon-carbon components, not controlled by 1A002 or 9A010,

designed "required" for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km "missiles". These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(To conform with MTCR 6.A.2. Such language does not appear on the USML.)

1A191 STA(c)(1) N/A
STA(c)(2) N/A
Devices otherwise described in 1A101 "required" for missiles with a "range" between 25 and 300 kilometers to China or between 150 and 300 kilometers to Iraq.

1A202 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Composite structures, other than those not controlled by 1A002 or 1A102, 9A010, 9A110 or NRC item 8(a), in the form of tubes and ...
Related Controls: ... (3) "composite" structures specially designed or prepared for use in "required" for separating isotopes ...
b Made with any of the "fibrous or filamentary materials" specified in controlled by 1C210.a or with carbon prepreg materials specified in controlled by 1C210.c

1A225 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Platinized catalysts, not controlled by NRC Item 8(g), specially designed or prepared "required" for ... the production of heavy water.
Related Controls: ... (2) Equipment specially designed or prepared "required" for ... (3) See also 1B228, 1B229, 1B230, and 1B231

1A226 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Specialized packings, not controlled by NRC Item 8(g), which may be used in "required" for separating heavy water from ordinary water ...
Related Controls: ... (2) Equipment specially designed or prepared "required" for ... (3) See also 1B228, 1B229, and 1B230

1A227 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
High-density (lead glass or other) radiation shielding windows, not controlled by NRC Items 8(a) or 8(d), having .....
Related Controls: ... (2) Equipment specially designed or prepared "required" for ...

1A290 STA(c)(1) N/A
STA(c)(2) N/A
(No country listed in 740.20(c)(1) has an X in NP Column 2 on the

country chart.)

Depleted uranium (...), not controlled by USML Category?? or NRC Item 9(b),.in shipments ....

Related Controls (1) This entry does not control depleted uranium in fabricated forms for use in munitions. See 22 CFR part 121 Category?? for depleted uranium subject to the export licensing authority of the Department of State. ...(2) Depleted uranium that is not fabricated for use in munitions or fabricated into commodities solely to take advantage of its high density (e.g., aircraft, ship, or other counterweights or in the forms listed in this entry are described in 10 CFR 110 Item 9(b) is subject to the export licensing authority of the Nuclear Regulatory Commission

(ITAR and NRC regulations, rather than the EAR, should describe the items controlled by State and NRC, respectively.)

1A984 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine

STA(c)(2) N/A

Chemiocal agents, including tear gas formulations ... non-irritant smoke flares, canisters, greenades and charges; and other pyrotechnic articles having dual military and commercial use.

1A985 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine

STA(c)(2) N/A

Related Controls: N/A See also 3A981.

1A995 STA(c)(1) N/A

STA(c)(2) N/A

Protective and detection equipment and components not specially designed for military use and not controlled by ECCN 1A004 or ECCN 2B351 or USML Categories X or XIII.

Related Controls: See ECCNs 0B999, 1A004, 1B999, 2B351, and 2B352.

b. Equipment limited by function or design rated to protect against hazards specific to in civil industries, such as ...

1A999 STA(c)(1) N/A

STA(c)(2) N/A

Specific processing equipment, n.e.s., not controlled by 1A004 or USML Category XVI(c), as follows:

(1A999 is a candidate for deletion. EAR99 is controlled to North Korea.)

1B001 STA(c)(1) N/A for 1B001.a, .b, .c, .d.1,2,3, .e (MT)
Yes for 1B001.d.4 and .f to Argentina and Ukraine

STA(c)(2) N/A for 1B001.a, .b, .c, .d.1,2,3, .e
Yes for 1B001.d.4 and .f

Equipment for the production of fibers, prepregs, preforms or composites "composite"

structures or laminates controlled by 1A002 or "fibrous or filamentary materials" controlled by 1C010, as follows (see List of Items Controlled), and specially designed components and accessories "required" therefor

(This would delete XIII(k) and not permit adding production sub-items to Categories IV and VIII, similar to the addition of VII(b) and (g) in proposed revised Category VII.)

Related Controls: (1) ... (2) Also see 1B101 and , 1B201, 1B999, and 2B005

a. ... specially designed "required" ...

b. ... specially designed "required" ...

c ... specially designed or adapted "required" ...

d ... specially designed "required" ...

1B002 STA(c)(1) Yes to Argentina and Ukraine, except portion of 1B002 also described in 1B102

STA(c)(2) Yes except portion of 1B002 also described in 1B102

MT applies to portion of 1B002 also described in 1B102

... specially designed "required" to avoid contamination and specially designed "required" for use in one of the processes specified in 1C002.c.2

1B003 STA(c)(1) N/A portion of 1B003 also described in 9B115 (MT)
Yes non-MT to Argentina and Ukraine

STA(c)(2) N/A portion of 1B003 also described in 9B115 (MT)
Yes non-MT

... specially designed "required" for the manufacture ...

Related Controls: For specially designed production equipment of systems, subsystems and components controlled by 9A005 to 9A009, 9A011, 9A101, 9A105 to 9A109, 9A111, and 9A116 to 9A120 usable in "missiles", see 9B115. N/A

Items

c Specially designed components "required" for ...

1B018 STA(c)(1) N/A for equipment for production of rocket propellants (MT)
Yes non-MT

STA(c)(2) N/A for equipment for production of rocket propellants (MT)
Yes non-MT portion of 1B018.a s to Albania
(Albania is only RS2 NLR (c)(2) country.)
Yes non-MT portion of 1B018.b

UN applies ... and Rwanda

LVS: N/A for Rwanda

Related Controls: N/A See also 2B116, 9B006, 9B106, and 9B990

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

Items

a Equipment for the "production" of military explosives and solid propellants controlled by USML Category V.

a.2 Specialized components (for example, dehydration presses ...

a.4 Spec ially designed parts and accessories therefor
b. Environmental chambers capable of rated for pressures below (10-4) Torr, and specially designed components "required" therefor

1B101 STA(c)(1) N/A
STA(c)(2) N/A
Equipment, other than that not controlled by 1B001, for the "preoduction" of structural composites, fibers, prepregs or preforms usable rated for rockets, missiles, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km and their subsystems components, as follows (see List of Items Controlled); and specially designed components and accessories therefor
NP applies to ... portion of 1B101.a also described in 1B201.
Related Definitions: Examples of components and accessories for the machines controlled by this entry are molds, mandrels, dies, fixtures and tooling for the preform pressing, curing, casting, sintering or bonding of composite structures, laminates and manufactures thereof N/A
Items
a. ... designed rated to fabricate ...
b. ... designed rated for the manufacture ...
c Equipment designed or modified "required" for the "production" of ...
d. Equipment designed or modified "required" for special fiber surface treatment or for producing prepregs and preforms controlled by 9A110, as follows:Note: Equipment covered by 1B101.d includes but is not limited to rollers, tension stretchers, coatring equipment, cutting equipment, and clicker dies.
e. Components for the machines controlled by this entry are molds, mandrels, dies, fixtures, and tooling for the preform pressing, curing, casting, sintering, or bonding of composite structures, laminates, and manufactures thereof..

1B102 STA(c)(1) N/A
STA(c)(2) N/A
Metal powder "production equipment," other than that specified in not controlled by 1B002, and components as follows
a. ... usable rated for ...
b Specially designed components for "production equipment" specified in controlled by 1B002 or 1B102.a, as follows
Note 1B102 includes:
a. b.1 Plasma generators (high frequency arc-jet) usable rated for ...
b b.2 Electroburst equipment usable rated for ...
c. b.3 Equipment usable rated for the "production" of spherical aluminum powders by powdering a melt in an inert medium (e.g., nitrogen). ...

.
1B115 STA(c)(1) N/A
STA(c)(2) N/A

Equipment, other than that controlled in not controlled by 1B002 or , 1B018, 1B102, or 2B018 for the "production" of propellants or propellant constituents, and specially designed components therefor as follows:

a. ... for liquid propellants or propellant constituents controlled by 1C011.a, MT portion of 1C011.b, 1C018.m, 1C111, 1C238, or on the U.S. Munitions List Category V.a.12.i, a.20.I, b.3, c.3.i-iv, c.5, c.6.i.A, c.6.ii.A, c.6.ii.B, d.1, d.2, d.11, e.2, e.3, e.6, e.7, e.16, f.3.i-iv, f.10, f.14, f.16, f.17, or f.18.

b. ... solid propellants or propellant constituents described in controlled by 1C011.a, MT portion of 1C011.b, 1C018.m, or 1C111, 1C238, or on the U.S. Munitions List Category V.a.12.i, a.20.i, b.3, c.3.i-iv, c.5, c.6.i.A, c.6.ii.A, c.6.ii.B, d.1, d.2, d.11, e.2, e.3, e.6, e.7, e.16, f.3.i-iv, f.10, f.14, f.16, f.17, or f.18.

1B116 STA(c)(1) N/A
STA(c)(2) N/A
Specially designed nozzles "required" for ...
Related Controls: N/A See also 2B104.

1B117 STA(c)(1) N/A
STA(c)(2) N/A
Batch mixers, not controlled by 2B018, ... and specially designed components therefor
Related Controls: N/A See also 1B115, 1B118, and 1B119

1B118 STA(c)(1) N/A
STA(c)(2) N/A
Continuous mixers, not controlled by 2B018, ... and specially designed components therefor
Related Controls: N/A See also 1B115, 1B117, and 1B119

1B119 STA(c)(1) N/A
STA(c)(2) N/A
Fluid energy mills, not controlled by 2B018, for grinding or milling propellants or propellant constitutents specified in controlled by 1C011.a, MT portion of 1C011.b, 1C018.m, or 1C111, 1C238, or on the U.S. Munitions List Category V.a.12.i, a.20.i, b.3, c.3.i-iv, c.5, c.6.i.A, c.6.ii.A, c.6.ii.B, d.1, d.2, d.11, e.2, e.3, e.6, e.7, e.16, f.3.i-iv, f.10, f.14, f.16, f.17, or f.18.and specially designed components therefor
Related Controls: N/A See also 1B115, 1B117, and 1B118

1B201 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Filament winding machines, other than those not controlled by ECCN 1B001 or 1B101, and related equipment, as follows
Related Controls: (1) ... (2) See also 1B999
a.2 Specially designed "required" to fabricate ...
a.3 Capable of Rated for winding ...

1B225 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Electrolytic cells for fluorine production ...
Related Controls: (1) ... (2) See also 1B999

1B226 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Electromagnetic isotope separators, not controlled by NRC 10 CFR 110 Items 8(b) or 8(c) designed for, or equipped with, rated for ...
Related Controls: (1) Electromagnetic isotope separators specially designed or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). See also ECCN 1B233.

1B227 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Ammonia synthesis converters or ammonia synthesis units, not controlled by NRC 10 CFR 110 Item 8(g), ...
Related Controls: (1) Equipment specially designed or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

1B228 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Hydrogen-cryogenic distillation columns, not controlled by NRC 10 CFR 110 Item 8(g), havng all of the following characteristics ...
Related Controls: (1) Equipment specially designed or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

a. Designed Rated to operate ...
b. Designed Rated to operate ...

1B229 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Water-hydrogen sulfied exchange tray column and “internal contractors”, not controlled by NRC 10 CFR 110 Item 8(g), as follows ...
Related Controls: (1) Equipment specially designed or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). See also 1A225 and 1A226

1B230 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Pumps capable of rated for circulating solutions of concentrated or diluted potassium amide catalyst in liquid ammonia (KNH_2/NH_3), not controlled by NRC 10 CFR 110 Item

8(g), having all of the following characteristics ...
Related Controls: (1) Equipment specially designed or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). See also 1A225, 1A226, 2A293, 2B231, and 2B350

1B231 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Tritium facilities or plants,and equipment therefor ...
Related Controls: ... (3) See also 1A225, 1C235, and 3A231
b.1 Hydrogen or helium refrigeration units capable of rated for cooling ...
b.2 Hydrogen isotope storage and or purification systems ...

1B232 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Turboexpanders or turboexpander-compressor sets, not controlled by NRC 10 CFR 110 Item 8(g), having both of the following characteristics ...
Related Controls: (1) Equipment specially designed or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). See also 1A225 and 1A226
a. Designed Rated for operation with ...
b. Designed Rated for a throughput of hydrogen gas ...

1B233 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Lithium isotope separation facilities or plant, and equipment therefor, not controlled by NRC 10 CFR 110 Item 8(c), having both of the following characteristics ...
Items
b,1 ... columns specially designed "required" for lithium amalgams

1B999 STA(c)(1) N/A
STA(c)(2) N/A
Related Controls: See also 1B001, 1B101, 1B201, 1B225, and 1D999, and 3A201
Items
d. ... capable of rated for continuous cooling ...
(1B999 is a candidate for deletion. EAR99 is controlled to North Korea.)

1C001 STA(c)(1) N/A "required" for "missile subsystems"
Yes not "required" for "missile subsystems"
STA(c)(2) N/A (STA (c)(2) exclusion)
Materials specially designed "required" for use as absorbers of electromagnetic waves, or intrinsically conductive polymers, as follows
MT applies to entire entry items controlled by 1C001 "required" for "missile subsystems"
(To conform with MTCR 17.C.1. See 1A002 above for definition of "missile subsystems.")

1C002 STA(c)(1) N/A 1C002.b.3 described in 1C118 (MT)
Yes 1C002.a, b.1, b.2, b.3 not described in 1C118, b.4, b.5, .c, .d
to Argentina, Ukraine
(NS2 NLR all other (c)(1) countries)
STA(c)(2) N/A 1C002.b.3 described in 1C118 (MT)
Yes 1C002.b.3 not described in 1C118 but described in 1C202 and for 1C002.b.4 described in 1C202..to Brazil, Kazakhstan, South Africa
(These are the only three NP1 NLR countries in (c)(2).)
Yes 1C002.a, b.1, b.2, b.3 not described in 1C118 or 1C202, b.4 not described in 1C202, b.5, .c, .d
to all (c)(1) countries except Hong Kong
(Hong Kong is the only NS2 NLR (c)(2) country.)
Metal alloys, metal alloy powder and alloyed materials, not controlled by NRC 10 CFR 110 Item 8(b), as follows
MT applies to portion of 1C002,b,3 also described in 1C118,
Related Controls: ... (2) Also see ECCNs 0B001.c, 1C118, 1C202, and 1C228. (3) The relevant NRC items are limited to Aluminum alloys and titanium alloys in physical forms and finished products specially designed or prepared for use in "required" for separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

1C003 STA(c)(1) Yes to Argentina and Ukraine
STA(c)(2) Yes, except N/A to Hong Kong

1C004 STA(c)(1) N/A also described in 1C117 (MT)
Yes not described in 1C117, but described in 1C226
to Argentina, Estonia, Iceland, Lithuania, Ukraine
(Only five (c)(1) countries NS2 or NP1 LR.)
Yes not described in either 1C117 or 1C226 to Argentina, Ukraine
(All other (c)(1) countries NS2 NLR.)
STA(c)(2) N/A also described in 1C117
(MT)
Yes not described in 1C117 but described in 1C226 to Brazil, Kazakhstan, South Africa
(Four NP1 NLR (c)(2) countries)
Yes described in neither 1C117 nor 1C226 to all (c)(2) countries except Hong Kong
(Only one NS2 NLR (c)(2) country.)
MT applies to portion of 1C004 also described in 1C117,
NP applies to portion of 1C004 also described in 1C226,

1C005 STA(c)(1) Yes to Argentina, Ukraine (only NS2 LR (c)(1) countries)
STA(c)(2) Yes to all (c)(2) countries except Hong Kong (only NS2 NLR (c)(2) country)
Related Controls: N/A See also 3A001, 3A201, 6A006.

1C006 STA(c)(1) Yes to Argentina, Ukraine (only NS2 LR (c)(1) countries)
(GBS is a reasonable alternative to STA for 1C006.d to Argentina. CIV is a reasonable alternative to STA for 1C006.d to Ukraine if for civil use and civil end-user)
STA(c)(2) Yes to all (c)(2) countries except Hong Kong
(only NS2 NLR (c)(2) country)
(GBS is a reasonable alternative to STA for 1C006.d to all (c)(2) countries except the following twelve countries, which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative to STA for 1C006.d to these twelve countries if for civil end-use and civil end-user.)
Related Controls: ... See 742 Supplement 2(c)(33).

1C007 STA(c)(1) N/A 1C007.d also described in 1C107 (MT)
Yes 1C007.d not described in 1C107, but described in 1C234 to Argentina, Estonia, Iceland, Lithuania, Ukraine
(Only five (c)(1) countries NS2 or NP1 LR.)
Yes 1C007.a,b,c, 1C007.d not described in either 1C107 or 1C234, 1C007.e,f to Argentina, Ukraine
(All other (c)(1) countries NS2 NLR.)
STA(c)(2) N/A also described in 1C107 (MT)
Yes not described in 1C107 but described in 1C234 to Brazil, Kazakhstan, South Africa
(Four NP1 NLR (c)(2) countries)
Yes described in neither 1C107 nor 1C234 to all (c)(2) countries except Hong Kong
(Only one NS2 NLR (c)(2) country.)
MT applies to items described in 1C007.d (and .f when the dielectric constant is less than 6 at frequencies from 100 Hz to 10,000 MHz) for use in missile radomes portion of 1C007.d also described in 1C107
(For consistency with MTCR 6.C.6.)
NP applies to portion of 1C007.d also described in 1C234.
Related Controls: See also 0C005, 1C107, and 1C234

1C008 STA(c)(1) Yes to Argentina, Ukraine (only NS2 LR (c)(1) countries)
STA(c)(2) Yes to all (c)(2) countries except Hong Kong (only NS2 NLR (c)(2) country)

Related Controls: N/A See also 3A001, 3A201, 6A006.

1C009 STA(c)(1) Yes to Argentina, Ukraine (only NS2 LR (c)(1) countries)
STA(c)(2) Yes to all (c)(2) countries except Hong Kong (only NS2 NLR (c)(2) country)
Related Controls: N/A See also 3A001, 3A201, 6A006.

1C010 STA(c)(1) N/A 1C010.e also described in 9C110
(MT)
Yes 1C010.a,b,e.1 described in 1C210, but not 1C010.e described in 9C110 to Argentina, Estonia, Iceland, Lithuania, Ukraine
(Only five (c)(1) countries NS2 or NP1 LR.)
Yes 1C010 not described in either 9C110 or 1C210 to Argentina, Ukraine
(All other (c)(1) countries NS2 NLR.)
STA(c)(2) N/A 1C010.e also described in 9C110
(MT)
Yes 1C010.a,b,e.1 described in 1C210, but not 1C010.e described in 9C110 to Brazil, Kazakhstan, South Africa
(Four NP1 NLR (c)(2) countries)
Yes 1C010 not described in either 9C110 or 1C210 to all (c)(2) countries except Hong Kong
(Only one NS2 NLR (c)(2) country.)
MT applies to portion of 1C010.e also described in 9C110
Related Controls: ... (2) Also see ECCNs 1C210 and, 1C990, and 5C991. (3) ... (4) Also see 0B001.c.
(This assumes that USML would not control materials prior to being fabricated sufficiently to identify the item as USML-listed on a basis other than the material and that sub-items IV(f), XIII(d), and XIII(f) would be deleted.)

1C011 STA(c)(1) N/A 1C011.a and .b (for boron)
(MT)
Yes 1C011.b also described in 1C225, 1C228, 1C230, 1C234, or 1C239, excluding 1C011.b (for boron) to Argentina, Estonia, Iceland, Lithuania, Ukraine
(Only five (c)(1) countries NS2 or NP1 LR.)
Yes 1C011.b (not for boron and not described in 1C225, 1C228, 1C230, 1C234, or 1C239) and 1C011.c,d to Argentina, Ukraine
(All other (c)(1) countries NS2 NLR.)
STA(c)(2) N/A 1C011.a and .b (for boron)
(MT)
Yes 1C011.b also described in 1C225, 1C228, 1C230, 1C234, or 1C239, excluding 1C011.b (for boron) to Brazil, Kazakhstan,

South Africa

(Four NP1 NLR (c)(2) countries)

Yes 1C011.b (not for boron and not described in 1C225, 1C228, 1C230, 1C234, or 1C239) and 1C011.c,d to all (c)(2) countries except Hong Kong

(Only one NS2 NLR (c)(2) country.)

1C012 STA(c)(1) N/A (NRC)
STA(c)(2) N/A (STA exclusion)
Controls: ... 9A 9(a)

1C018 STA(c)(1) N/A 1C018.m (MT)
Yes 1C018.b-.l
STA(c)(2) N/A 1C018.m (MT)
Yes 1C018.b-l
Commercial charges and devices containing energetic materials on the Wassenaar Arrangement Munitions List and certain chemicals, not controlled by USML Category V, as follows,
UN applies ... and Rwanda
LVS: except N/A for Rwanda
Related Controls (1) ... (2) ... (3) ... (4) ... (5) :.. (6) See also 1A984, 1C011, 1C111, and 1C239, and 1C992.

(Details concerning State jurisdiction, such as (1) through (5), should be in ITAR, rather than EAR.)

Items
Note: 1C018.a does not control perforators "required" for oil well logging.

(See WML 8 Note 4.)

g Commercial ...
h Commercial ...
j Pyrotechnic devices when designed exclusively rated for commercial purposes (e,g, theatrical stages, motion picture special effects, and or fireworks displays), and containing greater than 1.0 kg, but not more than 5..0 kg of controlled materials
k Other commercial explosive devices and charges, not controlled by 1C018.c through .g above, when used for commercial applications and containing greater than 1.0 kg, but not more than 5.0 kg of controlled materials

Note: If a chemical in paragraphs .l or .m of1C018 is incorporated into a commercial charge or device described in paragraphs .c through .k of ECCN 1C018 or 1C992, the classification of the commercial charge or device applies to the item.

1C101 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
Materials for reduced observables ... other than those not controlled by 1C001, "required"

for applications usable in "missiles", other rockets missiles,,or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km, and their subsystems "missile subsystems"

(See definition of "missile subsystems" in 1A002, above.)

Related Controls: (1) Materials controlled by this entry include structural materials and coatings (including paints), specially designed "required" for reduced or tailored reflectivity or emissivity.. (2) This entry does not control coatings (including paints) when specially used rated for the thermal control of satellites. (3) For commodities that meet the definition of defense articles under 22 CFR 120.3 of the International Traffic in Arms Regulations (ITAR), see 22 CFR 121.16 item 17 Category II of the ITAR, which describes similar commodities under the jurisdiction of the Department of State, Directorate of Defense Trade Control.

(MTCR Item 17 is under BIS jurisdiction. No similar items are listed on the USML.)

1C102 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)

Resaturated pyrolized carbon-carbon materials designed for space launch vehicles specified_____ in $^{9}A^{004}$ or sounding rockets specified in $^{9}A^{104}$ "required" for rockets rated for a "range" of 300 km or greater, not controlled by 1C010. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(For consistency with MTCR 6.C.2.)

1C107 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)

Graphite and ceramic materials, other than those not controlled by 1C007, ...

Related Controls: (1) ... (2) For commodities that meet the definition of defense articles under 22 CFR 120.3 of the International Traffic in Arms Regulations (ITAR), see 22 CFR 121.16 item 8 Category II of the ITAR, which describes similar commodities under the jurisdiction of the Department of State, Directorate of Defense Trade Control.

(Neither 120.3 nor 121.16 are part of the USML.)

Items

b ... graphites, usable "required" for rocket nozzles and reentry vehicle nose tips.

c ... materials ... "required" for use in radomes useable in rockets ... capable of achieving rated for a "range" ...

d Silicon-carbide materials, usable in "required" for rockets ... capable of achieving rated for a "range" ...

d.1 ... useable "required" ...

d.2 ... useable "required" ...

1C111 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)

Propellants and constituent chemicals for propellants, other than those specified in not controlled by 1C011 or USML Category V, as follows:
NP applies to portions of 1C111 also described in 1C225, 1C228, 1C230, 1C234, or 1C239.
Related Controls: (1) Butacene as defined by 1C111,c,1 is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR 121.12(b)(6), other ferrocene derivatives). (2) See 1C018 for controls on oxidizers that are composed of fluorine and one or more of the following - other halogens, oxygen, or nitrogen. Solid oxidizer substances are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (See 22 CFR 121.1 Category V).

(There is no 121.12. Butacene should not appear on both USML and CCL. The "any other oxidizer" Category V(d)(12) sub-item should be deleted in order to achieve the "bright line" of specific oxidizers in (d)(1-11). The HTPB USML coverage should be carved out of 1C111.b.2.)

Items
a4 Hydrazine derivatives
a.4.a Hydrazine nitrate
a.4.b Trimethylhydrazine
a.4.c Tetramethylhydrazine
a.4.d N,N diallylhydrazine
a.4.e Allylhydrazine
a.4.f Ethylene dihydrazine
a.4.g Unsymmetrical dimethylhydrazine nitrate
a.4.i hydrazine azide
a.4.j Dimethylhydrazinium azide
a.4.k Hydrazinium nitrate
a.4.l Diimido oxalic acid dihydrazine
a.4.m 2-hydroxyethylhydrazine nitrate (HEHN)
a.4.n hydrazinium perchlorate
a.4.o Hydrazinium diperchlorate
a.4.p Methylhydrazine nitrate (MHN)
a.4.q Diethylhydrazine nitrate (DEHN)
a,4,r 1,4-dihydrazine nitrate (DHTN)
b.2 ... (HTPB), except as described in USML Category V(e)(7)
b.5 Polytetrahydroforan polyethylene glycol (TPEG)
c1 Butacene Reserved.
c.6 Ethyl ferrocene
c.7 Propyl ferrocene
c.8 Pentyl ferrocene
c9 Dicyclopentyl ferrocene
c.10 Dicyclohexyl ferrocene
c.11 Diethyl ferrocene

c.12 Dipropyl ferrocene
c.13 Dibutyl ferrocene
c.14 Dihexyl ferrocene
c.15 Acetyl ferrocenes
c.16 Other ferrocene derivatives rated for rocket propellant burning rate modifiers
d. Composite double base propellants

(The above would add to 1C111 those portions of MTCR 4C1, 4C2b, 4C5b, 4C5f, and 4C6c2 not now on either the USML or the CCL.)

1C116 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
Maraging steels (iron alloys generally characterized by with ...), not controlled by NRC Item 8(b), having ...
Related Contrtols: (1) ... (2) Also see ECCNs 0B001.c and 1C216. (3) The relevant NRC items are limited to Maraging steel, in physical forms and finished products and specially designed or prepared for use in "required" for separating uranium isotopes, is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

1C117 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
Materials for the fabrication of missile components for rockets or missiles capable of achieving rated for a "range" equal to or greater than 300 km, as follows
Related Controls: N/A See also 1C226.
Items
c.2 Rated to be Able to be machined to any of the following products ...

1C118 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
... (Ti-DSS), not controlled by 1C002. Rated fpr "missiles," other rockets, or unmanned aerial vehicles rated for a "range" equal to or greater than 300 km, having all of the following characteristics
NP applies to portion of 1C118 also described in 1C202.

1C191 Materials otherwise described in 1C101 rated for missiles with a range between 25 and 300 kilometers to China or between 150 and 300 kilometers to Iraq

1C202 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Alloys, other than those not controlled by 1C002.b.3 or , 1C002.b.4, 1C118, or NRC Item 8(b), as follows
Related Controls: (1) ... (2) Also see ECCN 1C002 0B001.c. (3) The relevanmt NRC

items are limited to Aluminum alloys and titanium alloys, in physical forms and finished products and specially designed or prepared for use in "required" for separating uranium isotopes, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definition: The phrase "capable of" 'rated for' in 1C202.a.1 and b.1 refers to aluminum alloys and or titanium alloys either before or after heat treatment.
Items
a.1 "Capable of" 'Rated for'...
b.1 "Capable of" 'Rated for'...

1C210 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
"Fibrous and or filamentary materials" or prepregs, other than those not controlled by 1C010.a, .b or .e or by 9C110, as follows
Related Controls: (1) ... (2) Also see ECCNs 0B001.c,1C010 and, 1C990, 5C991, 9A010, and 9A110
Items
a. … "fibrous and or filamentary materials" … *except* Aramid aramid ...
b. … "fibrous and or filamentary materials" …
c. … described in controlled by …

1C216 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Maraging steel, other than that not controlled by 1C116 or NRC Item 8(b), "capable of" rated for ...
Related Controls: (1) ... (2) Also see ECCNs 0B001.c and 1C116. (3) The relevant NRC items are limited to Maraging steel, in physical form and finished products specially designed or prepared for use in "required" for separating uranium isotopes, is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part110).

1C225 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A

1C226 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
... by weight, not controlled by 1C004 or 1C117, ...
ECCN Controls: This entry does not control manufactures specially designed as rated for weights or gamma-ray collimators.:

1C227 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Related Controls: (1) ... (2) Also see 2A225.

1C228 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Magnesium, not controlled by 1C002 or 1C111, having ...
Related Controls: (1) ... (2) Also see 2A225.

1C229 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A

1C230 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Beryllium ... foregoing, not controlled by 1C111 or 6C004,
ECCN Controls:This entry does not control the following:
Items
b. Oxide shapes in fabricated or semi-fabricated forms specially designed rated for electronic components parts or as substrates for electronic circuits.

1C231 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Hafnium ... foregoing, not controlled by 6C004,
Related Controls: (1) ... (2) Also see 2A225.

1C232 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A

1C233 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Related Controls: (1) ... (2) Facilities or plants specially designed or prepared for the separation of lithium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
(This statement of NRC jurisdiction belongs in 1B233, not 1C233.)

1C234 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Zirconium, not controlled by NRC Item 8(a), with ...
Related Controls:(1) ... (2) The relevant NRC items are limited to Zirconoium metal and alloys in the form of tubes or assemblies of tubes, specially designed or prepared for use in "required" for a reactor, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (3) See also 1A003 and 2A225.

1C235 STA(c)(1) N/A (NRC)
STA(c)(2) N/A
(ECCN 1C235 is completely controlled by NRC in 10 CFR 110 Appendix

L entry for Tritium (H3).)

1C236 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Alpha-emitting radionuclides, not controlled by NRC item 9(c), having ...
Related Controls: (1) ... (2) Certain alphaemitting radionuclides are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
(NRC should specify in part 110 which alpha-emitting radionuclides they control.).

1C237 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A

1C238 STA(c)(1) N/A (MT)
STA(c)(2) N/A
(This entire entry should be deleted. It is controlled by 1C018.m for MT reasons per MTCR 4C4a6.)

1C239 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
High explosives, other than those not controlled by 1C011, 1C018, 1C111, or the U.S. Munitions List Category V, or substances or mixtures containing more than 2% by weight thereof, with a crystal density greater than 1.8 g/cm^3 and having a detonation velocity greater than 8,000 m/s, as follows:...
(The recommended reference to USML Category V assumes deletion of V(a)(35), (b)(7), (c)(10), (d)(12), (e)(19), and (f)(21).)
Related Controls: (1) ... (2) See ECCNs 1C018 (commercial charges and devices containing energetic materials on the Wassenaar Arrangement Munitions List and certain chemicals as follows) and 1C992 (commercial charges and devices containing energetic materials, n.e.s. and nitrogen trifluoride in a gaseous state). (3) High explosives for military use are subject to theexport licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121.12).
Items: The list of items controlled is contained in the ECCN heading.
a. Cyclotetramethylenetetranitramine (HMX) (CAS 2691-41-0);
b. Cyclotrimethylenetrinitramine (RDX) (CAS 121-82-4);
c. Triaminotrinitrobenzene (TATB) (CAS 3058-38-6);
d. Hexanitrostilbene (HNS) (CAS 20062-22-0); or
e. Any explosive with a crystal density greater than 1.8 g/cm^3 and having a detonation velocity greater than 8,000 m/s.

1C240 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
Nickel powder or porous nickel, other than thos described in not controlled by 0C006 or NRC Item 8(b), as follows ...

Related Controls: (1) ... (2) Nickel powder and porous nickel metal, specially designed or prepared for use in separating uranium isotopes, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). See also 1C002, 1C004, 1C116, 2A292, and 2B350.

1C990 STA(c)(1) N/A (AT)
STA(c)(2) N/A
Fibrous and or filamentary materials, other than glass, aramid, or polyethylene, not controlled by 1C010 or ,1C210, or 9C110
(Military end-use to China controls exclude glass, aramid, or polyethylene.)

1C298 STA(c)(1) N/A (All (c)(1) countries are NP2 NLR)
STA(c)(2) N/A
Graphite, not controlled by NRC Item 9(e), with ...
License Requirement Note: This entry does not control graphite intended for use in a nuclear reactor. Such graphite is subject to the export licensing authority of the Nuclear Regulatory Commission (see ECCN 0C005 and 10 CFR part 110).

1C350 STA(c)(1) N/A
(CW ineligibility is irrelevant, because all (c)(1) countries are CW NLR. However, CB2 eligibility is also irrelevant, because all (c)(1) countries are also CB2 NLR)
STA(c)(2) N/A
License Requirement Notes: 1. ... 2. Mixtures ... b. A license is not required, except to Cuba, Iran, North Kor3ea, Sudan, or Syria, under this ECCN for ... 4. Testing Kits: Certain medical, analytical, diagnostic, and food testing kits containing small quanitities of chemicalsa maximum of 300 grams per chemical identified in this ECCN 1C350 ...
Related Controls: (1) The chemicals .(six named chemicals) CWC Schedule I chemicals in Category XIV(a)(1), (a)(3) (except pharmacological formulations in the form of a final medical product or containing salts of HN2 [bis(2-chloroethyl)methylamine] in shipments of 150 milligrams or less and no more than 12 shipments per calendar year per end-user), and(c)(1-4) and CWC Schedule 2 chemicals in Category XIV(a)(2), (a)(4), and (c)(5) are subject to the licensing jurisdiction of the Directorate of Defense Trade Controls, U.S. Department of State. (2) See also ECCN 1A984.

1C351 STA(c)(1) N/A 1C35.d.5 and d.6 (CW)
Yes 1C351.a,b,c; d.1-4, 7-19; ..e
STA(c)(2) N/A
Related Controls: (1) ... See 22 CFR part 121.1 Category XIV(a)(1), (a)(3), (c)(1-4) and 121.7 for additional CWC Schedule 1 chemicals controlled by the Department of State.

1C352 STA(c)(1) Yes
STA(c)(2) N/A

1C353 STA(c)(1) Yes
STA(c)(2) N/A

1C354 STA(c)(1) Yes
STA(c)(2) N/A

1C355 STA(c)(1) N/A
(Ineligible because controlled for CW reasons. However, even if eligible, all (c)(1) countries are CW NLR)
STA(c)(2) N/A

1C360 STA(c)(1) Yes
STA(c)(2) N/A

1C395 STA(c)(1) N/A
(Ineligible because controlled for CW reasons. CB and CW LR countries are the same and all (c)(1) countries are NLR)
STA(c)(2) N/A
Related Controls: 1. ... 2. ECCN 1C995 controls ... kits ... that contain ... 1C350.d <u>and ECCN 1C991 contains such kits that contain 1C351.d (except d.5 or d.6).</u> ...

1C980 STA(c)(1) N/A (SS)
STA(c)(2) N/A

1C981 STA(c)(1) N/A (SS)
STA(c)(2) N/A

1C982 STA(c)(1) N/A (SS)
STA(c)(2) N/A

1C983 STA(c)(1) N/A (SS)
STA(c)(2) N/A

1C984 STA(c)(1) N/A (SS)
STA(c)(2) N/A

1C988 STA(c)(1) N/A (SS)
STA(c)(2) N/A

1C990 STA(c)(1) N/A (AT plus China military use; but China is not a (c)(1) country)
STA(c)(2) N/A
Fibrous and <u>or</u> filamentary materials<u>, other than glass, aramid, or polyethylene,</u> not

controlled by 1C010 or ,1C210, or 9C110
(Military end-use to China controls exclude glass, aramid, or polyethylene.)

1C991 STA(c)(1) N/A (All (c)(1) countries are CB3 NLR)
STA(c)(2) N/A
Vaccines, immunotoxins, medical products, diagnostic and food testing kits ...
(ECCN 1C991 is a candidate for deletion on humanitarian grounds. It is not listed in 742 Supplement 2 as being authorized by the EAA.)

1C992 STA(c)(1) N/A (RS controls apply only to Iraq, which is not a (c)(1) country.).
STA(c)(2) N/A
Commercial charges and devices containing energetic materials, n.e.s., not controlled by 1C018 or USML Category V, as follows (see List of Items Controlled and nitrogen trifluoride in a gaseous state
(Deletion of nitrogen fluoride in a gaseous state for consistency with 742 Supplement 2(c)(43).)
Items
a Shaped charges specially designed "required" for ...:
b Shaped charges specially designed "required" for ...:
h Commercial ...
i Commercial ...
k Pyrotechnic devices when designed exclusively rated for ...:
l Other commercial explosive devices ...

1C995 STA(c)(1) N/A (RS controls apply only to Iraq, which is not a (c)(1) country.).
STA(c)(2) N/A

1C996 STA(c)(1) N/A (AT plus China military use; but China is not a (c)(1) country)
STA(c)(2) N/A
Hydraulic fluids, containing synthetic hydrocarbon oils, not controlled by 1C006, having.

1C997 STA(c)(1) N/A (RS controls apply only to Iraq, which is not a (c)(1) country.).
STA(c)(2) N/A

1C998 STA(c)(1) N/A (AT)
STA(c)(2) N/A

1C999 STA(c)(1) N/A (RS controls apply only to Iraq, which is not a (c)(1) country.).
STA(c)(2) N/A
(1C999 is a candidate for deletion. EAR99 is controlled to North Korea.)

1D001 STA(c)(1) N/A 1D001 for:
"use" of 1B001.d.1,2,3 also described in 1B101,

"use" of 1B001.a,b,c,e
(MT)

Yes 1D001 for:
"development" or "production" of
1B001,d,1,2,3 also described in 1B101;
1B001.a,b,c,e;
1B001.d.1,2,3 not also described in 1B101,
1B001.d.4, f;
1B002, 1B003.

(GBS is a reasonable alternative to STA for the non-MT portion of 1D001 to all (c)(1) countries except Ukraine.. CIV is a reasonable alternative to STA for the non-MT portion of 1D001 to Ukraine if for civil use and civil end-user)

STA(c)(2) N/A 1D001 for:
"use" of 1B001.d.1,2,3 also described in 1B101,
"use" of 1B001.a,b,c,e
(MT)

Yes 1D001 for:
"development" or "production" of
1B001,d,1,2,3 also described in 1B101;
1B001.a,b,c,e;
1B001.d.1,2,3 not also described in 1B101,
1B001.d.4, f;
1B002, 1B003.

(GBS is a reasonable alternative to STA for the non-MT portion of 1D001.d to all (c)(2) countries except the following twelve, which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for the non-MT portion of 1D001 to these twelve countries if for civil end-use and civil end-user.)

"Software" <u>specially</u> designed or <u>modified "required"</u> ...
MT applies to "software" for the "development", "production" or "use" ...
(MTCR 6.D.1 is limited to "use".)
NP applies to "software" for the "development", "production", or "use" ...
(NSG 3.D.1 is limited to "use"; NP applies is sub-set of MT applies. There would be no USML portion of software for 1B001.)
TSR: Yes, except <u>N/A</u> for <u>MT N/A</u>
<u>GBS: Yes, except for MT</u>
(It is irrational to require a TSR assurance against transfer to CIV eligible recipients.)

1D002 STA(c)(1) Yes

(GBS is a reasonable alternative to STA for 1D002 to all (c)(1) countries except Ukraine.. CIV is a reasonable alternative to STA for 1D002 to Ukraine if for civil use and civil end-user)

STA(c)(2) N/A Development of 1A002

(STA exclusion)

Yes Not development of 1A002

(GBS is a reasonable alternative to STA for 1D002.d to all (c)(2) countries except the following twelve, which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for 1D002 to these twelve countries if for civil end-use and civil end-user.)

"Software" "required" for the "development" of organic "matrix", metal "matrix", or carbon "matrix" laminates or "composites"

GBS: Yes

CIV: Yes

TSR: Yes N/A

(It is irrational to require a TSR assurance against transfer to CIV eligible recipients.)

Related Controls: "Software" for items controlled by 1A102 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).N/A

(Even if 1A102 continued to be subject to ITAR, MTCR does not control software for 6.A.1)

1D003 STA(c)(1) Yes

STA(c)(2) N/A For 1A004.d to Malta, Hong Kong

(Only (c)(2) countries RS2 LR)

Yes For 1A004.d to Albania

(Only (c)(2) countrry RS2 NLR and NS2 LR)

Yes For 1A004.c to Albania, Malta

(Only (c)(2) countries NS2 LR)

"Software" specially designed or modified to enable equipment to perform the functions of equipment controlled under "required" for 1A004.c or 1A004.d

1D018 STA(c)(1) N/A for equipment for production of rocket propellants (MT)

Yes except for equipment for production of rocket propellants

STA(c)(2) N/A for equipment for production of rocket propellants (MT)
Yes except for equipment for production of rocket propellants
UN applies ... and Rwanda
"Software" specially designed or modified "required" for the "developoment", "production", or "use" of items controlled by 1B018 or 1C018
Related Controls: See 746.8(b)(1) for additional BIS licensing requirements for Rwanda concerning this entry. N/A

1D101 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
"Software", not controlled by 1D001, specially designed or modified "required" ...
Related Controls: (1) ... (2) See also 1D002, 1D201, and 1D999.

1D103 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
"Software", not controlled by USML Category IV, specially designed "required" for ... and acoustic signature, for applications usable in "missiles" or their subsystems rockets rated for a "range" of 300 km or greater or for "missile subsystems"
Related Controls: (1) ... (2) For software that meets te definition of defense articles under 22 CFR 120.3 of the International Traffic in Arms Regulations (ITAR), see 22 CFR 121.16, Item 17. Category II of the (ITAR), which describes similar software that are under the jurisdiction of the Department of State, Directorate of Defense Trade Control.
(Neither 120.3 nor 121.16 describe items controlled by the USML.)

1D191 STA(c)(1) N/A (MT)
STA(c)(2) N/A (MT)
Software otherwise described in 1D103 required for missiles with a range between 25 and 300 km to China or between 150 and 300 km to Iraq.

1D201 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only three (c)(1) countries NP! LR)
STA(c)(2) N/A
"Software", not controlled by 1D001 or 1D101, specially designed or modified "required" for the "use" of items controlled by 1B201
Related Controls: (1) ... (2) See also 1D002 and 1D999

1D390 STA(c)(1) N/A (No (c)(1) country is CB2 LR)
STA(c)(2) N/A
"Software" "required" for process control that is specifically configured to control or initiate "production" of chemicals controlled by 1C350. ...

1D993 STA(c)(1) N/A (AT plus China military use; but China is not a (c)(1) country}

STA(c)(2) N/A
"Software" specially designed "required" for

1D999 STA(c)(1) N/A (AT plus China military use; but China is not a (c)(1) country)
STA(c)(2) N/A
Specific software, n.e.s. no controlled by 1D001, 1D101, or 1D201, as follows
Items
a Software specially designed "required" for industrial process control hardware/systems controlled by 1B999, n.e.s.
b Software specially designed "required" for equipment controlled by 1B999.e for the production of structural composites, fibers, prepregs and preforms controlled by 1B999, n.e.s. Category 1
(1D999 is a candidate for deletion. EAR99 is controlled to North Korea.)

1E001 STA(c)(1) N/A MT reasons
N/A CB2 reasons
(All (c))(1) countries are CB2 NLR)
Yes NS1 not MT or CB1 to all (c)(1) countries except Canada
(Canada is NS1 and CB1 NLR)
Yes NP1 not NS1 to Estonia, Iceland, Lithuania
Yes NS2 not RS2 to Argentina and Ukraine
Yes NS2 and RS2 to Argentina, South Korea, Ukraine
(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine, for the non-MT portion of 1E001 except that TSR is eligible for 1E001 for 1C001 or 1A002 made from 1C010.c or .d only for 19 of the 37 (c)(1) countries.)
. STA(c)(2) N/A MT, NP not NS, CB1, 1C350
N/A NS1 for 1A002, 1C001, 1C007.c or .d, 1C010.c or .d
(STA exclusion; 1C012 is not subject to the EAR)
Yes NS1 for 1A001.b and .c, 1A003, 1A005, 1A006.b, 1A007 not NP, 1A008, 1B001 not MT or NP, 1B002, 1B003, 1C002 not NP, 1C003 to 1C006, 1C007.a,b,e,f, 1C008, 1C009, 1C010.a,b, 1C010.e not MT and not NP, 1C011 not MT to all (c)(2) countries
Yes NS1, not MT, NP1 for 1A007, 1B001, 1C002. 1C010.e to Brazil, Kazakhstan, South Africa
Yes NS2, not CB2, not RS2 to all (c)(2) countries except Hong Kong
(Hong Kong is NS2 NLR)
Yes NS2, CB2 to Cyprus, Malta
Yes NS2, RS2 to Albania
(TSR is a reasonable alternative to STA for the non-MT portion of 1E001 except for 1E001 for 1C001 or for 1A002 made from 1C010.c or .d to all (c)(2) countries except the

following twelve, which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Technology" according to the General Technology Note for the "development" or "production" of items controlled by 1A001.b, 1A001.c, 1A002, 1A003, 1A004, 1A005, 1A006.b, 1A007, 1A008, 1A101, 1A102, 1B (except 1B018, 1B999), or 1C(except 1C018, 1C191, 1C351 to 1C354, 1C355, 1C980 to 1C9854, 1C988, 1C990, 1C991, 1C995 to 1C999

NS applies ... 1B018, ... , or 1C018
MT applies ... 1C001, 1C002, 1C004, 1C007, 1C010, 1C011 ...
NP applies ... 1B225 to 1B233 1B232, 1C002, 1C004, 1C007, 1C010, ... 1C225 to 1C234, 1C236 to 1C240
TSR: Yes, except for the following:

(1) Items controlled for MT, NP or CB reasonsp or ...
Related Controls: (1) Also see ECCNs 1E101, 1E191, 1E201, and 1E202, and 1E994. (2) See 1E002.g for control libraries (parametric technical data bases) specially designed or modified to enable equipment to perform the funcitions of equipment controlled under 1A004.c (Nuclear, biological and chemical (NBC) detection systems).

1E002 STA(c)(1) N/A MT reasons
Yes NS1 not MT to all (c)(1) countries except Canada
(Canada is NLR to both NS1 and CB1)
Yes NP1 not NS1 to Estonia, Iceland, Lithuania
Yes NS2 to Argentina and Ukraine
(TSR is a reasonable alternative to STA for 1E002.a-d,f,g to all (c)(1) countries except Ukraine.)

STA(c)(2) N/A MT
N/A 1E002.e,f not MT
(STA exclusion)
Yes 1E002.a,b,c,d to all (c)(2) countries
Yes 1E002.g to all (c)(2) countries except Hong Kong
(Hong Kong is NS2 NLR)
(TSR is a reasonable alternative to STA for 1E002.a-d,f,g to all (c)(2) countries except the following twelve, which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

MT applies to 1E002.e applicable to MT portion of 1C001 and 1E002.f applicable to MT portions of 1A002 or 1C007

NP applies to "technology" 1E002.f for items controlled by 1A002 for NP reasons
TSR: Yes, except for 1E002.e N/A for MT or NP

Items

a. "Technology" "required" for …

b. "Technology" "required" for …

c "Technology" "required" for ...

d "Technology" "required" for ...

e "Technology" "required" for ...

f "Technology" "required" for ...

g Libraries (parametric technicaldatabases) specially designed or modified to enable equipment to perform the functions of equipment controlled under "required" for 1A004.c or 1A004.d

1E018 STA(c)(1) N/A for MT reasons
Yes not for MT reasons
STA(c)(2) N/A for MT reasons
Yes not for MT reasons
Technology "required" fpr tje "development", "production", or "use" of items controled by 1B018, 1C018, or 1D018.
NS applies to entire entry NS Column 1
MT applies to technology for items controlled by 1B018, 1C018, or 1D018 for MT reasons

1E101 STA(c)(1) N/A (MT)
STA(c)(2) N/A
"Technology" ... for ... 1A002, 1A004.c, 1A101, 1A102, 1B001, ... 1C001, 1C002, 1C004, 1C007, 1C010, 1C011, 1C101, 1C102, ... 1D103 for MT reasons
NP applies to "technology" for items controlled by 1A002, 1B001, 1B101, 1C116, 1D001, and 1D101 for NP reasons

1E102 STA(c)(1) N/A (MT)
STA(c)(2) N/A
"Technology" ... for the "development" or "production" of software controlled by 1D001, 1D101, 1D103 for MT reasons
Related Controls: (1) This entry includes databases specially designed "required" for analysis of signature reduction. (2) See also 1E191 and 1E203.

1E103 STA(c)(1) N/A (MT)
STA(c)(2) N/A
"Technical data" "Technology" ...usable "required" for equipment and materials specified in controlled by 1A002, 1A102, 1C002, 1C004, 1C007, 1C010, 1C102, 1C107, 1C117, 1C118, 1C226, 7A102, 9A110, and 9C110 for MT reasons
(To conform with MTCR 6.E.2)

STA(c)(2) N/A
"Technology" "required" for

1E201 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
"Technology", not controlled by 1E002.f or 1E101, ...for the "use" of items controlled by ... 1B001.a, 1B101, ... 1C116, ... 1D001, 1D101, or 1D201 for NP reasons
Related Controls:N/A See also 1E001, 1E101, 1E202, and 1E994.

1E202 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
"Technology", not controlled by 1E001, ...
Related Controls:N/A See also 1E002.f, 1E101, 1E201, and 1E994.

1E203 STA(c)(1) Yes to Estonia, Iceland, Lithuania
STA(c)(2) N/A
"Technology", not controlled by 1E002.f or 1E102, ...

1E350 STA(c)(1) N/A
(All (c)(1) countries are CB2 NLR)
STA(c)(2) N/A
"Technology", not controlled by 1E001, ... for facilities designed or intended "required" to produce chemicals controlled by 1C350.
(It is recommended that 1E350 be deleted. It is arguably covered by 1E001. Its inclusion has the probably unintended effect of indicating that numerous other controls on technology to produce items other than 1C350 do not apply to technology used in the facilities which produce those other items.)

1E351 STA(c)(1) Yes for 1C351 to 1C354 and 1C360
N/A for 1C350
(All (c)(1) countries are CB2 NLR)
STA(c)(2) N/A

1E355 STA(c)(1) N/A
(CW is an ineligible reason for control for STA (c)(1). However, all (c)(1) countries are CW NLR.)
STA(c)(2) N/A
"Technology" "required" for

1E994 STA(c)(1) N/A (AT1 plus China military use; but China is not a (c)(1) country)
STA(c)(2) N/A

“Technology” , not controlled by 1E001, 1E002.f, 1E101, 1E201, or 1E202, “required” ...

1E104 STA(c)(1) N/A (MT)

1E998 STA(c)(1) N/A (AT1 only)
STA(c)(2) N/A
"Technology" "required" ...

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 2

2A001 STA(c)(1) N/A MT

Yes non-MT to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for non-MT portions of 2A001.a or .b to Argentina, but not to Ukraine.)

STA(c)(2) N/A MT

Yes non-MT to all but Hong Kong

(Only (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for non-MT portions of 2A001.a or .b to all (c)(2) countries except the following twelve, which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

Anti-friction bearings and bearing systems, not controlled by USML, as follows

Related Controls: (1) See also 2A991 and 1C999.a. (2) The only relevant USML controls are Quiet running bearings are subject tot ehexport licesnigng authority of the Department of State, Directorate of Defense Trade Controls (See 22 CFR part 121).

(There is no "quiet running bearings" entry now on the USML. Even if there were, a definition of "quiet running" would be necessary to understand its scope. Unless a technical description of quiet running bearings is added to the USML, the recommended addition to the 2A001 heading of "not controlled by the USML" should be deleted.)

2A225 STA(c)(1) Yes to Estonia, Iceland, Lihuania
(only three (c)(1) countries not NS1 LR)

Items

STA(c)(2) N/A 2A225
Crucibles, not controlled by 1C227, 1C228, 1C231, or 1C234, made of materials resistant to liquid actinide metals, as follows

2A226 STA(c)(1) Yes to Estonia, Iceland, Lihuania
(No (c)(1) country is CB2 LR)
STA(c)(2) N/A
Valves, not controlled by 0B001, 9A106.d, or NRC item 8(b), having all of the following characteristics:
Related Controls: (1) ... (2) Also see ECCNs 1C999, 2A292, and 2B350.g 2B999. (3) Valves specially designed or prepared for certain nuclear uses are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). The relevant NRC- controlled items are valves "required" for plants to separate the isotopes of uranium.

2A290 STA(c)(1) N/A (No (c)(1) country is NP2 LR)
STA(c)(2) N/A
Generators and other equipment specially designed, prepared, or intended for use with for nuclear plants, not controlled by NRC Item 8(a), as follows:
Related Controls: ... (4) Certain nuclear equipment specially designed or prepared for use in nuclear plants is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). The relevant NRC items are limited to equipment "required" for nuclear reactors.
Items
a. Generators ... designed or intended for use in "required" for a nuclear reactor;
b. Process control systems intended for use with "required" for the equipment controlled by 2A290.a.

2A291 STA(c)(1) N/A (No (c)(1) country is NP2 LR)
STA(c)(2) N/A
Equipment, except items not controlled by 2A290 or NRC Items 8(a) or 8(d), related to "required" for nuclear material handling and processing and to or for nuclear reactors, as follows:
Unit: Equipment in number; parts and accessories components in $ valuer
Related Controls: ... (3) Also see ECCNs 2A290 and 0B999. (4) Certain equipment specially designed or prepared for use in a nuclear reactor or in nuclear material handling is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). The relevant NRC items are limited to equipment "required" for nuclear reactors or the reprocessing or irradiated nuclear reactor fuel elements.. (5) Nuclear radiation detection and measurement devices specially designed or modified for military purposes are subject to the export licensing authority of the Department of State (see 22 CFR part 120 through 130).

(CCL ECCN 6A102 controls radiation detection and measurement devices.)

Items

a Process control systems intended for use with "required" for nuclear reactors
b Simulators specially designed "required" for "nuclear reactors'.
c Casks that are specially designed "required" for transportation of high-level radioactive material and that weigh more than 1,000 kg.
d Commodities, parts and accessories specially designed or prepared for use with nuhclear plants (e.g., snubbers, airlocks, pumps, reactor fuel charging and discharging equipment, containment equipment, such as hydrogen recombiner and penetraion seals, and reactor and fuel inspection equipment, including and ultrasonic or eddy current test equipment)."required" for nuclear plants
e Radiation A cr, c."1-
V.V.JVA

orsandmonitorsspeciallydesignedfordetectingormeaqsuring
2A292 STA(c)(1) N/A (No (c)(1) country is NP2 LR)
~~special nuclear material (as defined in 10 CFR part 110) or for nuclear reactors.~~
STA(c)(2) N/A
Piping, fittings and valves, not controlled by 0B001, 9A106.d, or NRC item 8(a), made of, or lined with, stainless steel, copper-nickel alloy or other alloy steel containing 10% or more nickel and/or chromium, as follows
Related Controls: ... (3) Also see ECCNs 0B001, 0C006. 1C004, 1C116, 1C240, 1C990, 1C999, 2A226, 2A290, 2B350.g,h, and 2B999g,k. (4) Piping, fittings, and valves specially designedor prepared for certain nuclear usesare subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110)..The relevant NRC items are limited to piping, fittings, and valves "required" for nuclear reactors..
Items
a Pressure tube, pipe, and fittings ... suitable rated for operation at ...

2A293 STA(c)(1) N/A (No (c)(1) country is NP2 LR)
STA(c)(2) N/A
Pumps, not controlled by NRC item 8(a) designed rated to move molten metals by electromagnetic forces.
Related Controls: ... (3) Pumps for use in liquidmetalcooled reactors are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
The relevant NRC items are limited to pumps "required" for liquid-metal-cooled reactors.
(4) See also 1B230, 2B231, and 2B350.

2A983 STA(c)(1) Yes to Argentina, South Korea, and Ukraine
Only three (c)(1) countries are RS2 LR.)
STA(c)(2) N/A
Explosives or detonator detection equipment ... and parts and components, n.e.s. , as follows:
(For consistency with 742 Supplement 2(c)(39).)

2A984 STA(c)(1) Yes to Argentina, South Korea, and Ukraine

6

Only three (c)(1) countries are RS2 LR.)

“el eke.; ni n 10 CFR n or 110) ...eke, ea-
or .11/VV1.1 ma4erial (as 1 V VA 1 1 V/ Aor nuclear reactors.

STA(c)(2) N/A

Items

Concealed object detection equipment ... and parts and components, n.e.s.

(Deletion of parts and components for consistency with 742 Supplement 2(c)(46).)

Related Controls: ...

(The technical description of related USML jurisdiction now appearing on the CCL should also appear on the USML.)

2A991 STA(c)(1) N/A AT

STA(c)(2) N/A

Bearings and bearing systems, not controlled by 2A001 or USML, as follows:

Related Controls: (1) ... (2) The only relevant USML controls are Quiet running bearings are subject tot ehexport licesnigng authority of the Department of State, Directorate of Defense Trade Controls (See 22 CFR part 121).

(There is no "quiet running bearings" entry now on the USML. Even if there were, a definition of "quiet running" would be necessary to understand its scope. Unless a technical description of quiet running bearings is added to the USML, the recommended addition to the 2A001 heading of "not controlled by the USML" should be deleted.)

Items

a1 Manufactured for use at Rated for ...

a.2 ... , according to the manufacturer's specifications, are specially designed to enable the bearings are rated to operate ...

b1 ... , according to the manufacturer's specifications, are specially designed to enable the bearings are rated to operate ...

2A994 STA(c)(1) N/A AT

STA(c)(2) N/A

Portable electric generators and specially designed parts

2A999 STA(c)(1) N/A AT

STA(c)(2) N/A

Specific processing equipment, n.e.s., as follows (See List of Items Controlled) Bellows sealed valves, not controlled by 0B001, 2A226, 2A292, 9A106.d, or NRC item 8(b),

Related Controls: ... The relevant NRC- controlled items are valves "required" for plants to separate the isotopes of uranium.

(2A999 is a candidate for deletion. EAR99 is controlled to North Korea.)

2B001 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes non-NP except to Hong Kong

(Only one (c)(2) country NS2 NLR)

Yes NP to Brazil, Kazakhstan, South Africa
(Four (c)(2) countries NP1 NLR)

Machine tools ..., which, according to the manufacturer's technical specifications, can be equipped with rated for electronic devices for "numerical contol"; and specially designed components "required therefor, as follows

NP applies to 2B001.a, .b, .c, and .d, except: (1) Turning mcahines under 2B001.a with a capacity no greater than 35 mm diameter; (2) bar machines (Swissturn), limited to machining only bar feed through, if maximum bar diameter is equal to or less than 42 mm and there is no capability of mounting checks (Machines may have drilling and/or milling capabilityie for maching parts with diameters less than 42 mm); or (3) milling machines under 2B001.b with xaxis travel greater than two meters and overall "positioning accuracy" on the xaxos more (worse) than 0.030 mm. 2B001.d and portions of 2B001.a,b,c also described in 2B201

(Existing NP applies paragraph does not take into consideration that Wassenaar uses a 1997 stabdardm nabdatirt after Decenber 3m 2000, whereas NSG uses a 1988 standard.)

Related Controls: ... (4) Also see ECCNs 2B002, 2B201, 2B290, and 2B991, 2B992, and 2D002.

Items

Note 1: 2B001 does not control special purpose machine tools limited to rated for the manufacture of gears. For such machines, see 2B003.

Note 2: 2B001 does not control special purpose machine tools limited to rated for the manufacture of any of the following parts: ...

Note: 2B001.a does not control turning machines specially designed rated for the production of contact lenses, having all of the following:

a Machine controller limited to rated for using ophthalmic based software .....

Notes: 2B001.c does not control grinding machines, as follows: ...

a1 Limited to Rated for cylindrical grinding; and

a2 Limited to Rated for a maximum workpiece capacity ...

b Machines designed specifically as rated for iig grinders that ...

f Deep-hole-drrilling machines ... and specially designed components "required" therefor

2B002 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)

2B003 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)

"Numerically controlled" or manual machine tools, and specially designed components, and controls and accessories "required" therefor for ... gears ...

Unit: Machine tools in number; components, controls and accessories in $value

2B004

STA(c)(1) N/A described in 2B104 (MT)

Yes not described in 2B104; described in 2B204 to Argentina, Ukraine (only (c)(1) countries NS2 LR) or Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)

Yes not described in either 2B104 or 2B204 to Argentina, Ukraine

STA(c)(2) N/A described in 2B104 MT

Yes not described in 2B104; described in 2B204 to Brazil, Kazakhstan, South Africa ((c)(2) countries NP1 NLR)

Yes not described in either 2B104 or 2B204 to all but Hong Kong (only (c)(2) country NS2 NLR)

Hot "isostatic presses" ... and specially designed components and accessories "required" therefor

MT applies to entire entry portion of 2B004 also described in 2B104

(MTCR 6.B.3 does not include Wassenaar 2.B.4.b.3 control of a facility for hydrocarbon impregnation and removal of resultant gaseous degradation products.)

NP applies to entire entry, except 2B004.b.3 and presses with maximum working pressures below 69 MPa portion of 2B004 also described in 2B204

Unir: ...and accessories ...

Related Controls: ... (3) For specially designed dies, molds and tooling, see ECCNs 1B003, 2B018, 9B001, 9B004, and 9B009

2B005 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes except to Hong Kong

(Only one (c)(2) country NS2 NLR)

Equipment specially designed "required" for the disposition ... and specially designed automated handling, positioning, manipulation and control component "required" therefor.

Related Controls: (1) This entry does not control chemical vapor deposition, cathodic arc, sputter deposition, ion plating or ion implantation equipment, specially designed rated for cutting or machining tools. (2) ... (3) Chemical Vapor Deposition furnaces designed or modified "required" for densification of carbon-carbon composites are controlled by 2B104 2B105.

Items

e. Sputter deposition production equipment capable of rated for current densities ...

2B006

STA(c)(1) Yes NP portions of 2B006 to Argentina, Ukraine (only (c)(1) countries NS2 LR) or Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)

Yes not NP to Argentina, Ukraine (only (c)(1) countries NS2 LR)
STA(c)(2) Yes NP portions to Brazil, Kazakhstan, South Africa ((c)(2) countries NP1 NLR)
Yes not NP to all but Hong Kong (only (c)(2) country NS2 NLR)
NP applies to measuring systems in ... 2B006.b.1.a, b.1.c, and b.2 and portions of 2B006.a and b.1.b also described in 2B006
(NSG 1.B.3.a and 1.B.3.b.2 use parameters which differ from those in 2B006.a and b.1.b.)
Related Controls:... (3) Also see ECCNs 2B008, 2B206, and 2B996, and 3A992.a.
Items
b.1.c.2.b. Capable of Rated for achieving ...
b.1.d"Electronic assemblies" specially designed "required" to provide feedback capability ...
Note: 2B006.b.1 does not control measuring interferometer systems, with an automatic control system that is designed to use having no feedback techniques,..
Note: Machine tools, which can be used are rated also as measuring machines, are controlled if they meet or exceed either the criteria specified for the machine tool function or the measuring machine function control criteria..

2B007
STA(c)(1) Yes described in 2B207 (NP) to Argentina, Ukraine (only (c)(1) countries NS2 LR) or Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
Yes not NP to Argentina, Ukraine (only (c)(1) countries NS2 LR)
STA(c)(2) Yes NP portions to Brazil, Kazakhstan, South Africa ((c)(2) countries NP1
NLR)
Yes not NP to all but Hong Kong (only (c)(2) country NS2 NLR)
"Robots" ... and specially designed controllers and "end-effectors "required" therefor
Related Controls: ... (3) Also see ECCNs 2B008, 2B207, 2B225, and 2B997, and 8A002.b.
Items
a.Capable Rated in real time of for full three-dimensional image processing ...
bSpecially designed "Required" to comply ...
Note: 2B007.b does not apply to "robots" specially designed rated for paint-spraying booths.
cSpecially designed or rated as radiation-hardened ...
dSpecially designed Rated to operate ...

2B008STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)
Assemblies of units, specially designed "required" for machine tools ...
Items

c“Compound rotary tables” and “tilting spindles”, capable of upgrading, according to the manufacturer’s specifications, machine tools to or above the levels controlled by “required” for 2B001 to 2B009

2B009

STA(c)(1) N/A 2B009.a more than two axes coordinated (MT)

Yes not MT but described in 2B209 to Argentina, Ukraine (only (c)(1) countries NS2 LR) or Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)

Yes not MT and not described in 2B209 to Argentina, Ukraine

STA(c)(2) N/A 2B009.a more than two axes coordinated (MT)

Yes not MT but described in 2B209 to Brazil, Kazakhstan, South Africa ((c)(2) countries NP1 NLR)

Yes not MT and not described in 2B209 to all but Hong Kong (only (c)(2) country NS2 NLR)

Spin-forming machines and flow-forming machines, which, according to the manufacturer’s technical specification, can be equipped with rated for “numerical control” units or a computer control and having all the characteristics of the following (see List of Items Controlled)

MT applies to spin-forming machines combining the functions of spin-forming and flow-forming; amd flow-forming machines that meet or exceed the parameters of 2B009.a and 2B109 having more than two axes which can be coordinated simultaneously for contouring control and “required” for the production of “missile propulsion components, equipment, or material”

(MTCR 3.B.3.b “more than two axes which can be coordinated” differs from 2B009.a “two or more controlled axes.”

NP applies ... spin -forming machines capable of rated for flow forming function ...

2B018

STA(c)(1) N/A MT portion

Yes non-MT

STA(c)(2) N/A MT portion

Yes non-MT to Albania, (only (c)(2) country RS2 NLR)

Equipment onthe Wassenaar Arrangement Munitions List Munitions Production

MT applies to specialized machinery, equipment and gear for producing rocket systems (includingballistic missile systems, space launch vehicles, and sounding rockets) and unmanned air vehicle systems (including cruise missile systems, target drones, and reconnaissance drones) usable in systems that are controlled for MT reasons including their propulsion systems and components, and pyrolytic deposition and densification equipment portions of 2B018 also described in 1B115, 1B117, 7B001, 7B003, 7B101, 7B103, 9B007, 9B105, 9B106, 9B115, 9N116. or 9B117 for MT reasons.

UN applies ... and Rwanda

LVS: $3,000

GBS: Yees, as follows, except N/A for Rwanda ...Equipment used to determine the safety data of explosives, as required by the International Convention on the Transport of Dangerous Goods (C.I.M.) Articles 3 and 4 in Annex I RID, provided that such equipment will be used only by the railway authorities of current C.I.M. members, or by the Government accredited testing facilities in those countries, is rated for the testing of explosives to transport safety standards, of the following description: ...

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

Items

(Delete CCL text of items and substitute the following Wassenaar text with indicated changes):

Equipment for the production of products controlled by the United States Munitions List and ECCNS xx018, as follows:

a.Specially designed or modified production equipment for the production of products controlled by the Munitions List, and specially designed components therefor Equipment "required" for such production and components "required' for that equipment.

bSpecially designed environmental test facilities and specially designed equipment therefor, "required" for the certification, qualification, or testing of such products controlled by the Munitions List and equipment "required" for such facilities.

(The above text would permit deletion of 1B018. There is also a need to remedy the deficiency in controls illustrated by the Matrix Churchill case, in which a munitions production plant in Iraq was equipped with machine tools exported from the United Kingdom without a license, because the general purpose tools did not require a license. It is, therefore, recommended that a munitions production section be added to 15 CFR 744, along the following lines:

In addition to license requirements for items specified on the CCL, you may not export to any country, other than those listed in 740.20(c)(1), an item subject to the EAR without a license, if you know the item is destined for use on the production line of a plant for the "production" of "lethal munitions."

Perhaps the Tiers now being developed would assist in defining "lethal weapons.")

2B104STA(c)(1) N/A MT
STA(c)(2) N/A

'Isostatic presses", other than those not controlled by 2B004 having rated for all of the following characteristics ...

Related Controls: ... (3) Also see ECCNs 2B004, 2B204, and 2B117, and 2B999.a

Items

bDesigned to achieve and maintain a controlled thermal environment ...

2B105STA(c)(1) N/A MT
STA(c)(2) N/A

Chemical vapor deposition (CVD) furnaces, other than those not controlled by 2B005.a, designed or modified "required" for the densification of carbon-carbon composites. ...
Related Controls: ... (3) also see ECCNs 2B005 and 2B117, 2B226, and 2B227

2B109STA(c)(1) N/A MT
STA(c)(2) N/A

Flow-forming machines, other than those not controlled by 2B009, as follows (see List of Items Controled) and specially designed components "required" therefor

Related Controls: Also see ECCNs 2B009 and 2B209, and 2B999.l.

Items

a.1According to the manufacturer's technical specifications, can be equipped with Rated for "numerical control" units or a computer control, even when not equipped with such units; at delivery; and ...

bSpecially designed components for flowforming machines controlled in 2B009 or 2B109.a (MTCR 3.B.3 does not control components for 2B009.)

2B116STA(c)(1) N/A MT
STA(c)(2) N/A

Vibration test systems and equipment, not controlled by 2B018.b, or 9B006, usable "required" for rockets, missiles, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than of 300 km or greater and their subsystems "missile subsystems", and components "required" therefor, as follows ...

Related Controls: ... (3) Also see ECCNs 9B106 and 9B990.

Items

a. ... capable of rated for ...

bDigital controllers, combined with specially designed "required" vibration test "software", ...

2B117STA(c)(1) N/A MT
STA(c)(2) N/A

... other than those not ... designed or modified "required" for ...

Related Controls: ... (3) Also see ECCNs 2B004, 2B005.a, 2B104, 2B105, and 2B204

2B119STA(c)(1) N/A MT
STA(c)(2) N/A

Balancing machines

Items

a.1Not capable of rated for ...

a.2Capable of Rated for

a.3Capable of Rated for

a.4Capable of Rated for

Note: 2B119.a es not control balancing machines designed or modified rated for dental ...
bIndicator heads designed or modified for use with rated for machines specified in controlled by 2B119.a

2B120STA(c)(1) N/A MT
STA(c)(2) N/A
Motion simulators ... capable of rated for ...
Items
bDesigned or modified Rated to ...
c.1.a Capable of Rated for rates of rotation ...
Note: 2B120 does not control rotary tables designed or modified rated for machine tools ...

2B121STA(c)(1) N/A MT
STA(c)(2) N/A
Positioning tables (equipment capable of rated for precise rotary position in any axis) other than those not controlled in by 2B120 .....
Note: 2B121 does not control rotary tables designed or modified rated for machine tools ...

2B122STA(c)(1) N/A MT
STA(c)(2) N/A
Centrifuges capable of rated for imparting accelerations above 100 g and designed or modified sliprings or integrated non-contact devices "required" for such centrifuges and capable of rated for transferring electrical power, signal information or both

2B201STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Machine tools, other than those not controlled by 2B001, for removing or cutting metals, ceramics or "composites", which, according to the manufactrurer's technical specifications, can rated to be equipped with electronic devices for simultaneous "contouring control" in two or more axes, as follows (see List of Items Controlled).
Unit: Equipment in number; parts and accessories in $ value
Related Controls: ... (3) Also see ECCNs 2B001, 2B290, and 2B291.
Related Definition: N/A (Include lengthy NSG definition of "positioning accuracy")
Items
aMachine tools for turning, that have rated:
a.1 for "positioning accuracies" with all compensations available better (less) than 9 micrometer according to ISO 230/2 (1988) along any linear axis (overall positioning); and
a.2for machines capable of machining diameters greater than 35 mm.
Note: Item 2B201.a does not control bar machines (Swissturn), limited rated to:
a machining only bar feed thru, if maximum bar diameter is equal to or less than 42 mm and there is no capability of the machine is not rated for mounting

checks; or

b Machines may have drilling and/or milling capabilities for machine parts with diameters less than 42 mm.

Note: 2B201.c does not control the following griding machines: ...

c Tool or cutter grinding machines with "software" specially designed rated for the production of tools or cutters; ...

Technical Notes: (Three NSG Technical Notes on axes should be added.)

2B204STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
"Isostatic presses," other than those not controlled by 2B004 or 2B104 ...
Related Controls: ... (3) Also see ECCNs 2B004 and 2B104 2B999.a.
Items

b Dies, molds, and controls, specially designed "required" for "isostatic presses" controlled by 2B204.a..

2B206STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A

Dimensional inspectiion machines, instruments or systems, other than those described in not controlled by 2B006, as follows ...

Unit: Equipment in number; parts and accessories in $ value
Related Controls: ... (3) Also see ECCNs 2B006 and 2B996 and 3A992.a

ECCN Controls: (1) Machine tools that can be used as rated for measuring machines are controlled by this entry if they meet or exceed the control criteria specified for either the machine tool function or the measuring machine function. (2) A machine described in this entry is controlled if it is rated to exceeds the control threshold anywhere within its operating range.

2B207STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A

"Robots", and "end-effectors", and control units, other than those not controlled by 2B007, as follows

Related Controls: ... (3) Also see ECCNs 2B007, 2B225, and 2B997, and 8A002.h.
ECCN Controls: This entry does not control "robots" specially designed rated for ...
Items

a. "Robots" or "end-effectors" specially designed rated to comply ....

bControl units specially designed "required" for any of the "robots" or "end-effectors" controlled by 2B207.a

2B209STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A

Flow-forming machines, and spin-forming machines capable of rated for flow forming functions, other than those not controlled by 2B009 or 2B109, and mandrels, as follows

Unit: Equipment and mandrels in number; parts and accessories in $ value
Related Controls: ... (3) Also see ECCNs 2B009 and 2B109 2B999.l.
Items
a.2According to the manufacturer's technical specifications, can Rated to be equipped with "numerical control" units or a computer control;
b Rotor-forming mandrels designed "required" to form ...

2B225STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Remote manipulators, not controlled by NRC Items 8(a), (b), (c), or (d), that can be used "required" to provide remote actions in radiochemical separation operations or hot cells ...
Related Controls: ... (2) Also see ECCNs 1A004, 1A005, 1A995, 2B007, and 2B207, and 2B352.f.2. (3) Remote manipulators specially designed or prepared for use in fuel reprocessing or for use in a reactor are subject to the export licensing authority of the Nubclear Regulatory Commission (see 10 CFR part 110). The relevant NRC items are those "required" for nuclear reactors, separation of isotopes or uranium or lithium, or reprocessing of irradiated nuclear reactor fuel elements.
Items
a A capability of "Required" for penetrating ...
b.A capability of "Required" for bridging ...

2B226STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Related Controls: ... (2) Also see ECCNs 2B104, 2B227, and Category 3B 3B001, and 3B991
ECCN Controls. 2B226.a does not control furnaces designed rated for the processing of semiconductor wafers.
Items
a.1Capable of Rated for operation above ...
a.3Designed Rated for power inputs ...
bPower supplies, with a specified rated power output of 5 kW or more, specially designed "required" for furnaces controlled by 2B226.a.

2B227STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Related Controls: ... (3) Also see ECCNs 2B104 and 2B226
Items
a1 Consumable electrode capabilities between ...
a.2Capable of Rated for operating with ...
b.2Capable of Rated for operating ...
c.Computer control and monitoring systems specially configured "required" for ...

2B228STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)

STA(c)(2) N/A

Rotor fabrication and or assembly equipment, rotor straightening equipment, bellows-forming mandrels and dies, not controlled by NRS Item 8(b), as follows

Related Controls: (1) ... (2) Also see ECCN 0B001. (3) The relevant NRC items are limited to those "required" for the separation of isotopes of uranium.

2B229STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Centrifugal multiplane balancing machines, not controlled by NRC Item 8(b), ...

Related Controls: ... (3) The relevant NRC items are limited to those "required" for the separation of isotopes of uranium.

Items

aCentrifugal balancing machines designed rated for ... and

a.2Mass capability of from 0.9 to 23 kg; and

a.3Capable of balancing speed ...

bCentrifugal balancing machines designed rated for ... and ...

b.2Mass capability of from 0.9 to 23 kg;

b.3Capable of balancing to a residual imbalance ...

2B230STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
"Pressure transducers" capable of rated for measuring ...

Related Controls: (1) ... (2) Also see ECCNs 6A226 and 9B008.

2B231STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Vacuum pumps, not controlled by NRC Item 8(b), ...

Related Controls: ... (2) Vacuum pumps specially designed or prepared for the separation of uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). The relevant NRC items are limited to those "required" for the separation of uranium isotopes. (3) Also see ECCNs 0B001, 1B230, 2A203, 2B350, and 2B999.j.

Items

cCapable of Rated for producing an ultimate vacuum ....

2B232 STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Multistage light gas guns ... capable of rated for accelerating projectiles ...

Related Controls: (1) ... (2) Also see USML Categories I(a) and II(a).

2B290STA(c)(1) N/A (no (c)(1) country is NP2 LR)
STA(c)(2) N/A
"Numerically controlled" machine tools ...

Unit: Equipment in number; parts and accessories in $ value
Related Controls: ... (3) Also see ECCNs 2B001, 2B201, and 2B991.
Items
a Turning machines ... capable of rated for machining diameters ...

2B350STA(c)(1) N/A (no (c)(1) country is CB2 LR)
STA(c)(2) N/A
Chemical manufacturing facilities and equipment, except valves not controlled by 2A226 or 2A292, as follows
(Omission of "not controlled by USML" assumes deletion of Category XIV(l) in order to move all munitions production items to one place, namely the EAR.)
License Requirement Note: This ECCN does not control equipment that is both: (1) Specially designed for use in rated for civil applications ... and (2) inappropriate, by the nature of its design, not "required" for use in storing, processing, producing, or conducting and controlling the flow of the chemical weapons precursors controlled by 1C350
Related Controls: N/A Also see ECCNs 0B001, 1B230, 2A226, 2A292, 2A293, and 2B231.
Irelated Definitions: For purposes of this entry the term "chemical warfare agents" are those:agents subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) those listed in Chemical Weapons Conventions Schedule 1, *i.e.*, USML Category XIV.a.1, a.3, c.1-4 and CCL ECCN 1C351.d.5 and d.6.
(The rerm "chemical warfare agents" does not appear in ITAR. If a broader definition than CWC Schedule 1 is intended, CWC Schedule 2 (*i.e*. USML Category XIV.a.2, a.4.i, and c.5 and CCL ECCNs 1C350.b and 1C355.a.) or CWC Schedule 3 (CCL ECCNs 1C350.c and 1C355.b) might be included.
Items
bAgitators for use in "required" for reaction vessels or reactors described in 2B350.a, ... and impellers, blades or shafts designed "required" for such agitators ...
d.Heat exchangers or condensers ... and tubes, plates, coils or blocks (cores) designed "required" for such heat exchangers or condensers ...
eDistillation or absorption columns ...and liquid distributors, vapor distributors or liquid collectors designed "required" for such distillation or absorption columns, ...
gValves ... and casings (valve bodies) or preformed casing liners designed "required" for such valves ...
iMultiple-seal and seal-less pumps with manufacturer's specified rated maximum flow-rate ... or vacuum pumps

with manufacturer's specified rated

maximum flow-rate ...and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed "required" for such pumps ...

jIncinerators designed "required" to destroy "chemical warfare agents", chemical weapons precursors controlled by 1C350, or chemical munitions having specially designed , and waste supply systems, or special handling facilities "required" therefor, and rated for an average combustion chamber temperature ...

2B351STA(c)(1) N/A (no (c)(1) country is CB2 LR)
STA(c)(2) N/A

Toxic gas monitoring systems, and their dedicated detecting components "required" therefor (i.e. , ...), not controlled by 1A004.c, as follows, except those systems and detectors controlled by ECCN 1A004.c

(No carve out for USML Category XIV(f) is included,. This is because, in the absence of a technical basis to distinguish jurisdiction, ECCNs 1A004 and 2B351 appear to be the reasonable way to control such equipment.)

Related Controls: See ECCN 2D351 for "software" for toxic gas monitoring systems and their dedicated detecting components controlled by this ECCN. Also see ECCN 1A004, wx71, ea, newt-foo.a o ch c al t ectionTol tave• o ort no.; nllx desi gn ed e.,nvero 1 n evn own o +1,n+ n.on 19111V11%,J1141,/113 s-4,11113 13/,141.11, \/111,/11,,1141.34114441.1,, specially designed or modified for detection or identification of chemical warfare agents, but not specially designed for military use, and ECCN 1A995, which controls certain detection equipment and components not controlled by ECCN 1A004 of by this ECCN.

(One ECCN should not describe definitively the coverage of another ECCN.)

Related Definitions: (1) For the purposes of this entry, the term "dedicated" means committed entirely to a single purpose or devices. (2) For the purposes of this entry, the term "continuous operation" describes the capability of the equipment to operate means operating on line without human intervention. The intent of this entry is to control toxic gas monitoring systems capable of collection and detection of samples in environments such as chemical plants, rather than those used for batchmode operation in laboratories.

ECCN Controls: This entry does not control batch mode operation in laboratories.

(This distinction appears to be unacceptably based on end-user. However, there may be a better technical way to describe it.)

aDesigned Rated for continuous operation and usable for the detection of chemical warfare agents or chemicals controlled by 1C350 at concentrations of less than 0.3mg/m^3 (See comment on "chemical warfare agents" under 2B350, above.)

bDesigned Rated for the detection of cholinesterase-inhibiting activity.

STA(c)(2) N/A

Equipment capable of use in "required" for handling biological materials, as follows:

(In the absence of a technical basis to distinguish jurisdiction, "not controlled by USML Category XIV(f)" is omitted from 2B352.)

Related Controls: (1) ... 9A120 9A112 ... (2) Also see ECCN 2B225.

(9A120, being related to 9A012, should be renumbered 9A112.)

Items

b. ... capable of rated for ...

c. ... capable of rated for ...

d.1. ... capable of rated for ...

g. ... capable of rated for ...

h.1 ... specially designed or modified "required" ...

h.2 ... specially designed or modified "required" ...

h.3 ... specially designed "required" ...

Technical Nores:

3. ... specially designed "required" ...

2B991STA(c)(1) N/A AT

STA(c)(2) N/A

Related Controls:: Also see ECCNs 2B001, 2B201, and 2B290, 2B998, and 2D002

Items

b ... specially designed "required" ...

b,2 Capable of Rated for

b,3 Capable of Rated for

c. ... , according to the manufacturer's tgechnical specifications, can be equipped with rated for ...

c.1Two or more axes that can be coordinated simultaneously ...

d. ... , according to the manufacturer's tgechnical specifications, can be equipped with rated for ...

d.1 ... having two or more axes that can be coordinated simultaneously ...

d.2 ... have five or more axes that can be coordinated simultaneously ...

(2B991 a and b are not listed in 742 Supplement 2 and only a portion of .2B991.d.1.a is listed in 744 Supplement 2.)

2B992STA(c)(1) N/A AT

STA(c)(2) N/A

Non-"numerically controlled" machine tools for generating optical quality surfaces, as follows (see List of Items Controlled), and specially designed components "required" therefor

2B993STA(c)(1) N/A AT

STA(c)(2) N/A

Gearmaking and/or finishing machinery not controlled by 2B003 capable of rated for

2B352STA(c)(1) N/A (no (c)(1) country is CB2 LR)

producing gears to a quality level of better than AGMA 11 for cutting gears up to 1.25 meters in diameter.

(For consistency with 742 Supplement 22(c)(35),)

2B996STA(c)(1) N/A AT
STA(c)(2) N/A

Dimensional inspection or measuring systems or equipment, not controlled by 2B006 or 2B206, as follows (see List of Items Controlled).

2B997STA(c)(1) N/A AT
STA(c)(2) N/A

"Robots", not controlled by 2B007 or 2B207, that are capable of rated for employing feedback information in real-time processing from one or more sensors to generate or modify "programs" or to generate or modify numerical program data.

Related Controls: N/A Also see ECCN 2B998.

2B998STA(c)(1) N/A AT
STA(c)(2) N/A

Assemblies, units or inserts specially designed "required" for machine tools controlled by 2B991, or for equipment controlled by 2B993. 2B996, or 2B997, as follows (see List of Items Controlled)

Items

cSpecially designed printed circuit boards with mounted components capable of "required" for upgrading according to the manufacturer's technical specifications, "numerical control" units, machine tools, or feedback devices to or above the levels specified in ...

(2B998 is a candidate for deletion, since the only reason for control is AT, EAR99 requires a licens to AT countries, and 2B998 is not listed in 742 Supplement 2.)

2B999STA(c)(1) N/A AT
STA(c)(2) N/A

Specific processing equipment, n.e.s., as follows ...

Related Controls: See also 0B001, 0B002, 0B004, 1B233, 2A293, 2B001.f, 2B004, 2B009, 2B104, 1B109, 2B204, 2B209, 2B228, 2B229, 2B231, 2B350. The relevant NRC items are limited to those "required for nuclear reactors or separation of uranium isotopes.

Items

aIsostatic presses, n.e.s. not controlled by 2B004, 2B104, 2B204

cLaser welding machines, not controlled by 0B001, 0B002, 0B004, 2B228, or NRC

fMonel equipment, including valves, piping, tanks and vessels, not controlled by 2B350

g304 and 316 stainless steel valves, piping, tanks and vessels, not controlled by 2A226, 2A292, 2B350, or NRC

hMining and drilling equipment, not controlled by 2B001.f, as follows: ...

iElectroplating equipment designed "required" for coating parts with nickel or aluminum, not controlled by 2B005

jPumps, not controlled by 2A293m 2B231, or 2B350, designed for industrial services and for use with an electrical motor of 5 HP or greater

kVacuum valves, piping, flanges, gaskets and related equipment specially designed for use in "required" for high-vacuum service, n.e.s. not controlled by 2A226, 2A292, 2B350, ot NRC

lSpin forming and flow forming machines, n.e.s. not controlled by 2B009, 2B109, or 2B209

mCentrifugal multiplane balancing machines, n.e.s. not controlled by 2B229

nAustenitic stainless steel plate, valves, piping, tanks and vessels, not controlled by 2B350

(2B999 is a candidate for deletion. EAR99 is controlled to North Korea.)

2D001STA(c)(1) N/A for MT portions of 2B004 and 2B009

Yes for 2A001, 2B001 to 2B003, 2B005 to 2B008 and non-MT portions of 2B004 and 2B009 to all (c)(1) countries

(TSR is a reasonable alternative to STA for non-M T portions of 2D001 to all (c)(1) countries except Ukraine.)

STA(c)(2) N/A for 2B001 or 2B003 (STA exclusion)

N/A for MT portions of 2B004 and 2B009

Yes for non-MT but NP portions of 2B004 and 2B009 and for NP portions of 2B006 and 2B007 to Brazil, Kazakhstan, and South Africa ((c)(2) countries NP1 NLR)

Yes for 2A001, 2B002, 2B005, 2B008, non-MT and non-NP portions of 2B004 and 2B009, and non-NP portions of 2B006 and 2B007 to all (c)(2) countries

(TSR is a reasonable alternative to STA for non-MT portions of 2D001 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Software", other than that not controlled by 2D002, specially designed or modified "required" for the "development", "production", or "use" of equipment controlled by 2A001 or 2B001 to 2B009

MT applies to "software" for "use" of equipment controlled by 2B004 and or 2B009 for MT reasons

(MTCR 3.D.1 and EU interpretation of 6.D.1 are limited to "use" software.)

NP applies to specially designed or modified "software" for the "use" of equipment controlled by 2B001, for NP reasons, and to specialy designed "software" for equipment controlled by 2B004, 2B007, or 2B009 for NP reasons.

(NSG 1.D.1 is limited to "use" software.)

TSR: Yes, except N/A for MT or NP

Related Controls: ... (2) Also see ECCNs 2D101, and 2D201, 2D202, 2D290, and 2D991

2D002STA(c)(1) Yes to all (c)(1) countries
(TSR is a reasonable alternative to STA for 2D002 to all (c)(1) countries except Ukraine.)
STA(c)(2) Yes to Brazil, Kazakhstan, and South Africa ((c)(2) countries NP1 NLR)
(TSR is a reasonable alternative to STA for 2D002 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Software" for electronic devices, even when residing in an electronic device or system, enabling such devices or systems to function as a "requjired" for "numerical control" unit, capable of coordinating simultaneously more than 4 axes for "contouring control"

TSR:Yes N/A

(For consistency with 740.6(a) "national security reasons only.")

Note 1: 2D002 does not control "software" specially designed or modified rated for the operation of machine tools not controlled by Category 2B001, 2B002, or 2B003

(For consistency with Wassenaar 2.D.2.)

2D018STA(c)(1) N/A MT portion of 2D01
Yes non-MT portion of 2D018 to all (c)(1) countries
(TSR is a reasonable alternative to STA for 2D018 to all (c)(1) countries except Ukraine.)
STA(c)(2) N/A MT portion of 2B018
Yes non-MT portion of 2D018 to all (c)(2) countries
(TSR is a reasonable alternative to STA for 2D018 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Software" "required" for the "development", "production", or "use" of equipment controlled by 2B018

MT applies to "software" for the "use" of equipment controlled by 2B018 for MT reasons; the portions of 2D018 also described in the portions of 7D101 for the portions of 2B018 also described in 7B001, 7B003, or 7B101 for MT reasons; the portions of 2D018 also described in the portions of 9D001-9D003 or 9D101 for the portions of 2B018 also

described in 9B007, 9B104, 9B106, 9B115-9B117 for MT reasons; and the portions of 2D018 also described in 7B103 or 9B116.

(For consistency with MTCR Annex.)
UN applies ... and Rwanda

2D101STA(c)(1) N/A MT
STA(c)(2) N/A MT
"Software" specially designed or modified "required" for the "use" of equipment controlled by 2B104, 2B105, 2B`09, 2B116, 2B117, 2B119, to 2B122
NP applies to "software" specially designed for the "use" of ...
Related Controls:.. (1) Also see ECCNs 2D201 and 9A004

2D201STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
"Software", not controlled by 2D001 or 2D101, specially designed "required" for ...
Related Controls: ...(2) Also see ECCNs 2D002 and 2D202 2D991

2D202STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
"Software", not controlled by 2D001 or 2D002, specially designed or modified "required" for ...
Related Controls: N/A Also see ECCNs 2D290 and 2D991

2D290STA(c)(1) N/A (no (c)(1) country is NP2 LR)
STA(c)(2) N/A
"Software", not controlled by 2D001, 2D002, or 2D202 specially designed or modified "required" for ...
Related Controls: (1) ... (2) Also see ECCN 2D991

2D351STA(c)(1) N/A (no (c)(1) country is CB2 LR)
STA(c)(2) N/A
Dedicated "software" "required" for toxic gas monitoring systems and their dedicated detecting components controlled by ECCN 2B351

Related Definitions: (1) For the purposes of this entry, the term "dedicated" means committed entirely to a single purpose or device. (2) See ...

2D983STA(c)(1) Yes to Argentina, South Korea, Ukraine (only (c)(1) countries RS2 LR)
STA(c)(2) N/A
"Software" specially designed or modified "required" for ...
Related Controls: N/A See 742 Supplement 2(c)(40).

2D984STA(c)(1) Yes to Argentina, South Korea, and Ukraine
Only three (c)(1) countries are RS2 LR.)

Related Controls: ...

(The technical description of related USML jurisdiction now appearing on the CCL should also appear on the USML.)

2D991STA(c)(1) N/A AT
STA(c)(2) N/A

"Software", not controlled by 2D001, 2D002, 2D201, 2D202, or 2D290, specially designed "required" for ...

(2D991 is a candidate for deletion. EAR99 requires a license to AT countries. This item is omitted from 742 Supplement 2.)

2D992STA(c)(1) N/A AT
STA(c)(2) N/A

Items

a. "Software""required" to provide

a.2Capable of Rated for generating or modifying .....

(2D991 is a candidate for deletion. EAR99 requires a license to AT countries. This item is omitted from 742 Supplement 2.)

Note: 2D992,a dies bit cibtrik "software" which only provides rated to provide rescheduling ...

2D994STA(c)(1) N/A AT
STA(c)(2) N/A

"Software" specially designed "required" for ...

(2D994 is a candidate for deletion. EAR99 requires a license to AT countries. This item is omitted from 742 Supplement 2.)

2E001STA(c)(1) N/A MT

N/A NP2 or CB2 (no (c)(1) country is NP2 LR or CB2 LR)
Yes non-MT to Estonia, Iceland, Lithuania if NP1
Yes non-MT, non-NP, non-CB to all (c)(1) countries

(TSR is a reasonable alternative to STA for non-MT portions of 2E001 to all (c)(1) countries except Ukraine.)

STA(c)(2) N/A MT

N/A for 2D001 for 2B001 or 2B003 (STA exclusion)
N/A if both NP1 and CB2 (no (c)(2) country NLR for both)

Yes non-MT, non-STA exclusion, non-CB to Brazil, Kazakhstan, South Africa if NP1

Yes non-MT to all (c)(2) countries except Israel if NP2
Yes non-MT, non-NP1 to Malta if CB2

Yes non-MT, non-STA exclusion, non-NP, non-CB to all (c)(2) countries
(TSR is a reasonable

STA(c)(2) N/A

alternative to STA for non-MT portions of 2E001 to all (c)(2) countries except following twelve which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Technology" ... 2B (except 2B018, 2B352. 2B991, 2B992, 2B993, 2B996, 2B997, or 2B998, or 2B999

MT applies ... 2B018, ...

CB applies ... 2B350 to 2B352 or 2B351 ...

TSR:Yes, except N/A for MT, NP, or CB

Related Controls: See also 2E101, 2E201, and 2E301 N/A

(2E001 controls only "development"; 2E101, 2E201, and 2E301 control only "use".)

2E002STA(c)(1) N/A MT

N/A NP2 or CB2 (no (c)(1) country is NP2 LR or CB2 LR)

Yes non-MT to Estonia, Iceland, Lithuania if NP1

Yes non-MT, non-NP, non-CB to all (c)(1) countries

(TSR is a reasonable alternative to STA for non-MT portions of 2E002 to all (c)(1) countries except Ukraine.)

STA(c)(2) N/A MT

N/A for 2D001 for 2B001 or 2B003 (STA exclusion)

N/A if both NP1 and CB2 (no (c)(2) country NLR for both)

Yes non-MT, non-STA exclusion, non-CB to Brazil, Kaxakhstan, SouthAfrica if NP1

Yes non-MT to all (c)(2) countries except Israel if NP2

Yes non-MT, non-NP1 to Malta if CB2

Yes non-MT, non-STA exclusion, non-NP, non-CB to all (c)(2) countries

(TSR is a reasonable alternative to STA for non-MT portions of 2E002 to all (c)(2) countries except following twelve which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Technology" ... 2B (except 2B018, 2B352. 2B991, 2B992, 2B993, 2B996, 2B997, or 2B998, or 2B999

MT applies ... 2B018, ...

CB applies ... 2B350 to 2B352 or 2B351 ...

TSR:Yes, except N/A for MT, NP, or CB

2E003STA(c)(1) Yes

(TSR is a reasonable alternative to STA for

2E003.c or.d to all (c)(1) countries except Ukraine.)

STA(c)(2) Yes

(TSR is a reasonable alternative to STA for 2E003.c or .d to all (c)(2) countries except following twelve which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

TSR:Yes, except 2E003.a,.b, .e, and .f

Related Controls: See 2E001, 2E002, and 2E101 for "development", "production", and or "use" technology for equipment that are designed or modified for densification ...

Items

a."Technology" "required" for ...

b."Technology" for the design of tools, dies or fixtures specially designed "required" for any of the follosing

b.1."Technology" "required" for ...

c."Technology" "required" for ...

d."Technology" "required" for ...

e."Technology" "required" for ...

f."Technology" "required" for ...

Note to Table on Deposition Techniques ...

17."Technology" specially designed rated to deposit ...

2E018STA(c)(1) N/A MT

Yes Non-MT

STA(c)(2) N/A MT

Yes Non-MT

"Technology", not controlled by the USML, for the "use" of equipment controlled by 2B018, as follows (see List of Items Controlled)

MT applies to "technology" for equipment controlled by 2B018 for MT reasons; the portions of 2E018 also described in the portions of 1E001 or 1E101 for 1B115 or 1B117; the portion of 2E018 also described in the portions of 7E001. 7E002, or 7E101 for 7B001, 7B003, 7B101, or 7B103 for MT reasons; and the portions of 2E018 also described in the portions of 9E001, 9E002, or 9E101 for 9B007, 9B105, 9B106, 9B115, 9B116, or 9B117 for MT reasons.

UN applies ... and Rwanda

TSR:Yes, except N/A for Rwanda

Related Controls: N/A The relevant USML items are limited to "development" and "use" technology of equipment and software on the USML.

Items:

a."Technology" "required" for the "development", "production", or "use" of equipment controlled by 2B018 and for the production of commodities or software controlled

by the U.S. Munitions List (22 CFR 121.1) or by ECCNs on the CCL with last three digits 018.

b“Technology” “required” for the design of, the assembly of components into, and the operation, maintenance and repair of complete production installations, even if the components themselves are not controlled.
(To conform with WML 22.)

2E101STA(c)(1) N/A MT
STA(c)(2) N/A MT
“Technology” ... for the “use” of ... 2B004, ... 2D002, or 2D101 for MT reasons.
NP applies ... controlled by ... 2D002 ...

2E201STA(c)(1) Yes to Estonia, Iceland, Lithuania (only (c)(1) countries NP1 LR)
STA(c)(2) N/A
“Technology”, not controlled by 2E001, 2E002, or 2E101, ... for the “development”, “production”, or “use” of equipment or “software” controlled by ... 2B004, ... 2B104, 2B109, 2B116, ... 2D001, 2D002, 2D101, 2D201, or 2D202 for NP reasons.

2E290STA(c)(1) N/A (all (c)(1) countries are NP2 NLR and CB2 NLR)
STA(c)(2) N/A

2E301STA(c)(1) N/A (all (c)(1) countries are CB2 NLR)
STA(c)(2) N/A

2E983STA(c)(1) Yes to Argentina, South Korea, and Ukraine (three (c)(1) countries RS2 NLR)
STA(c)(2) N/A
“Technology” specially designed or modified “required” for ...
RelatedControls: N/A See 742 Supplemen t 2(c)(41)

2E984STA(c)(1) Yes to Argentina, South Korea, and Ukraine (three (c)(1) countries RS2 NLR)
STA(c)(2) N/A
Related Controls: ...
(The technical description of related USML jurisdiction now appearing on the CCL should also appear on the USML.)

2E991STA(c)(1) N/A AT
STA(c)(2) N/A
“Technology”, not controlled by 2E201 or 2E290, “required” for the “use” of...
(2E991 is a candidate for deletion. EAR99 requires a license to AT countries. 2E991 is omitted from 742 Supplement 2.)

STA(c)(2) N/A
"Technology" "required" for ...

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 3

3A001 STA(c)(1) N/A MT

Yes non-MT but NP to Estonia, Iceland, Lithuania (NP1 LR) and Argentina, Ukraine (NS2 LR)

Yes non-MT, non-NP to Argentina, Ukraine (only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative for non-MT 3A001.a.1.b, a.2 to a.12, b.2, b.8 except TWTAs exceeding 18 Ghz, b.9, b.10, g, h to (c)(1) countries except Ukraine.

CIV is a reasonable alternative for 3A001.a.3,4,7,11 to Ukraine for civil-end-use and civil end-user.)

STA(c)(2) N/A MT

Yes Non-MT to Brazil, Kazakhstan, South Africa if NP1 (only (c)(2) countries NP1 NLR)

Yes Non-MT, non-NP to all except Hong Kong (only (c)(2) country NS2 NLR)

(GBS is a reasonable alternative for non-MT 3A001.a.1.b, a.2 to a.12, b.2, b.8 except TWTAs exceeding 18 Ghz, b.9, b.10, g, h to (c)(2) countries except following twelve not GBS-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative for 3A001.a.3,4,7,11 to these twelve countries for civil-end-use and civil end-user.)

CIV is a reasonable alternative for 3A001.a.3,4,7,11 to Ukraine for civil-end-use and civil end-user.)

Electronic components and specially designed components "required" therefor, not controlled by USML, as follows

MT applies to portion of 3A001.a.1.a when usable in "required" for "missiles"; portion of 3A001a.2.a also described in 3A101.c; and to portion of 3A001.a.5.a when "designed or modified" for military use, hermetically sealed and rated for operations in the temperature range from below 54°C to above + 125°C also described in 3A101.a.

(3A101.c would be a new sub-item to conform with MTCR 11.A.4.)

LVS, GBS, and CIV

(GBS is a reasonable alternative to LVS for sub-items eligible for both. For GBS-eligible sub-items, GBS is a reasonable alternative to STA for countries eligible for both.

If end-use and end-user are civil, CIV is a reasonable alternative to STA for the following STA-eligible and CIV eligible countries which are the only STA-eligible countries which are GBS-ineligible: Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia, Tajikistan, Turkmenistan, Uzbekistan, Vietnam.

Also note that the following GBS-eligible countries are not STA-eligible: Afghanistan, Angola, Democratic Republic of Congo, Cote d'Ivoire, Cyprus, Egypt, Eritrea, Haiti, Indonesia, Lebanon, Liberia, Malaysia, Pakistan, Serbia, Sierra Leone, Somalia, Sri Lanka, Uganda, United Arab Emirates, Venezuela, Yemen.)

Related Controls: (1) The relevant USML items are limited to the following commodities are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121) when "space qualified" and operating at frequencies higher than 31.8 GHz: helix tubes (traveling wave tubes (TWT)) defined in 3A001.b.1.a.4.c; microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers (TWTA) defined in 3A001.b.8; and derivatives thereof. (2) The following commodities are also under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121): (a) "Space qualified" solar cells, coverglassinterconnectcells or coveredinterconnectcells (CIC) assemblies, solar arrays and/or solar panels, with a minimum average efficiency of 31% or greater measured at an operating temperature of 301K (28°C) under simulated 'AMO' illumination with an irradiance of 1,357 Watts per square meter (W/m^{2}), and associated solar concentrators, power conditioners and/or controllers, bearing and power transfer assemblies, and deployment hardware/systems; (b) Radiationhardened microelectronic circuits controlled by Category XV(d) of the United States Munitions List (USML); and (c) All specifically designed or modified systems or subsystems, components, parts, accessories, attachments, and associated equipment controlled by Category XV(e) of the USML.. See also 1C005, 3A101, 3A201, and, 3A991, 3A992.a, and 6A006. Items:

a.1 Integrated circuits designed or rated as radiation hardened ...

a.2 ... designed rated for "signal processing"

a.6 ... designed rated for "signal processing"

Note 1 3A001.b.1 does not control tubes designed or rated for operation ...

Note 2 3A001.b.1 does not control ...

(b) Designed or rated ...

b.1.c Impregnated cathodes designed rated for lll

Note 1: 3A001.b.2 does not control broadcast satellite equipment designed or rated to ...

Note 3. ... 3A001.b.2 does not control MMICs if they are specially designed rated for other applications, e.g., telecommunications, radar, automobiles.

Note 1: 3A001.b.4 does not control brtoadcast satellite equipment designed or rated to ...

b.7 Converters and harmonic mixers, designed rated to ...

Note: 3A001.b.8 does not control equipment designed or rated for ...

b.10 Oscillators or oscillator assemblies, designed rated to ...

c Acoustic wave devices as follws and specially designed components "required" therefor

Note: 3A001.c does not control acoustic wave devices that are limited to rated for a single band pass ...

d Electronic devices and circuits containing components, manufactured from "superconductive" materials specially designed rated for operation at temperatures below the "critical temperature"

Technical Note 3. ... a 'primary cell' is a 'cell' that is not designed rated to be charged by any other source.

Technical Note 4. ... a 'secondary cell' is a 'cell' that is designed rated to be charged by an external electrical source.

e.3 "Superconductive" electromagnets and soolenoids specially designed rated to ...

Note: 3A00`.e.3 does not control "superconductive" electromagnets or solenoids specially designed rated for Magnetic Resonance Imaging (MRI) medical equipment.

Note 2: 3A001.g does not control ... equipment designed rated for civil railway or "civil aircraft" applications.

Note 3: 3A001.h does not apply to ... equipment designed rated for civil automobile, civil railway, or "civil aircraft" operations.

3A002 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 3A002.a.1 and a portion of 3A002.b to Argentina, but not to Ukraine.

CIV is a reasonable alternative to STA for a portion of 3A002.a.1 to Ukraine for civil end-use and civil end-user.)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2 NLR; STA exclusion for 3A002.g.1 is inoperable, because g.1 is ITAR, rather than EAR, jurisdiction)

(GBS is a reasonable alternative to STA for 3A002.a.1 and a portion of 3A002.b to all (c)(2) countries except following twelve which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for a portion of 3A002.a.1 to these 12 countries for civil end-use and civil end-user.)

General purpose electronic equipment, not controlled by USML Category XV, and

accessories, therefor, as follows

GBS

(It is reasonable to use GBS, rather than STA, for 3A002.a.1 and portion of .b)

CIV

(If both civil use and civil user, it is reasonable to use CIV for the CIV-eligible portion of 3A002.a.1, rather than STA, to the following only (c)(2) countries ineligible for GBS but eligible for CIV: Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia, Tajikistan, Turkmenistan, Uzbekistan, Vietnam.):

Related Controls:(1) The relevant USML items are limited to "Space qualified" atomic frequency standards defined in 3A002.g.1 are subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121.1, Category XV). (2) See also 3A292 and 3A992.

(In USML Category XV, "space qualified" atomic frequency standards should be stated in positive, rather than double negative, terms and the definition of "space qualified" should be added.)

Items

a Recording equipment as follows and specially designed test tape "required" therefor

Note: Analog magnetic tape recorders specially designed rated for civilian video purposes are not considered to be instrumentation tape recorders.

Note: 3A002.a.2 does not control digital video magnetic tape recorders specially designed rated for television recording using ...

f2 Being capable of Rated for measuring amplitude and phase simultaneously

3A003 STA(c)(1) Yes to Argentina, Ukraine

(omly (c)(1) countries NS2 LR)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2 NLR)

Spray cooling thermal management systems ... using specially designed with spray nozzles that are designed rated to maintain electronic components within their operating temperature range, and specially designed components "required" therefor

3A101 STA(c)(1) N/A MT

STA(c)(2) N/A

Electronic equipment, devices and components, other than those not controlled by 3A001, as follows ...

NP applies to portion of 3A101.b also described in 3A201.c.

Related Controls: Items controlled in 3A101.a are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121). Also see 3A992.a and 3A191.

(No technical specifications have been identified to distinguish military

from civil ruggedized equipment.)

Items

a Analog-to-digital converters, usable in "required" for "missiles", having any of the followign characteristics:

a.1 designed to meet military specifications Rated for ruggedized equipment; or

a.2 Having any of the following characteristics:

a.2.a Analog-to-digital converter "microcircuits", which are "radiation-hardened" or have all of the following characteristics:

a.2.a.1 A quantization corresponding to 8 bits or more when coded in the binary system;

a.2.a.2 Rated for operation in the temperature range from below -54°C to above +125°C; and

a.2.a.3 Hermetically sealed; or

a.2.b Electrical input type analog-to-digital convereter printed circuit boards or modules, having all of the following characteristics:

a.2.b.1 A quanitization corresponding to 8 bits or more when coded in the binary system;

a.2.b.2 Rated for operation in the temperature range from below -45°C to above +55°C; and

a.2.b.3 Incorporating "microcircuits" specified in 3A101.a.2.a.

(To conform with MTCR 14.A.1.)

b Accelerators "required" for "missiles" or "missile subsystems" capable of rated for ...

(To conform with MTCR 15.B.5.)

Note: 3A101.b does not include control equipment specially designed rated for medical purposes.

c Electronic assemblies and components, not controlled by 3A001.a.2.a, "required" for "missiles" and rated for temperatures in excess of 125°C.

(To conform with MTCR 11.A.4.)

3A191 STA(c)(1) N/A MT

STA(c)(2) N/A

Items otherwise described in 3A101 "required" for missiles with a "range" between 25 and 300 kilometers to China or between 150 and 300 kilometers to Iraq.

3A201 STA(c)(1) Yes to Estonia, Iceland, Lithuania

(Only (c)(1) countries NP1 LR)

STA(c)(2) N/A

Electronic components, other than those not controlled by 3A001 or 3A101 or by NRC , as follows ...

Related Controls: ... (2) Also see 3A001.e.2 (capacitors) and 3A001.e.3 (superconducting

electromagnets) 1B999, 1C005, 3A991, 3A992.a, 3A999.c, and 6A006. (3) The relevant NRC items are limited to Superconducting electromagnets specially designed or prepared "required" for use in separating uranium isotopes are subject to the export licensing

authority of the Nuclear Regulatory Commission (see 10 CFR part 110)
Items
b.1 Capable of Rated for creating magnetic fields....

Note: 3A201.b does not control magnets specially designed rated for and exports "as parts of" medical nuclear magnetic resonance (NMR) imaging systems.

Note: 3A201.c does not control accelerators that are component parts components of devices designed rated for purposes other than electron beam or s-ray radiation (electron microscopy, for example) nor those designed rated for medical purposes.

3A225 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Frequency changers (also known as converters or inverters) or generators, other than those described in not controlled by 0B001.c.11 or NRC, having all of the following characteristics
Related Controls: ... (2) The relevant NRC items are limited to Frequency changers (also known as converters or inverters) specially designed or prepared for use in "required" for separating uranium isotope are subject to the export licensing authority of the Nuclear Regulatory Commission (ss 10 CFR part 110).
Items
a A multiphase output capable of rated for providing power ...
b Capable of Rated for operating ...

3A226 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
High-power direct current power supplies, other thn those described in not controlled by 0B002.j.6 or NRC, having ...
Related Controls: ... (3) The relevant NRC items are limited to Direct current power supplies specially designed or prepared for use in "required" for separating uranium isotope are subject to the export licensing authority of the Nuclear Regulatory Commission (ss 10 CFR part 110).
Items
a Capable of Rated for continuously producing ...

3A227 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
High-voltage direct current power supplies, other thn those described in not controlled by

0B002.j.5 or NRC, having ...

Related Controls: ... (3) The relevant NRC items are limited to Direct current power supplies specially designed or prepared for use in "required" for separating uranium

isotope are subject to the export licensing authority of the Nuclear Regulatory Commission (ss 10 CFR part 110).
Items
a Capable of Rated for continuously producing ...

3A228 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Switching devices ...

3A229 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Firing sets and equivalent high-current pulse generators (for detonators controlled by 3A232), as follows...
(NSG 6.A.2.b is not limited to firing sets for detonators controlled by 3A232.)
Related Controls: ... (2) High explosives and related equipment for military use are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121) Also see 3A230, 3A232, and 3A999.d
("High explosives and related equipment" is too vague to meet the desired "bright line" test to distinguish between State and Commerce jurisdiction.)
Items
a Explosive detonator firing sets designed rated to ...
b.1 Designed Rated for portable, mobile, or ruggedized use;
b.3 Capable of Rated for delivering ...
b.8 Specified for use Rated to operate over an extended temperature range ... or specified as suitable rated for aerospace applications.

3A230 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
High-speed pulse generators ...
Related Controls: (1) ... (2) Also see 3A239 and 3A999.d.

3A231 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Neutron generator systems, including tubes, ...

Unit: Number; parts and accessories in $ value

Items

a Designed Rated for operation ...

3A232 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Detonators and multipoint initiation systems ...
Related Controls: ... (3) High explosives and related equipment for military use are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).
("High explosives and related equipment" is too vague to meet the desired "bright line" test to distinguish between State and Commerce jurisdiction.)
Items
b Arrangements using single or mujltiple detonators designed "required" to nearly simultaneously initiatre an explosive surface over an area ...

3A233 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Mass spectrometers, other than thos described in not controlled by 0B002.g or NRC, capable of rated for measuring ions of 230 atomic mass units or greater and having a resolution of better than 2 parts in 230, as follows, and ion sources "required" therefor. ...
Related Controls: ... (2) The relevant NRC items are limited to Mass specrometers specially designed or prepared "required" for analyzing on-line samples of UF_6 gas streams are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (3) Also see 0B002.g, 3A992.a, 3A999.d, and 3A999.f.
Items
f Mass spectrometers equipped with a microfluorination ion source designed rated for actinides or actinide fluorides.

3A292 STA(c)(1) N/A (all (c)(1) countries are NP2 NLR)
STA(c)(2) N/A
Oscilloscopes and transient recorders other than those not controlled by 3A002.a.5, and speciaally designed components "required" therefor, as follows (see List of Items Controlled)
Related Controls:(1) ... (2) Also see 3A992.a.
Items
d Digital oscilloscopes and transient recorders using analog-to-digital conversion techniques, capable of rated for storing ...
Note: Specially designed components controlled by this item are the following, when "required" for analog oscilloscopes.constrolled by 2A292.a, .b, or .c

3A980 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine

(The other (c)(1) countries are CC1 NLR)

STA(c)(2) N/A

Voice print identification and analysis equipment and parts, n.e.s.

3A981 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine
(The other (c)(1) countries are CC1 NLR)
STA(c)(2) N/A
Polygraphs ... and specially designed parts and accessories, n.e.s.

3A991 STA(c)(1) N/A AT
STA(c)(2) N/A
Electronic devices and components not controlled by 3A001 or 3A201.b, as follows
Related Controls: N/A (1) Also see 1C005 and 6A006. (2) See 742 Supplement 2(c)(26) for 3A991.a
Items
k "Superconductive" electromagnets or solenoids specially designed rated to be fully charged or discharged in less than one minute ...
l Circuits or systems for electromagnetic energy storage, containing components manufactured from "superconductive" materials specially designed rated for operation at temperatures ...
(3A991,a,3 ti 3A991.n is a candidate for deletion. EAR99 requires a license to AT countries. 3A991.a.3 to 3A991.n is omitted from 742 Supplement 2.)

3A992 STA(c)(1) N/A AT
STA(c)(2) N/A
. General purpose electronic equipment not controlled by 0B001, 2B006, 2B206, 3A001, 3A002, 3A101. 3A201, 3A233, 3A292, 3B002, or 5B001
Items
c Equipment, ..., designed rated to convert digital video magnetic tape recorders for use as to digital instrumentation data recorders
(3A992 is a candidate for deletion. EAR99 requires a license to AT countries. 3A992 is omitted from 742 Supplement 2.)

3A999 STA(c)(1) N/A AT
STA(c)(2) N/A
Related Controls: (1) See also 0B002, 3A225 (for frequency changes capable of changers rated for operating in the frequency range of 600 Hz and above), 3A233. (2) See 744 Supplement 2 for controls for military end-use in China.
Items
a Frequency changers, not controlled by 3A225, capable of rated for operating ...
. b Mass spectrometers n.e.s., not controlled by 3A233, ...
c All flash x-ray machines, and components of pulsed power systems designed

thereof rated therefor, including Marx generators, high power pulse shaping networks, high voltage capacitors, and triggers, not controlled by 3A001.e.2, 3A201.a or .c, or 3A226 to 3A230;

d Pulse amplifiers, n.e.s. not controlled by 3A229 ir 3A230;
f Chromatography and spectrometry analytical instruments, not controlled by 3A233.

3B001 STA(c)(1) Yes to Argentina, Ukraine
(only (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for 3B001.a.1, b,c,d,g,h and portion of 3B001.e to Argentina but not to Ukraine.
CIV is a reasonable alternative to STA for 3B001.a.1 to Ukraine for civil end-use and civil end-user.)
STA(c)(2) N/A 3B001.a.2 (STA exclusion)
Yes 3B001.a.1, a.3, b to i to all (c)(2) countries except Hong Kong
(Only one (c)(2) country NS2 NLR
(GBS is a reasonable alternative to STA for 3B001.a.1, b,c,d,g,h and portion of 3B001.e to all (c)(2) countries except following twelve which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative to STA for 3B001.a.1 to these twelve countries for civil end-use and civil end-user.)

Equipment for the manufacturing of semi-conductor devices or materials, as follows (see List of Items Controlled) and specially designed components and accessories "required" therefor.

Items
a Equipment designed rated for epitaxial growth, as follows;
a1 Equipment capable of rated for ...
a.2 ... reactors specially designed "required" for
b Equipment designed "required" for ion implantation ...
b.2 Being specially designed and optimized "Required" to operate at a beam energy ...
b3 Direct write capability
c.1.a Designed or optimized Rated to produce critical dimensions ...
c.1.b Designed Rated for generating less than ...
c2 Equipment specially designed "required" for equipment controlled by 3B001.a ...
c.2.a Designed or optimized Rated to produce critical dimensions ...
c.2.b Designed Rated for generating less than ...

d.1 Equipment ... and designed accorrding to the manufacturer's specifications or optimized for use in "required" for the production of ...

d.2 Equipment specially designed "required" for equipment controlled by 3B001.e ...

e.2 Designed Rated to form ...

Note: 3B001.e does not control automatic robotic wafer handling systems not designed rated to operate in a vacuum environment.

f.1.b Capable of Rated for producing a pattern ...

f.3 Equipment specially designed "required" for mask making ...

f.3.b.2 Being capable of Rated for producing a pattern ...

g Masks and reticles, designed rated for integrated circuits controlled by 3A001.

Note: 3B001.h does not control multi-layer masks with a phase shift layer designed rated for the fabrication of memory devices not controlled by 3A001

i [illegible] 3A001

3B002 STA(c)(1) Yes to Argentina, Ukraine

(omly (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 3B002 to Argentina, but not to Ukraine.)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2 NLR

(GBS is a reasonable alternative to STA for 3B002 to all (c)(2) countries except the following twelve which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

Test equipment specially designed "required" for testing finished or unfinished semiconductor devices as follows (see List of Items Controlled) and specially designed components and accessories "required" therefor

3B991 STA(c)(1) N/A AT

STA(c)(2) N/A

... and specially designed components and accessories "required" therefor

Unit: ... and accessories ...

Items

a Equipment specially designed "required" for the manufacture of electron tubes, optical elements and specially designed components therefor controlled by 3A001 or 3A991

b Equipment specially designed “required” for the manufacture of semiconductor devices ...

Note: 3B991.b also controls equipment used or modified for use in “required“ for the manufacture of other devices, such as imaging devices, electro-optical devices, acoustic wave devices controlled by 3A001 or 3A991 .

Note: 3B991 does not control ... boats (except specially designed

"required" caged boats), bubblers, cassettes, or crucibles specially designed for the processing equipment controlled by 3B991,b,1.

b.1.b Equipment specially designed "required" for purifying or processing ...

b.1.c.1 ... capable of rated for processing wafers at a rate ...

b.1.c.2.b Capable of Rated for operation at ...

b.1.c.2.c Capable of Rated for pulling crystals ...

b.1.d.1 Capable of Rated for producing a silicon wafer ...

b.1.d.2 Capable of Rated for producing a layer of ...

b.1.f ... "sputtering equipment with specially designed integral load locks capable of "required" for transferring wafers ...

b.1.g Equipment specially designed "required" for ion implantation ...

b.1.g.1 Patterning

b.1.g.3 Optimized Rated to operate

b.1.g.4 Capable of Rated for high energy oxygen implant

Notes 1. "Batch types" refers to machines not specially designed rated for production processing of single wafers.

2. "Single wafer types" refers to machines specially designed rated for production processing of single wafers.

b.1.i ... capabilities characteristics ...

b.1.j ... specially designed or modified "required" ...

b.1.k.1 Specially designed equipment "required" for backside processing ...

b.1.k.2 Specially designed equipment "required" for achieving ...

b.1.l specially designed "required" to permit ...

b.2.a.2.a Their design is base on Rated for geometries..

b.2.a.2.b The design does not include special features to alter the intended use by Not rated to alter the means of production equipment or "software"

b.2.b.2 "Substrates" specially designed "required" for X-ray masks;

b.2.c ... specially designed "required" for computer aided design ...

b.2.d.1 ... capable of rated for producing a single exposure ...

b.2.d.2 ... capable of rated for producing ...

Note: 3B991.b.2.e does not control general purpose scanning electron microscopes except when specially designed "required" and instrumented for automatic pattern inspection ...

b.2.f ... capable of rated for ... b.2.g ... capable of rated for ...

b.2.h ... capable of rated for ... b.3.a.1 Specially designed "required" for "hybrid integrated circuits"

b.3.c ... specially designed "required" for ceramic microcircuit packages..

b.4 ... capable of rated for ...

3B992 STA(c)(1) N/A AT

STA(c)(2) N/A

Equipment specially designed “required” for the inspection or testing ... and specially designed components and accessories therefor controlled by 3A001 or 3A991, as foillows

(see List of Items Controlled)...

(For consistency with 742 Supplement 2(c)(12).)

Items:

a Equipment specially designed "required" for the inspection ... and specially designed components therefor controlled by 3A001 or 3A991

b Equipment specially designed "required" for the inspection ...

Note: 3B991.b also controls equipment used or modified for use in "required" for the inspection or testing of other devices, such as imaging devices, electro-optical devices, acoustic wave devices controlled by 3A001 or 3A991 .

Note: 3B992.b.1 does not control general purpose scanning electron microscopes, except when specially designed "required" and instrumented for automatic pattern inspection.

b.2 [illegible] equipment, as follows "required" for the following:

b.2.a Specially designed for the measurement of oxygen or carbon content ...

b.2.b Equipment for line width measiruement with ...

b.2.c Specially designed for flatness measurement ...

b.3.b Capable of Rated for testing devices having .....

b.3.c Capable of Rated for testing at ...

b.4.a "Stored program controlled" equipment specially designed "required" for testing discrete semiconductor devices and unencapsulated dice, capable of rated for testing at frequencies .....

b.4.b "Stored program controlled" equipment specially designed "required" for testing integrated circuits and "electronic assemblies" thereof, capable of rated for functional testing.

b.4.b.2 ... capable of rated for testing packages...

Note: 3B992.b does not control test equipment specially designed rated for testing:

b.4.c Equipment specially designed "required" for determining ...

b.4.c.2 Designed Rated for measuring ...

b.4.c.3 Designed Rated for evaluating ...

b.5 Electron beam test systems designed rated for ...

b.5.a Stroboscopic capability with ...

Note: 3B992.b.5 does not control scanning electron microscopes, except when specially designed "required" and instrumented for

b.6 ... ion beam systems specially designed "required" for ...

b.7 Particle measuring systems employing "lasers" designed rated for ...

b.7.a Capable of Rated for measuring ...

b.7.b Capable of Rated for characterizing ...

3C001 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2

NLR)

3C002 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 3C002.a to Argentina, but not to Ukraine.

CIV is a reasonable alternative to STA for 3C002.a to Ukraine for civil end-use and civil end-user.)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for 3C002.a to all (c)(2) countries except following twelve which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for 3C002.a to these twelve countries for civil end-use and civil end-user.)

Items

a Positive resists designed "required" for semiconductor lithography specially adjusted (optimized) for use at wavelengths below 245 nm.

b All resists designed for use with "required" for electron beams or ion beams, with

c All resists designed for use with "required" for X-rays, with ...

d All resists optimiseda "required" for surface imaging ...

e All resists designed or optimized for use with "required" for imprint lithography

3C003 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2 NLR)

Related Controls: (1) ... (2) Also see 1C350, 2B351.a, and 3C004.

3C004 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2

NLR)

Related Controls:N/A Also see 1C350, 2B351.a, and 3C003.b.

3C005 STA(c)(1) Yes to Argentina, Ukraine
(only (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for 3C005 to Argentina, but not to Ukraine.
CIV is a reasonable alternative to STA for 3C005 to Ukraine for civil end-use and civil end-user.)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong
(Only one (c)(2) country NS2 NLR)
(GBS is a reasonable alternative to STA for 3C005 to all (c)(2) countries except following twelve which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative to STA for 3C005 to these twelve countries for civil end-use and civil end-user.)

3C006 STA(c)(1) Yes to Argentina, Ukraine
(only (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for 3C006 to Argentina, but not to Ukraine.
CIV is a reasonable alternative to STA for 3C006 to Ukraine for civil end-use and civil end-user.)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong
(Only one (c)(2) country NS2 NLR)
(GBS is a reasonable alternative to STA for 3C006 to all (c)(2) countries except following twelve which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for 3C006 to these twelve countries for civil end-use and civil end-user.)

STA(c)(2) N/A
Positive resists designed "required" for semiconductor lithography specially adjusted (optimized) for use at wavelengths between 370 and 245 nm.

3D001 STA(c)(1) Yes
(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine, for 3D001 except for 3A001.b.8 Traveling Wave Tube Amplifiers exceeding 18 GHz.)

STA(c)(2) N/A for 3B001.a.2 (STA exclusion)
Yes Not for 3B001.a.2
(TSR is a reasonable alternative to STA for 3D001, except for 3A001.b.8 Traveling Wave Tube Amplifiers exceeding 18 Ghz, to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan)

"Software", not controlled by the USML, specially designed "required" for the "development"or "production" of equipment controlled by 3A001.b to 3A002.g or 3B (except 3B991 and 3B992)

Related Controls: (1) The relevant USML items are limited to "Software"specially designed for the "development" or "production" of the following equipment is under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121) (1) When operating at frequencies higher than 31.8 Ghz and "space qualified": Helix tubes (traveling wave tubes (TWT)) defined in 3A001.b.1.a.4.c; and microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers (TWTA) defined in 3A001.b.8 ;(2) "Space qualified" solar cells, coverglass interconnectcells or coveredinterconnectcells (CIC) assemblies, solar arrays and/or solar panels, with a minimum average efficiency of 31% or greater measured at an operating temperature of 301K (28°C) under simulated 'AMO' illumination with an irradiance of 1,357 Watts per square meter (W/m^{2}), and associated solar concentrators, power conditioners and/or controllers, bearing and power transfer assemblies, and deployment hardware/systems; (3) and "Space qualified" atomic frequency standards defined in 3A002.g.2 (2) See also 3D101, 3D003 and 3D191.
(3D001 is for development or production; 3D101 is for use.)

3D002 STA(c)(1) Yes
(TSR is a reasonable alternative to STA for

3D002 to all (c)(1) countries except Ukraine.)

STA(c)(2) Yes

(TSR is a reasonable alternative to STA for 3D002 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia,

Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan)

"Software" specially designed "required" for the "use" of equipment controlled by 3B001.a to .f or 3B002

3D003 STA(c)(1) Yes

(TSR is a reasonable alternative to STA for 3D003 to all (c)(1) countries except Ukraine.)

STA(c)(2) Yes

(TSR is a reasonable alternative to STA for 3D003 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan)

'Physics-based' simulation "software" specially designed "required" for ...

3D004 STA(c)(1) Yes

(TSR is a reasonable alternative to STA for 3D004 to Argentina, but not to Ukraine.)

STA(c)(2) Yes

(TSR is a reasonable alternative to STA for 3D004 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan)

"Software" specially designed "required" for the "development" of equipment controlled by 3A003

Related Controls: N/A Also see 3D001 and 3D991.

3D101 STA(c)(1) N/A MT

STA(c)(2) N/A

"Software" specially designed or modified "required" for the "use" of ... 3A101.b "required" for testing "missiles" or "missile subsystems" or for the "use" of the portion of 3A001.a.2.a controlled for MT reasons.

(To conform with MTCR 15.D.1 and 11.D.1.)

3D191 STA(c)(1) N/A MT

STA(c)(2) N/A

"Software" otherwise described in 3D101 "required" for missiles with a "range" between 25 and 300 km to China or beetween 150 and 300 km to Iraq,

3D980 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine

(The other (c)(1) countries are CC1 NLR)

STA(c)(2) N/A
"Software" specially designed "required" for ...

3D991 STA(c)(1) N/A AT
STA(c)(2) N/A
"Software" specially designed "required" for ...or manufacturing and or test equipment controlled by 3B991 and or 3B992; or "software" specially designed "required" for the "use" of equipment controlled by 3B001.g and or .h
(3D991 is a candidate for deletion. It is omitted from 742 Supplement 2.)

3E001 STA(c)(1) N/A MT
Yes non-MT but NP to Estonia, Iceland, Lithuania (NP1 LR) and Argentina, Ukraine (NS2 LR)
Yes non-MT, non-NP to Argentina, Ukraine
(only (c)(1) countries NS2 LR)
(TSR is a reasonable alternative to STA for the portion of 3E001 eligible for TSR to all (c)()1) countries except Ukraine.)
STA(c)(2) N/A MT
N/A for 3B001.a.2 (STA exclusion)
Yes Non-MT, non-STA exclujsion, to Brazil, Kazakhstan, South Africa if NP1
(only (c)(2) countries NP1 NLR)
Yes Non-MT, non-NP, non-STA excclusi to all except Hong Kong
(only (c)(2) country NS2 NLR)
(TSR is a reasonable alternative to STA for the portion of 3E001 eligible for TSR to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan)
"Technology", not controlled by USML, ... controlled by 3A (except 3A191, 3A292 ...)...
TSR: Yes except N/A for MT or NP and "technology" specially designed "required" for the "development" or "production" of (a) Traveling Wave Tube Amplifiers exceeding 19 GHz; and (b) solar cells, coverglass-interconnect-cells or covered-interconnect-cells (CIC) assemblies, solar arrays and/or solar panels, which are "space qualified," having a minimum average efficiency exceeding 20% but less than 31% described in 3A001.e.4.
(Technology for TWTAs is USML and not subject to EAR.)
Related Controls: (1) See also 3E101 and 3E201 3E002, 3E191. 3E292, 3E980, and 3E991
(3E001 is development or production; 3E101 and 3E201 are use.)

Related Controls (2) The relevant USML items are limited to "Technology" accoding to the General Technology Note for the "development" or "production" of the followoing commodities is under the export licensing authority of the Department of State,

Directorate of Defense Trade Controls (22 CFR part 121) (a) When operating at frequencies higher than 31.8 GHz and "space qualified": helix tubes (traveling wave tubes (TWT)) defined in 3A001.b.1.a.4.c; and microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers (TWTA) defined in 3A001.b.8 ;(b) "Space qualified" solar cells, coverglassinterconnectcells or coveredinterconnectcells (CIC) assemblies, solar arrays and/or solar panels, with a minimum average efficiency of 31% or greater measured at an operating temperature of 301K (28°C) under simulated 'AMO' illumination with an irradiance of 1,357 Watts per square meter (W/m^{2}), and associated solar concentrators, power conditioners and/or controllers, bearing and power transfer assemblies, and deployment hardware/systems; (c) and "Space qualified" atomic frequency standards defined in 3A002.g.2

3E002 STA(c)(1) Yes

(TSR is a reasonable alternative to STA for 3E002 to all (c)(1) countries except Ukraine..

CIV is a reasonable alternative to STA for the portion of 3E002 eligible for CIV to Ukraine for civil end-use and civil end-user.)

STA(c)(2) Yes

(TSR is a reasonable alternative to STA for 3E002 to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for the portion of 3E002 eligible for CIV to these twelve countries for civil end-use and civil end-user.)

"Technology" ... other than that not controlled in by 3E001 or 3E003 for ...
CIV: ... License Exception CIV does not apply to ECCN 3E002 technology also required for the development or production of items controlled under ECCNs beginning with 3A, 3B, or 3C or to ECCN 3E002 technology also controlled under ECCN 3E003
Items
a A 'vector processor unit' designed rated to perform ...
b Designed Rated to perform
c Designed Rated to perform

...
3E003 STA(c)(1) Yes

(TSR is a reasonable alternative for 3E003.a to .e to all (c)(1) countries except Ukraine.)

STA(c)(2) Yes

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(TSR is a reasonable alternative for 3E003.a to .e to all (c)(2) countries except the following twelve, which are not TSR-eligible:Armenia,

Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.).

Other "technology", not controlled by the USML, "required" for ...

Related Controls: (1) The relevant USML items are those limited to Technology for the "development" or "production" of "space qualified" electronic vacuum tubes operating at frequencies of 31.8 GHz or higher, described in 3E003.g, is under the export license authority of the Department of State, Directorate ofDefense Trade Controls (see 22 CFR part 121).

3E101 STA(c)(1) N/A MT
STA(c)(2) N/A

"Technology" ... for the "use" of equipment or "software" controlled by 3A001.a.1 or .2 3A001.a.1.a, a.2.a, or a.5.a, 3A101, or 3D101 for MT reasons

Related Controls: N/A See also 3E191

3E102 STA(c)(1) N/A MT
STA(c)(2) N/A

"Technology" for the "development" or "production" of "software" controlled by 3D101.

3E191 STA(c)(1) N/A MT
STA(c)(2) N/A

"Technology" "required" for the "development", "production", or "use" of 3A191 or 3D191 to China or Iraq,

3E201 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A

"Technology", not controlled by 3E001, ... for the "use" of equipment controlled by 3A001.e.2 or e.3, 3A201, 3A225 to 3A233 for NP reasons

3E292 STA(c)(1) N/A (all (c)(1) countries are NP2 NLR)
STA(c)(2) N/A

3E980 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine
(The other (c)(1) countries are CC1 NLR)
STA(c)(2) N/A

"Technology" specially designed "required" for ...

3E991 STA(c)(1) N/A AT
STA(c)(2) N/A
"Technology", not controlled by 3E001, 3E101, 3E201, or 3E292, "required" for ...

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 4

Category 4 - Computers

Note 1: Computers, related equipment and "software" performing telecommunications or "local area network" functions must also be evaluated against the performance characteristics of Category 5, Part 1 (Telecommunications) rather than against the performance characteristics in Category 4.

(For consistency with Category 5 Part 1 Note 1.)

Note 3:Computers, related equipment and "software" performing cryptographic, cryptoanalytic, certifiable multilevel security or certifiable userisolation functions, or that limit electromagnetic compatibility (EMC) must also be evaluated against the performance characteristics in Category 5 Part 2 ("Information Security") rather than against the performance characteristics in Category 4.

(For consistency with Category 5 Part 2 Note 1. The former 5A002 sub-item for certifiable multi-level security or certifiable user isolation functions has been deleted.)

4A001 STA(c)(1) N/A MT

Yes non-MT to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

STA(c)(2) N/A MT

N/A 4A001.a.2 (STA exclusion)

Yes Non-MT, non-STA exclusion,t to all except Hong Kong

(only (c)(2) country NS2 NLR)

Electronic computers, not controlled by USML, and related equipment, having any of the following characteristics (see List of Items Controlled), and "electronic assemblies" and specially designed components "required" therefor.

Related Equipment (1) See also 4A101 and 4A994. (2) The relevant USML items are limited to Equipment designed or rated "required" for transient ionizing radiation is subjec to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.)

Items

a Specially designed Rated to have any of the following:

a1 Rated for operation at an ambient temperature ...

Note: 4A001.a.1 does not apply to computers specially designed rated for civil automobile or railway train applications.

4A003 STA(c)(1) Yes 4A003.b and .c to all (c)(1) countries except Canada)

Yes 4A003.a, .e, and .g to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 4A003.e and .g to all (c)(1) countries

except Ukraine. CIV is a reasonable alternative to STA for 4A003.e and .g to Ukraine for civil end-use and civil end-user.)

STA(c)(2) N/A finger-print equipment (if not deleted)

Yes not finger-print equipment

(GBS is a reasonable alternative to STA for 4A003.e and .g to all (c)(2) countries except the following twelve, which are not GNS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.. CIV is a reasonable alternative to STA for 4A003.e and .g to these twelve countries for civil end-use and civil end-user.)

(License Exception APP is a reasonable alternative to STA for 4A003.a,b,c for most (c)(1) and (c)(2) countries. However, many of the exceptions are difficult to understand:

Two (c)(1) countries, Croatia and Ukraine, are in Computer Tier 3 (CT3) (APP-ineligible for 4A003.a,b,c) rather than Computer Tier 1 (CT1):(APP-eligible for 4A003.a,b,c).

The 22 countries listed in 740.7(c)(3)(I) for favorable technology and software treatment are all (c)(1) countries. They omit the following 15 (c)(1) countries: Argentina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Iceland, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, South Korea, and Ukraine.

The two (c)(2)(i) countries, Albania and Israel, are CT3 rather than CT 1.

The following 19 (c)(2)(ii) countries are CT3 rather than CT1: Algeria, Andorra, Bahrain, Bosnia & Herzogovina, Comoros, Djibouti, India, Jordan, Kosovo, Kuwait, Macedonia, Mauritania, Montenegro, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Vanuatu.

On the other hand, the following 12 CT1 countries are omitted from (c)(2)(ii): Cote d'Ivoire, Cyprus, Eritrea, Haiti, Indonesia, Liberia, Malaysia, Sierra Leone, Somalia, Sri Lanka. Uganda, Zimbabwe. ..

With respect to GBS, the following 12 (c)(2)(ii) countries are Country Group D:1 (GBS-ineligible for 4A003.e and .g) rather than Country Group B (GBS eligible for 4A003.e and .g): Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan. But these 12 countries are eligible for CIV if for civil end-use and civil end-user.

On the other hand, the following 21 Country Group B countries are omitted from (c)(2)(ii): Afghanistan, Angola, Democratic Republic of Congo, Cote d'Ivoire, Cyprus, Egypt, Eritrea, Haiti, Indonesia, Lebanon, Liberia, Malaysia, Pakistan, Serbia, Sierra Leone, Somalia, Sri Lanka, Uganda, United Arab Emirates, Venezuela, Yemen.

Many of the numerous above discrepancies are probably obsolete and currently inadvertent and unintended.)

"Digital computers", "electron assemblies", and related equipment therefor, as follows and specially designed components "required" therefor

CC applies to "digital computers" for comput0rized fingerprint equiment CC Column 1

(Computers are general purpose. 3D980 covers fingerprint software.)

NP applies, unless a License Exception is available. See 742.3(b) of the EAR for information on applicable licensing review policies.

(NSG does not control such computers.)

GBS: Yes, for 4A003.e and .g and specially designed components "required" therefor, ...

Related Controls: See also 4A994 and 4A980 5A001.

Items

Note 2 N.B.1 The control status of "signal processing" or "image enhancement" equipment specially designed "required" for other equipment with functions limited to those required for the other equipment described in an ECCn numbered xx0xx is determined by the control status of the other equipment even if it exceeds the "principal element" criterion.

(This Wassenaar N.B. refers to other equipment controlled by Wassenaar. It is irrelevant whether controlled equipment also has functions for non-controlled equipment.)

a Designed or modified for "fault tolerance"

Note: For the purposes of 4A003.a, does not control "digital computers" and related equipment are not consider to be designed or modified for "fault tolerance" if they utilize any of the following:

b "Digital computers" having an "Adjusted Peak Performance" ("APP") exceeding 0.75 1.5 weighted teraFLOPS (WT);

c "Electron assemblies" specially designed or modified to be capable of rated for enhancing performance by aggregation of processors so that the "APP" of the aggregation exceeds the limit in 4A003.b;

Note 2: 4A003.c does not control "electronic assemblies" specially designed rated for a product or family of products whose maximum configuration does not exceed the limit of 4A003.b.

g Equipment specially designed "required" to provide external interconnection ...

4A004 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

STA(c)(2) Yes to all (c)(2) countries except Hong Kong

Computers as follows (see List of Items Controlled) and specially designed related equipment, "electronic assemblies" and components "required" therefor

Related Controls: N/A See also 3A001.a.9 neural network integrated circuits, 3A001.a.6 optical integrated circuits, and 6A002.d and 6A004.b optical sensors and components.

4A101 STA(c)(1) N/A MT
STA(c)(2) N/A

Analog computers, “digital computers”, or digital differential analyzers, other than those not controlled by 4A001 designed or modified for use in “required” for “missiles”, having either of the following (see List of Items Controlled)
Related Controls: N/A See also 4A191 and 4A994.
Items
b Designed Rated as ruggedized or ‘radiation hardened’.

4A102 STA(c)(1) N/A MT
STA(c)(2) N/A
“Hybrid computers” specially designed “required” for modeling, simulation, or design integration of “missiles” or “missile subsystems” (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Dewfense Trade Controls. See 22 CFR part 121.)
Note 1: This control applies only when the equipment is supplied with software described in 7D103 or 9D103, which is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.
Note 2: The “modeling” includes in particular the aerodynamic and thermodynamic analysis of the systems.
(To conform with MTCR 16,A,1.)

4A191 STA(c)(1) N/A MT
STA(c)(2) N/A
Items otherwise described in 4A101 “required” for missiles with a “range” between 25 and 300 km to China or between 150 and 300 km to Iraq.

4A980 STA(c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, Ukraine
(The other (c)(1) countries are CC1 NLR)
STA(c)(2) N/A
Computers for fingerprint equipment, n.e.s. not controlled by 4A003
(4A980 is a candidate for deletion. Computers are general purpose. 3D980 software covers what is significant for fingerprint analysis.)

4A994 STA(c)(1) N/A AT
STA(c)(2) N/A
Computers, “electronic assemblies”, and related equipment not controlled by 4A001, or 4A003,, 4A101, or 4A102, as follows (saee List of Items Controlled) and specially designed components therefor
(Deletion of components is for consistency with 742 Supplement 2(c)(24).)
Unit: Equipment in number; parts and accessories in $ value.
Related Controls: N/A See 744 Supplement 2 re controls for military end-use in China.

Items

Note 1: The control status of the “digital computers” and related equipment described in 4A994 is determined by the control status of other equipment or systems controlled by an

ECCN numbered xx9xx, provided:
N.B. 1: The control status of "signal processing" or "image enhancement" equipment specially designed "required" for other equipment with functions limited to those required for the other equipment controlled by an ECCN numbered xx9xx is determined by the control status of the other equipment even if it exceeds the "principal element" criterion.

a ... and specially designed components therefor ...

c "Electronic assemblies" specially designed or modified rated to enhance performance by aggregation of processors, as follows:...

c1 Designed to be capable of aggregation in configurations of 16 or more processors;

Note 2: 4A994.c does not control any "electronic assembly" specially designed rated for a product or family of products whose maximum configuration does not exceed the limits of 4A994.b

j Equipment specially designed "required" to provide ...

k "Hybrid computers" and "electronic assemblies" and specially designed components "required" therefor containing:

D. Software

Note: The control status of "software" for the "development", "production", or "use" of equipment described in other Categories is dealt with in the appropriate Category. The control status of "software for equipment described in this Category is dealt with herein.

(Wassenaar agreed to delete this sentence in December 2009.)

4D001 STA(c)(1) Yes

(TSR and APP are reasonable alternatives to STA, especially for the 22 (c)(1) countries listed in 740.7(c)(3)(i).)

STA(c)(2) N/A Software for development or production of 4A001.a.2 or of "digital computers" having APP exceeding 0.5 WT (STA exclusion) Yes Non-STA exclusion

(TSR and APP are reasonable alternatives to STA for most (c)(2) countries. See 4A003 above for relevant country differences in various lists.)

CC applies to "software" fort computerized finerprint equipment controlled by 4A003 for CC reasons CC Column 1

(3D980 covers such software.)

NP applies, unless a License Exception is available. See 742.3(b) of the EAR for information on applicable licensing review policies.

(NSG does not cover such software.)

Related Controls: N/A See also 4D994.

Items

a "Software" specially designed or modified "required" for ...

b "Software", other than that not controlled by 4D001.a, specially designed or

modified "required" for

b.2 "Electronic assemblies" specially designed or modified "required" for:

4D002 STA(c)(1) Yes

(TSR and APP are reasonable alternatives to STA, especially for the 22 (c)(1) countries listed in 740.7(c)(3)(i).)

STA(c)(2) Yes

(TSR and APP are reasonable alternatives to STA for most (c)(2) countries. See 4A003 above for relevant country differences in various lists.)

"Software" specially designed or modified "required" to support "technology" ... NP appplies, unless a License Exception is available. See 742.3(b) of the EAR for information on applicable licensing review policies.

TSR: Yes, except N/A for "software" specifically designed or modified "required" to support "technology" for computers requiring a license.

4D980 STA(c)(1) Yes to Argentina, Austria, Finland, Iceland South Korea, Sweden, Switzerland, Ukraine (only (c)(1) countries CC1 LR)

STA(c)(2) N/A

"Software" specially designed "required" for ... 4A980

(4D980 is a candidate for deletion. Finger print software is covered by 3D980.)

4D993 STA(c)(1) N/A AT

STA(c)(2) N/A

... that are specially designed "required" for real time processing equipment ...

Related Controls: N/A See 744 Supplement 2 re controls for military use to China.

Items

a ... and designed or modified "required" for ...

c Operating system "software" specially designed "required" for ...

4D994 STA(c)(1) N/A AT

STA(c)(2) N/A

"Spftware" other than that not controlled in by 4D001 specially designed or modified "required" for ... equipment controlled by 4A101, 4A994, 4B994, and materials controlled byu 4C994

(4B994 and 4C994 have been deleted.)

4E001 STA(c)(1) N/A MT

Yes Non-MT

(TSR and APP are reasonable alternatives to STA, especially for the 22 (c)(1) countries listed in 740.7(c)(3)(i).)

STA(c)(2) N/A MT

N/A development or production of:

a 4A001.a.2;

b "Digital computers" having APP exceeding 0.5 WT; or
c 4D001 software for 4A001.a.2 or "digital computers" having APP exceeding 0.5 WT
(STA exclusion)
Yes Non-MT, non-STA exclusion
(TSR and APP are reasonable alternatives to STA for most (c)(2) countries. See 4A003 above for relevant country differences in various lists.)

CC applies to "technology" for computerized fingerprint equipment controlled by 4A003 for CC reasons CC Column 1
NP applies, unless a License Exception is available. See 742.3(b) of the EAR for information on applicable licensing review policies.
Related Controls: N/A See 4E191 amd 4E992
Items
a. ... 4A (except 4A980 4A191 or 4A994) or 4D (except 4D980, 4D993, 4D9943
b "Technology" other than that not controlled by 4E001.a, specially designed or modified "required" for ...
b.2 "Electronic assemblies" specially designed or modified "required" for ...

4E101 STA(c)(1) N/A MT
STA(c)(2) N/A
"Technology**",** not controlled by 4E001, "required" for the "development", "production", or "use" of 4A001 or 4A101 for MT reasons
(To conform with MTCR 15,E,1,)

4E191 STA(c)(1) N/A MT
STA(c)(2) N/A
"Technology "required" for the "development", "production", or "use" of 4A191 to China or Iraq.

4E980 STA(c)(1) Yes to Argentina, Austria, Finland, Iceland South Korea, Sweden, Switzerland, Ukraine (only (c)(1) countries CCI LR)
STA(c)(2) N/A
"Technology" "required" for ... 4A980
(4E980 is a candidate for deletion.)

4E992 STA(c)(1) N/A AT
STA(c)(2) N/A
"Technology", other than that not controlled in by 4E001, "required" for ...
(4E992 is a candidate for deletion. It is omitted from 742 Supplement 2.)

4E993 STA(c)(1) N/A AT
STA(c)(2) N/A

“Technology”“required” for the “development” or “production” of equipment designed

"required" for "multi-data-stream processing"

(4E993 is a candidate for deletion. It is omitted from 742 Supplement 2.)

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January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 5

Category 5 - "Telecommunications" and "Information Security"
Part 1 "Telecommunications"

Note 1: The control status of components, "lasers", test and "production" equipment and "software" therefor which are specially designed "required" for telecommunications equipment or systems is determined in Category 5 Part 1.
N.B. For "lasers" specially designed "required" for telecomunications equipment or systems, see 6A005.
Note 2: The control status of "Digital computers", related equipment or "software", when essential for the operation and support of "required" for telecommunications equipment functions described in this Category, are regarded as specially designed components, provided they are the standard models customarily supplied by the manufacturer. This includes operation, administration, maintenance, engineering or billing computer systems. is determined in Category 5 Part 1.

5A001 STA(c)(1) Yes 5A001.a to all (c)(1) countries except Canada
Yes 5A001.b, .c, .d, .f, .g, .h to Argentina, Ukraine
(only (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for Argentina (but not to Ukraine) for 5A001.b.1-4,6, c,d,f,g,h. CIV is a reasonable alternative to STA for these sub-items if the export is for civil end-use and to a civil end-user in Ukraine.)
STA(c)(2) N/A 5A001.b.3 or b.5 (STA exclusion)
Yes 5A001.a, b.1,2,4,6, c,d,f,g,h to all (c)(2) countries except Hong Kong
(Only one (c)(2) country NS2 NLR)
(GBS is a reasonable alternative to STA for 5A001.b.1-4,6, c,d,f,g,h except to following (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative STA for 5A001.b.1,2,4,6, c,d,f,g,h.to these 12 countries if for civil end-use and civil end-user.)
Telecommunications systems, equipment, and components and accessories, not controlled by USML, as follows (see List of Items Controlled)
Unit: ... and accessories ...
Related Controls Telecommunications equipment defined in 5A001.a.1 through a.3 for use on board satellites is subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121). The relevant USML items are limited to Direction finding equipment defined in 5A001.e is subject to the

export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121).

(End-use is not a bright line jurisdictional criterion for 5A001.a.1 through a.3.)

Items

a.1 Specially designed "Required" to withstand transutirt ekectribuc effects or electromagnetic pulse effects, both arising from a nuclear explosion.

(Technical limits would be preferable.)

a.2 Specially hardened "Required" to withstand gamma, neutron or ion radiation

(Technical limits would be preferable.)

a.3 Specially designed Rated to operate outside the temperature range ...

Note: 5A001.a.2 and 5A001.a.3 do not apply to equipment designed or modified for use on board satellites.

b Telecommunications systems and equipment, and specially designed components and accessories "required" therefor, having ...

b.2.b ... having a capability rated to ...

Note: 5A001.b.3.b does not control radio equipment specially designed rated for use with civil cellular radio-communications systems

Note: 5A001.b.5 does not control radio equipment specially designed rated for use with civil cellular radio-communications systems.

c Optical fiber communication cables, and optical fibers and accessories, as follows:

c.1 ... specified by the manufacturer as being capable of withstanding rated to withstand ...

c.2 Optical fiber cables and accessories, designed rated for underwater use;

e. ... and specially designed components "required" therefor

f Jamming equipment specially designed or modified "required" to ...: and specially designed components therefore "required" therefor

g ... specially designed "required" for ...

h Electronic equipment designed or modified "required" to prematurely activate or prevent the initiation of Radio Controlled Improvised Explosive Devices (RCIED)

N.B.: See also Category XI of the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120130).

(There is nothing now in Category XI on this subject.)

5A101 STA(c)(1) N/A MT

STA(c)(2) N/A

Telemetering and telecontrol equipment, including ground equipment, designed or modified "required" for unmanned aerial vehicles or rocket systems ... capable of rated for a maximum "range" equal to or greater than 300 km.

Items

Note: 5A101 does not control:

1, Telecontrol equipment specially designed rated to be used for remote control of

recreational model planes, boats, or vehicles and having..

. 2 Equipment designed or modified rated for manned aircraft or satellites.

3. Ground-based equipment designed or modified rated for terrestrial or marined applications

4. Equipment designed rated for commercial, civil, or safety of life ...

Note: Item 5A101 does not include itens not designed or modified for unmanned aerial vehicles or rocket systems ... capable of a maximum "range" equal to or greater than 300 km (e.g., telemetry circuit cards limited by design to rated for reception only and designed for use in personal computers).

(Double negative is confusing and unnecessary.)

5A980 STA(c)(1) N/A MT

STA(c)(2) N/A

Devices primarily useful "required" for the surreptitious interception of wire, oral, or electronic communications; and parts and accessories components "required" therefor

Note: These items are subject to the United Nations Security Council arms embargo against Rwanda described in 746.8 of the EAR.

(Removal of the ITAR arms embargo of Rwanda on September 25, 2008, must mean that the Security Council embargo is no longer in effect.)

5A991 STA(c)(1) N/A AT

STA(c)(2) N/A

Telecommunication equipment, not controlled by 5A001, as follows (see List of Items Controlled)

Related Controls: Telecommunications equipment defined in 5A991 for use on board satellites is subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121). (1) See also 5E101 and 5E991.

(2) See 744 Supplement 2 re 5A991.a, b.7, and .f controls for military end-use in China.

(3) See 742 Supplement 2(c)(25C0 re 5A991.b.1, (25B) re 5A991.b.5.a, (25A) re 5A991.b.7, (29) re 5A991.c.10, (13) re 5A001.g, and (25A) re 5A991.h.

(ITAR jurisdiction for equipment for use on board satellites may now be required by legislation. However, such an end-use control is not a "bright line" jurisdictional criterion.)

Items

a ... specially designed rated to operate outside the temperature range ...

b ... and specially designed components and accessories "required" therefor, ...

b.1 ... designed rated to operate at ...

Note: 5A991.b.1 does not control equipment specially designed rated to be integrated and operated in any satellite system for civil use.

(It is unclear whether this is a decontrol Note or a

jurisdic

tional
Note.
The

phrase "for civil use" suggests the former. However, "in any satellite system suggests the latter (see existing Related Controls text).)

Note: If any uncontrolled equipment contains a "network access controller", it cannot have any type of telecommunications interface, except those described in, but not controlled by 5A991.b.4.

(One can only guess as to the intent of this Note. 5A991.b.4 describes a control; it does not describe what is not controlled. 5A991.b.4 does not use the word "interface." If the intent were to state that a "network access controller" controlled by 5A991.b.4.a remains controlled even if contained in uncontrolled equipment, the reference should be to b.4.a, not b.4. If "communication channel controllers" are construed to be interfaces which must have a "data signalling rate" of 64,000 b/s or less to avoid control even if contained in uncontrolled equipment, the reference should be to b.4.b, rather than to b.4.)

Note1: 5A991.b.7 does not control equipment specially designed rated to be integrated and operated in any satellite system for civil use.

(See comment above on Note re 5A991.b.1.)

c ... and specially designed components and accessories "required" therefor, ...

c.1 ... designed rated for "packet mode operation" ... and assemblies and components "required" therefor ...

Note: The restrictions in 5A991.c.3 do not apply to networks restricted to

using only "network access controllers" or to "network access controllers"

themselves. 5A991.c.3 does not control "network access controllers".

c6 Designed Rated for automatic hand-off ...

f ... designed rated to permit electronic control of beam shaping ...

g ... assemblies and components "required" therefor; or

h ... designed rated for use at frequencies ... and assemblies and components "required" therefor

(Deletion of 5A991.b.2-4, b.5.b-e, b.6, b.8, c.1-9, c.11, c.12, .d, and .e would be consistent with 742 Supplement 2(c)(13,25, 29) and with PRC military end-use controls.)

5B001 STA(c)(1) Yes to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 5B001 to Argentina, but not to Ukraine. CIV is a reasonable alternative to STA for 5B001 to Ukraine for civil end-use and civil end-user.)

STA(c)(2) N/A 5B001.a for 5A001.b.3 or b.5 (STA exclusion)

Yes 5B001.a for 5A001.a, b.1,2,4,6, c,d,f,g,h and 5B001.b to all (c)(2) countries except Hong Kong

(Only one (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for 5B001 to all (c)(2) countries except the following twelve, which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for 5B001 to these 12 countries, which are eligible for CIV if for civil end-use and civil end-user)

Telecommunication test, inspection and production equipment, components and accessories, as follows (See List of Items Controlled) and components "required" therefor.

Unit: ... and accessories

Related Controls: See also 3A992.a and 5B991.

Items

a Equipment and specially designed components or accessories therefor, specially designed "required" for ...

b Equipment and specially designed components or accessories therefor, specially designed "required" for ...

b.1 ... designed rated to operate at ...

Note: 5B001.b.2.d does not include control equipment specially designed rated for the "development" of commercial TV systems.

5B991 STA(c)(1) N/A AT
STA(c)(2) N/A

Telecommunication test equipment, n.e.s. not controlled by 5B001.

(This extraordinarly broad item is a candidate for deletion. It is omitted from 742 Supplement 2.)

5C991 STA(c)(1) N/A AT

STA(c)(2) N/A

Preforms of glass or of any other material, not controlled by 1C010, 1C210. 9A010, or 9A110, optimized "required" for the manufacture of optical fibers controlled by 5A991

(5C991 is a candidate for deletion. It is omitted from 742 Supplement 2.)

5D001 STA(c)(1) Yes

TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for 5D001 except that 5D001.a for 5A001.b.5 is TSR-eligible only to 17 of the 37 (c)(1) countries. CIV is a reasonable alternative to STA to Ukraine for 5D001 except for 5D001.a for 5A001.b.5 if for civil end-use and civil end-user.)

STA(c)(2) N/A 5D001.a for development or production of 5A001.b.3 or b.5

(STA exclusion)

N/A 5D001.b to support 5E001 for development or production of 5A001.b.3 or b.5 or 5D001 for that purpose

(STA exclusion).

Yes 5D001.a use software, 5D001.b support 5E001 use technology, and 5D001.c and .d;

Yes 5D001.a development of production of 5A001.a, b.1,2,4,6, c,d,f,g,h

Yes 5D001.b to support 5E001 for development or production of 5A001.a, b.1,2,4,6, c,d,f,g,h or 5D001 for that purpose.

(TSR is a reasonable alternative to STA for 5D001 (except 5D001.a for 5A001.b.5), except to the following (c)(2) countries not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for 5D001 (except 5D001.a for 5A001.b.5) to these 12 countries if for civil end-use and civil end-user.

TSR and CIV apply even to STA-ineligible 5D001 for 5A001.b.3)

GBS: Yes, except ...

TSR: Yes, except ... N/A

(It is irrational to require a TSR assurance against transfer to CIV-eligible recipients.)

Items

a “Software” specially designed or modified “required” for ...

b “Software” specially designed or modified “required” for ...

c "Software" specially designed or modified "required" for ...
d "Software" specially designed or modified "required" for ...
d1 Equipment employing digital techniques, including designed rated to
Note: 5D001.d.2.b does not control "software" specially designed or modified rated for the "development" of commercial TV systems

5D101 STA(c)(1) N/A MT
STA(c)(2) N/A
"Software" specially designed or modified "required" for the "use" of items controlled by 5A101.

5D980 STA(c)(1) N/A SL
STA(c)(2) N/A
Note: These items are subject to the United Nations Security Council arms embargo against Rwanda described in 746.8 of the EAR.
(Removal of the ITAR arms embargo of Rwanda on September 25, 2008, must mean that the Security Council embargo is no longer in effect.)
Items
a. "Software" primarily useful "required" for the surreptitious interception of ...
b. "Software" primarily useful "required" for the "development" ...

5D991 STA(c)(1) N/A AT
STA(c)(2) N/A
"Software", not controlled by 5D001, specially designed or modified "required" for the "development", "production", or "use" of equipment controlled by 5A991.a, b.7, or .f and or 5B991 and or "dynamic adaptive routing" as described in the List of Items Controlled in other than machine-executable form
. (Limitation to 5A991.a, b.7, or .f is for consistencey with PRC military end-use control.)
Items:
a. "Software", other than in machineexecutable form, specially designed for "dynamic adaptive routing".
b. [RESERVED]
The list of items controlled is contained n the ECCN heading.

5E001 STA(c)(1) Yes
STA(c)(2) N/A 5E001.a for development or production of 5A001.b.3 or b.5 or of 5D001.a for development or production of 5A001.b.3 or b.5 or of 5D001.b to support "technology" for development or production of 5A001.b.3 or b.5
(STA exclusion).

Yes 5E001.a use software and 5E001.b to .e

Yes 5E001.a development of production of 5A001.a, b.1,2,4,6, c,d,f,g,h or of 5D001.a for development or production of 5A001.a,

b.1,2,4,6, c,d,f,g,h. or of 5D001.b to support "technology" for development or production of 5A001.a, b.1,2,4,6, c,d,f,g,h

(TSR is a reasonable alternative to STA for 5E001 (except for 5A001.b.5 or 5D001.a for 5A001.b.5) to all (c)(2) countries except the followint twelve, which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

TSR applies even to STA-ineligible 5E001 for 5A001.b.3)

Related Controls: "Technology" defined in 5E001.b.1, 5E001.b.2, 5E001.b.4, or 5E001.c.4 for use on board satellites is subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121). See also 5E101 and 5E991.

(ITAR jurisdiction for items for use on board satellites may now be required by legislation. However, such an end-use control is not a "bright line" jurisdictional criterion.)

Items

a ... equipment, functions or features, controlled by 5A001

b.1 ... telecommunications equipment specially designed to be used on board "required" for satellites

b.2 "Technology" "required" for the "development" or "use" of "laser" communication techniques with the capability of rated for automatically ...

b.3 "Technology" "required" for the "development" of digital cellular radio base station receiving equipment whose reception capabilities that allow rated for changing by "software" multi-band, multi-channel, multi-mode, multi-coding algorithm or multi-protocol operation can be modified by changes in "software" reception;

b.4 "Technology" "required" for ...

Note: 5E001.c.4.b does not control "technology" for the "development" or "production" of equipment designed or modified for operation operating in any frequency band which is "allocated by the ITU" ...

d ... power amplifiers specially designed "required" for telecommunications and ...

e ... electronic devices and circuits, specially designed "required" for telecommunications and containing components manufactured from "superconductive" materials, specially designed rated for operation at temperatures ...

5E101 STA(c)(1) N/A MT
STA(c)(2) N/A

5E980 STA(c)(1) N/A SL
STA(c)(2) N/A

"Technology" primarily useful "required" for
Note: These items are subject to the United Nations Security Council arms embargo against Rwanda described in 746.8 of the EAR.

(Removal of the ITAR arms embargo of Rwanda on September 25, 2008, must mean that the Security Council embargo is no longer in effect.)

5E991 STA(c)(1) N/A AT
STA(c)(2) N/A
"Technology", not controlled by 5E001, "required" for the "development", "production", or "use" of equipment controlled by 5A991.a, b.7, or .f or 5B991, or "Software" controlled by 5D991, and Other "Technologies" as follows (see List of Items Controlled).
(Limiting 5A991 to .a, b.7, or .f is for consistency with PRC military end-use controls.)
Items
a.1 "Technology" "required" for the processing and application of coatings to optical fiber specially designed to make it suitable rated for underwater use;
a.2 "Technology" "required" for ...

Part 2 - "Information Security"

Note 1: The control status of "information Security" equipment, "softwqare", systems, application specific "electronic assemblies", modules, integrated circuits, component, or functions is determined in Category 5, Part 2 even if they are components or "electronic assemblies" bunded, commingled, or incorporated in a computer or other equipment.
(For consistency with 15 CFR 770.2(m).)
Note 2: Category 5, Part 2 encryption produc5ts, when accompanyuing their user for the user's personal use or as tools of trade, are eligible for License Exceptions TMP or BAG, subject to the terms and conditions of these License Exceptions.
(The last clause of this Note makes it superfluous. Neither TMP nor BAG contain the other conditions of this Note.)
Note 4: ... a.2 ... parts and components ...

5A002 STA(c)(1) Yes
STA(c)(2) Yes
(ENC is an alternative to STA. ENC restrictions are less onerous for 740 Supp. 3 countries. These closely parallel STA (c)(1) countries. However, Supp.3 omits four (c)(1) countries: Argentina, Croatia, South Korea, and Ukraine: and (c)(1) omits two Supp. 3 countries: Cyprus and Malta.) Indeed, Cyprus is not even a (c)(2) country, even though it receives favored treatment not only in Supp. 3 but also N P1 and CB2.)
Items
Note: 5A002 does not control any of the following ...
(a)(1)1 It is specially designed and limited rated to allow protection ...
(a)(1)3 Where the cryptographic capability cryptography is not user-accessible;

(a)(2) ‘Readers/wroters’ specially designed or modified, and limited, rated for items specified by ()a)(1) of this Note.

(d) Cryptographic equipment specially desiged and limited rated for banking use or

'money transactions';...

(e) Portable or mobile radiotelephones for civil use (e.g., for use with commercial civil cellular radio communication systems) that are not capable of rated for transmitting encrypted data directly to another radiotelephone or equipment (other than Radio Access Network (RAN) equipment (e.g. ...)

(f) Cordless telephone equipment not capable of without end-to-end encryption where the and rated for a maximum effective range of unboosted cordless operation (i.e., a single, unrelayed hop between terminal and home base station) is of less than 400 meters according to the manufacturer's specifications;

(g) Portable or mobile radiotelephones and similar client wireless devices for civil use, that implement only published or commercial cryptographic standards (except for anti-piracy functions, which may be non-published) and also meet the provisions of paragraphs b. to d. of the Cryptography Note (Note 3 in Category 5 - Part 2) that have been customized for a specific civil industry application with features that do not affect the cryptographic functionality of these original non customized devices and have non-customized cryptographic functionality;

(A citation to "commercial cryptographic standards" would help.)

(i) Wireless "personal area network" equipment that implement only published or commercial cryptographic standards and where the cryptographic capability is limited to rated for a nominal operating range not exceeding less than 30 meters according to the manufacturer's specifications..

a ... and components therefor specially designed "required" for "information security".

a1 Designed or modified to use "cryptography" ... and having rated for any of the following:

a2 Designed or modified Rated to ...

a.4 Specially designed or modified Rated to ...

a5 Designed or modified Rated to ...

a6 Designed or modified Rated to ... and having rated to have any of the following

a8 Communications cable systems designed or modified using rated for mechanical, electrical or electronic means to deter surreptitious intrusion;

a9 Designed or modified Rated to ...

5A992 STA(c)(1) N/A AT
STA(c)(2) N/A
Items

a Telecommunications and other information security equipment containing encryption.

b Information security" equipment, n.e.s., (e.g., cryptographic, cryptanalytic, and cryptologic equipment, n.e.s.) and components therefor.

(For consistency with 742 Supplement 2(c)(10).)

5B002	STA(c)(1)	Yes
	STA(c)(2)	Yes

Items

a. Equipment specially designed "required" for ...

b. Measuring equipment specially designed "required" to ..

5D002 STA(c)(1) Yes

STA(c)(2) Yes

(ENC is an alternative to STA. ENC restrictions are less onerous for 740 Supp. 3 countries. These closely parallel STA (c)(1) countries. However, Supp.3 omits four (c)(1) countries: Argentina, Croatia, South Korea, and Ukraine: and (c)(1) omits two Supp. 3 countries: Cyprus and Malta.) Indeed, Cyprus is not even a (c)(2) country, despite the favored treatment it receives, not only in Supplement. 3 but also in NP Column 1 and CB Column 2.)

TSR: N/A Yes

(For consistency with encryption technology not appearing on Wassenaar's Very Sensitive List or Sensitive List. TSR would provide a third option to STA and ENC.)

Note: Encryption software is controlled because of its functional capacity, and not because of any informational value of such software; such software is not accorded the same [illegible] encryption software is treated under the EAR in the same manner as a commodity included in ECCN 5A002.

(This Note differs not only from Wassenaar but also from various EAR provisions which treat encryption software as software, rather than as a commodity.)

Note: Encryption source code classified under this entry remains subject to the EAR even when made publicly available in accordance with part 734 of theEAR., ...

(Wassenaar does not control publicly available encryption software.)

Related Definitions: 5D002.a controls "software" designed or modified to use "required" for "cryptography" employing digital or analog techniques to ensure "information security".

Items

a "Software" specially designed or modified "required" for ...

b "Software" specially designed or modified "required" to ...

5D992 STA(c)(1) N/A AT

STA(c)(2) N/A

Related Controls: This entry does not control "software" designed or modified rated to protect against malicious computer damage ...

Items

a. "Software" specially designed or modified "required" for ...

5E002 STA(c)(1) Yes
STA(c)(2) Yes
(ENC is an alternative to STA. ENC restrictions are less onerous for 740

Supp. 3 countries. These closely parallel STA (c)(1) countries. However, Supp.3 omits four (c)(1) countries: Argentina, Croatia, South Korea, and Ukraine: and (c)(1) omits two Supp. 3 countries: Cyprus and Malta.) Indeed, Cyprus is not even a (c)(2) country, despite the favored treatment it receives, not only in Supplement. 3 but also in NP Column 1 and CB Column 2.)

TSR: N/A Yes

(For consistency with encryption technology not appearing on Wassenaar's Very Sensitive List or Sensitive List. TSR would provide a third option to STA and ENC.)

5E992 STA(c)(1) N/A AT
STA(c)(2) N/A

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 6

6A001 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 6A001.a.1.b.4 and 6A001.c to Argentina, bit not to Ukraine. CIV is a reasonable alternative to STA for 6A001.a.1.b.4 and 6A001.c to Ukraine for civil end-use and civil end-user.)

STA(c)(2) N/A 6A001.a.1.b, a.1.e, a.2(STA exclusion)

Yes 6A001.a.1.a, a.1.c, a.1.d, .b, .c except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for 6A001.a.1.b.4 and 6A001.c except to the following STA-elgible countries which are not GBS_eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for these 12 countries for 6A001.a.1.b.4 and 6A001.c if for civil end-use and civil end-user.)

LVS: $3,000; N/A for ...a.2.c and specially designed for realtime application with towed acoustic hydrophone arrays ... a.2.f and having processsing equipment specially designed for realtime application with bottom or bay cable systems.

(These characteristics appear in a.2.c and a.2.f.)

Items

a Marine acoustic systems, equipment and specially designed components "required" therefor, as follows:

a.1 ... and specially designed components "required" therefor, as follows:

Note: 6A001 does not control:

a. ... and limited to rated only for measuring ...

b.2 Pingers specially designed rated for ...

a.1.a ... designed rated for a.1.a.1 Designed Rated to a.1.a.2 Designed Rated toa.1.a.3 Designed Rated toa.1.b.5 Designed Rated to a.1.b.6 Designed Rated to a.1.c ... operating individually or in a designed combination

Note 1: The control status of acoustic projectors, including transducers, specially designed "required" for other equipment described in an ECCN numbered xx0xx is determined by the control status of the other equipment.

a.1.d ... and specially designed components "required" for determining ...

Note: 6A001.a.1.d includes: ...

b ... Equipment capable of rated for ...

a.1.e Active individual sonars specially designed or modified "required" to

N.B.: For diver detection systems specially designed or modified for

military use, see the U.S. Munitions List in the International Traffic in Arms R egulations
(ITAR) (see 22 CFR part 121)
(Control based on use is not a jurisdictional bright line.)
a.2 ... and specially designed components "required" therefor, as follows:
a.2.a Note: The control status of hydrophones specially designed "required" for other equipment described in an ECCN numbered xx0xx is determined by the control status of the other equipment.
a.2.a.5 Designed Rated to
a.2.a.6 Designed Rated for
a.2.b.2 Designed Rated or 'able to be modified' to
a.2.c Processing equipment, specially designed ":required" for ...
a.2.d.2 Designed Rated to
a.2.e.2.a Designed Rated to
a.2.e.2.b Capable of Rated for being ...
a.2.f Processing equipment, specially designed :"required" for ...
b.1.a Designed Rated to
Note: 6A001.b does not apply to depth sounders limited to rated only for any of the following:
c Diver deterrent acoustic systems specially designed or modified "required" to disrupt divers ...

6A002 STA(c)(1) N/A MT portions of 6A002.a.1, a.3, or.e
Yes 6A002.a.2, b, c, d and non-MT portions of a.1, a.3, and .e.
to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
STA(c)(2) N/A MT portions of 6A002.a.1, a.3, ore
N/A 6A002. a.1, a.2, part of a.3, c, and e (RS1)
N/A Non-MT, non-RS remainder of 6A002.a.3 and .b (STA exclusion)
Yes 6A002.d
except to Hong Kong
(Only one (c)(2) country NS2 NLR)
MT applies ... specially designed or modified "required" to protect ...and usable "required" for "missiles"
NP applies to portion of 6A002.a.2 also described in 6A202
UN applies ... and Rwanda
Related Controls: The following commodities are subject to the export licensing authority of U.S. Department of State, Directorate of Defense Trade Controls (22 CFR part 121): (1) "Image intensifiers" defined in 6A002.a.3 specially designed or modified, or configured for military use and not part of civil equipment; (2) "Space qualified" solid state detectors defined in 6A002.a.1, "space qualified" imaging sensors (e.g., "monospectral imaging sensors" and "multispectral imaging sensors") defined in 6A002.b.2.b.1, and "space qualified" cryocoolers defined in 6A002.d.1 unless, on or after September 23, 2002, the Department of State issues a commodity jurisdiction

determination assigning the export licensing authority to the Department of Commerce, Bureau of Industry and Security.

Note: Exporters may apply for a commodity jurisdiction request with the Department of State, Directorate of Defense Trade Controls for "space qualified" solidstate detectors defined in 6A002.a.1 and imaging sensors (e.g., "monospectral imaging sensors" and "multispectral imaging sensors") defined in 6A002.b.2.b.1 that may have predominant civil application(s).

(Neither use nor commodity jurisdiction determination constitute desired jurisdiction bright lines.)

Items

a1 Note: For the purpose of 6A002.a.1, solid-state detectors include "focal plane arrays"

a.1.d "Space qualified" "focal plane arrays" having more than 2,048 elements per array and having a peak response in the wave-length range exceeding 300 nm but not exceeding 900 nm

a.2 ... and specially designed components "required" therefor, as follows:

a.2.a.3.a [illegible] luminous sensitivity exceeding ...

a.2.a.3.c ... having a maximum radiant sensitivity exceeding 10 mA/W.

a.2.b Specially designed components, as follows "required" for the following:

a.2.b.3 Other III/V compound "III/V compound" semiconductor (e.g., GaAs or GaInAs) photocathodes having a maximum radiant sensitivity exceeding 15 mA/W

Note: 6A002.a.2.b.3 does not control compound semiconductor photocathodes with a maximum radiant sensitivity of 10 mA/W or less.

a.3.g Non-"space-qualified" "focal plane arrays" having all of the following:

a.3.g.1 Individual detector elements with a peak response in the wavelength range exceeding 400 nm but not exceeding 900 nm;

a.3.g.2 Specially designed or modified "Required" to achieve 'charge multiplication' and having a maximum radiant sensitivity exceeding 10 mA/W for wavelengths exceeding 760 nm; and

a.3.g.3 Greater than 32 elements

(6A002.a.3.g, except for the substitution for specially designed or modified, was agreed in Wassenaar several years ago.) b ... designed rated for

Note: 6A002.b.1 does not apply to "monospectral imaging sensors" with a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm and only incorporating any of the following non-"space-qualified" detectors or non-"space-qualified" "focal polane arrays":

1. Charge Coupled Devices (CCD) not designed or modified "required" to achieve 'charge multiplication'; or
2. Complimentary Metal Oxide Semiconductor (CMOS) devices not designed or modified "required" to achieve 'charge multiplication'. b.2 Being specified Rated for ...

b.2.b.2 Designed Rated for

Note: 6A002.c does not control..

. e Equipment specially designed rated for ...

d Special support components "required" for optical sensors, as follows:

d3 Optical sensing fibers specially fabricated rated either compositionally or structurally, or modified by coating, to

e "Spacequalified" "focal plane arrays" having more than 2,048 elements per array and having a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm.

(Changes in a.1, a.1.d, a.2.a.3.a, a.2.a.3.c, a.2.b.3, b.1, and e were agreed in Wassenaar December 2008.)

6A003 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 6A003.a.1 to Argentina, but not to Ukraine. CIV is a reasonable alternative to STA for 6A003.a.1 to Ukraine if for civil end-use and civil end-user.)

STA(c)(2) N/A 6A003.b.3, b.4.(STA exclusion)

Yes 6A003.a.2, a.3, a.4 also described in 6A203 to Brazil, Kazakhstan, and South Africa ((c)(2) countries (NP1 NLR)

Yes [redacted]

6A203 except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for 6A003.a.1 except to the following STA-elgible countries which are not GBS-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for these 12 countries for 6A003.a.1 if for civil end-use and civil end-user.)

NS applies to entire entry (but see 742.4(a) and 740.16(b)(3) for exemptions)

NP applies to items controlled in paragraphs portion of 6A003.a.2, a.3 and a.4 also described in 6A203

(NSG 5.B.3, unlike 6A003.a.2, a.3, and a.4, includes a "rotating mirror" parameter.)

RS applies ... (but see 742.7(a)(2)(iii) and (v) and 740.16(b)(3)

for certain exemptions RS Column 1

RS applies ... (but see 742.7(a)(4)(ii) and 740.16(b)(3)

for certain exemptions RS Column 2

UN applies ... and Rwanda

Related Controls: (1) ... (2) Also see 6A203 and 6A999.b.(3) See 8A002.d.1 and .e for television and film-based photographic still cameras specially designed or modified rated for underwater use.

(Change in Related Controls (3), except for substitution for specially designed or modified, was agreed in Wassenaar December 2009.)

Items

a. Instrumentation cameras and specially designed components "required" therefor

a.1 ... capable of rated for recording at framing rates ...

Note: 6A003.a.1 does not control cinema recording cameras designed rated for civil purposes.

a.2 ... capable of rated for recording at rates ...

a.6.a Specially designed "Required" for ...

b ...

Note: 6A003.b does not control television or video cameras specially designed rated for television broadcasting.

b.2 ...

Note: 6A003.b.2 does not control scanning cameras and scanning camera systems specially designed rated for any of the following:

a Industrial or civilian photocopiers;

b Image scanners specially designed rated for commercial, stationary, close proximity scanning applications (e.g., reproduction of images or print contained in documents, artwork or photographs); or

c Medical equipment.

(Above Note to 6A003.b.2, except for editing shown, was agreed in Wassenaar December 2009.)

Note 2: 6A003.b.4 does not control imaging cameras ... designed rated for any of the following:

a Industrial or civilian intrusion alarm, traffic or industrial movement control or counting systems;

b Industrial equipment used for inspection or monitoring of heat flows in buildings, equipment or industrial processes;

c Industrial equipment used for inspection, sorting or analysis of the properties of materials;

d Equipment specially designed for laboratory use; or

e Medical equipment.

Note 3: 6A003.b.4.b does not control imaging cameras having any of the following: ...

b. The camera is designed rated for a single kind of application and designed not rated to be user modified; or ...

c Where the camera is specially designed rated for installation into a civilian passenger land vehicle of less than three tons ... and having all of the following: ...

1b. A specially designed An authorized maintenance test facility ...

b.4.c Incorporating "focal plane arrays" controlled by 6A002.a.3.g

(In December 21008, Wassenaar agreed to delete b.4.d. However, the existing U.S. version omits both b.4.c and b.4.d. Therefore, the needed U.S. change is to add b.4.c)

Note 4. 6A003.b.4.c does not control ‘imaging cameras’ not specially designed or modified rated for underwater use having any of the following characteristics:

a Having all of the following:

a1 When the camera is specially designed rated for installation in integrated equipment into indoor and wall-plug operated systems or equipment, limited by design for a single kind of application, as follows:

a.1.a Industrial process monitoring of quality control, or analysis of the properties of materials;

a.1.b Laboratory equipment specially designed rated for scientific research;

a.1.c Medical equipment;

a.1.d Financial fraud detection equipment; and

a.2 Is only operable when installed in any of the following:

a.2.a The system(s) or equipment for which it was intended; or

a.2.b A specially designed authorized maintenance facility; and

a.3 Incorporates an active ,mechanism that forces the camera not to function when it is removed from the system(s) or equipment from which it was intended.

b When the camera is specially designed rated for installation into a civilian passenger land vehicle of less than three tons (gross vehicle weight) or passenger and vehicle ferries having a length overall (LOA) 65m or greater, and having all of the following:

b.1 Is only operable when installed in any of the following:

b.1.a The civilian passenger land vehicle or passenger and vehicle ferry for which it was intended; or

b.1.b A specially designed authorized maintenance test facility; and

b.2 Incorporates an active mechanism that forces the camera not to function when it is removed from the vehicle for which it was intended.

c Limited by design to have a maximum radiant sensitivity of 10mA/W or less for wavelengths exceeding 760 nm, having all of the following:

c.1 [redacted] or modified;

c.2 Incorporates an active mechanism that forces the camera not to function when the response limiting mechanism is removed; and

c3 Not specially designed or modified rated for underwater use; or

d Having all of the following:

d1 Not incorporating a ‘direct view’ of electronic image display;

d2 Has no facility to output a variable image of the detected fields of view;

d3 The “focal plane array” is only operable when installed in the camera for which it was intended; and

d.4 The “focal plane array” incorporates an active mechanism that forces it to be permanently inoperable when removed from the camera for which it was intended.

Note: When necessary, details of the item will be provided upon request to

the appropriate authority of the exporter's country in order to ascertain compliance with the conditions described in Note 4 above.

(Note 4 was agreed in Wassenaar several years ago, except c.3 was added by Wassenaar in December 2009 and Wassenaar has not agreed to the substitutions for specially designed or for specially designed or modified nor to the deletions of limited by design, specially designed authorized, and designed not to be removed or modified.)

b.5 Imaging cameras incorporating solid state detectors controlled by 6A002.a.1.

(Sub-item b.5 was added by Wassenaar several years ago.)

6A004 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA for 6A004.a.1,2,4, .b, d.2,4 to Argentina, but not to Ukraine. CIV is a reasonable alternative to STA for for 6A004.a.1,2,4, .b, d.2,4 to Ukraine if for civil end-use and civil end-user.)

STA(c)(2) N/A 6A004.c and ,d.(STA exclusion)

Yes 6A004.a, b, e except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for 6A004.a.1,2,4, .b, d.2,4 except to the following STA-elgible countries which are not GBS-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for these 12 countries for 6A004.a.1,2,4, .b, d.2,4 if for civil end-use and civil end-user.)

Related Controls: (1) For optical mirrors or 'aspheric optical elements' specially designed "required" for lithography equipment, see ECCN 3B001. (2)"Space qualified" components for optical systems defined in 6A004.c and optical control equipment defined in 6A004.d.1 are subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121). (3) See also 6A994 and 6C004

(There is no publicly known justification for ITAR jurisdiction for 6A004.c and d.1.)

Items

a.1 "Deformable mirrors" ... , and specially designed components "required" therefor, capable of "required" for dynamically repositioning ...

d.1 Equipment specially designed "required" to ...

d.3.d.1 ... capable of rated for angular accelerations ...

Technical Note 2. Manufacturers are not required to measure the surface roughness listed in 6A004.e.2 unless the optical element was designed or manufactured with the intent rated to meet, or exceed the control parameter.

6A005 STA(c)(1) Yes NP to Estonia, Iceland, Lithuania (NP1 LR) and Argentina, Ukraine (NS2 LR)

Yes non-NP to Argentina, Ukraine

(only (c)(1) countries NS2 LR)

(GBS is a reasonable alternative to STA to Argentina, Estonia, Iceland, and Lithuania for the following non-NRC and non-ITAR portions of 6A005::

: - b.6.c.2.a or b.6.c.2.c between 1,000 and 1,100 nm, average or CW output power not> 2kW, and in pulse-excited non-"Q-switched" multiple-transverse mode or continuously excited multiple-transverse mode;

- c.1, c.2, or c.3 not NP;
- d.2 CW maximum rated single or multimode output power not> 10 kW;

-d.3 CO_2 or CO_2/CO "lasers" between 9,000 and 11, 000 nm, pulsed output not> 2 J per pulse, and maximum rated average single or multimode output power not> 5 kW not NP;

-d.3 CO_2 "lasers" in CW multiple-transverse mode and CW output power not> 15 kW not NP; or

-f.1

CIV is a reasonable alternative to STA to Ukraine for civil end-use and civil end-user of non-NRC and non-ITAR portions of the following::

-b.6.c.2.a or b.6.c.2.c between 1,000 and 1,100 nm, average or CW output power not> 2kW, and in pulse-excited non-"Q-switched" multiple-transverse mode or continuously excited multiple-transverse mode;

- c.1, c.2, or c.3 not NP;
- d.2 CW maximum rated single or multimode output power not> 10 kW;

-d.3 CO_2 or CO_2/CO "lasers" between 9,000 and 11, 000 nm, pulsed output not> 2 J per pulse, and maximum rated average single or multimode output power not> 5 kW not NP;

-d.3 CO_2 "lasers" in CW multiple-transverse mode and CW output power not> 15 kW not NP; or

-f.1

STA(c)(2) Yes NP to Brazil, Kazakhstan, South Africa if NP1

(only (c)(2) countries NP1 NLR)

Yes Non-NP to all except Hong Kong (only (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for GBS-eligible 6A005 sub-items listed above, except to the following STA-eligible countries which are not GBS-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for CIV-eligible 6A005 sub-items listed above to these 12 countries if for civil end-use and civil end-user.)

"Lasers" (other than those described in not controlled by 0B001.g.5 or .h 6), i.e., not cotrolled by NRC, components and optical equipment, as follows ...

License Requirements Note: NP controls apply to ...

(j) Para-hydrogen Raman shifters rated to operate at 16,000 nm output wavelength and at a repetition rate greater than 250 Hz, with a pumping source "laser" controlled by 6A005.

(To conform with NSG 3.A.2.i.)

Related Controls:... (4) See ECCN 3B001.f.3 for excimer “lasers” specially designed “required” for lithography equipment. (5) The relevant NRC items are limited to “Lasers” specially designed or prepared for use in “required” for uranium isotope separation are subject to the export licensing authority of the Nuclear Regulatory Commission (see 20 CFR part 110), (6) Shared aperture optical elements, capable of operating in “superhigh power laser” applications, and “lasers” specifically designed, modified, or configured for military application are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).

(Related Controls (6) is not a bright line basis for jurisdiction.)

Items

b.6.b.1.b ... limited by design to rated for a mximum pulse repetition ...

b.6.b.1.c ... capable of rated for ...

b.6.b.1.d ... capable of rated for ...

d.1 Semiconductor “lasers”

Note 2: The control status of semiconductor “lasers” specially designed “required” for other equipment described in an ECCN numbered xx0xx is determined by the control status of the other equipment.

e.2 Optical mirrors ... specially designed “required” for use with controlled “lasers”

f.1 ... capable of rated for ...

f.4 Projection telescopes specially designed “required” for use with “SHPL” systems.

6A006 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

STA(c)(2) N/A 6A006.a.1, a.2, c.1 using a.1 or a.2, and .d (STA exclusion)

Yes [illegible]

except to Hong Kong

(Only one (c)(2) country NS2 NLR)

“Magnetometers” ..., and specially designed components “required” therefor, as follows

Related Controls: ... This entry does not control instruments specially designed rated for fishery applications fishing or biomagnetic measurements for medical diagnostics.

Items

a.1.a SQUID systems designed “required” for stationary operation, without specially designed subsystems designed rated to reduce in-motion noise, ...

a.1.b SQUID systems having an in-motion-magnetometer ‘sensitivity’ ... and specially designed “required” to reduce in-motion noise.

6A007 STA(c)(1) N/A 6A007.b or 6A007.c when rated for the accuracies in 6A007.b (MT)

Yes 6A007.a or 6A007.c when not rated for accuracies in 6A007.b

to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)

STA(c)(2) N/A 6A007.b or 6A007.c when rated for accuracies in 6A007.b (MT)
Yes 6A007.a or 6A007.c when not rated for accuracies in 6A007.b except to Hong Kong
(Only one (c)(2) country NS2 NLR)

MT applies to 6A007.b and .c when rated for the accuracies in 6A007.b.1 and b.2 are met or exceeded

Items

a Gravity meters designed or modified "rated" for ground use and having for a static accuracy.....

b Gravity meters designed rated for mobile platforms and having for all of the following:

6A008 STA(c)(1) N/A 6A008 also described in 6A103 or 6A108 (MT)
Yes 6A008 not also described in 6A103 or 6A108
` to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for 6A008.b, .c, and l.1 to Argentina.
CIV is a reasonable alternative to STA for 6A008.b, c, and l.1 to Ukraine for civil end-use and civil end-user.)

STA(c)(2) N/A 6A008 also described in 6A103 or 6A108 (MT)
N/A 6A008.j.1 (RS1)
N/A 6A008.d, h, k, l.3 (STA exclusion)
Yes 6A008.a, b, c, e, f, g, j.2,3, l.1,2,4 not also described in 6A103 or 6A108
(GBS is a reasonable alternative to STA for 6A008.b, .c, and l.1 except to the following STA-eligible countries which are not GBS-eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative to STA for these 12 countries for 6A008.b, c, and l.1, if for civil end-use and civil end-user.)

Radar.. . and specially designed components "required" therefor

MT applies to items that are designed for airborne applications and that are usable in systems controlled for MT reasons the portion of 6A008 also described in 6A103 or 6A108
(6A008 specifications differ in many respects from those in MTCR items 11.A.1, 12.A.5, and 18.A.3.)

Related Controls: ...See also 6A108, and 6A998, 7A006, and 7A106. ...

Items

Note: 6A008 does not control: ...

- Civil Automotive Radar

c Capable of Rated for operating ...
d Capable of Rated for operating ...
f Capable of Rated for heightfinding ...
g Specially designed "required" for ...
Note: 6A008.i does not control: ...
b Ground radar equipment specially designed rated for ...
b.2 Configured so that radar target data can be transmitted only one way from the radar site to one or more civil ASTC centers.
j3 Designed Rated for ...
Note 1: The 6A008 control status of LIDAR equipment specially designed for surveying is only specified determined by 6A008.j.3, rather than by any other 6A008 sub-item
(Laser radar systems are controlled by 6A108.a. Other LIDAR for surveying.is controlled by 6A998. Software and technology for LIDAR are controlled by 6D001, 6D002, 6D102, 6E001, 6E002, 6E101.)
Note 2. 6A008.j does not apply to LIDAR equipment specially designed rated for meteorological observation.
Note: 6A008.l.4 does not control systems, equipment and assemblies designed rated for marine traffic control.

6A102 STA (c)(2) N/A MT
STA (c)(1) N/A
Radiation hardened detectors, other than those not controlled by 6A002, specially designed or modified "required" for protecting against nuclear effects... and usable "required" for "missiles," designed or rated to withstand radiation levels ...
NP applies to portion of 6A102 also described in 6A202
Related Controls: N/A; See also 6A191, 6A992,an 6A999.a.

6A103 STA (c)(2) N/A MT
STA (c)(1) N/A
Radomes designed rated to withstand a combined thermal shock greater than 100 cal/sg cm accompanied by a peak over pressure of greater than 50 kPa, usable in "required" for protecting "missiles" rockets and UAVs against nuclear effects ... and usable "required" for "missiles". (These items are subject tot he export licensing authority of the U.S. Department of State, Directorate of Defense Tade Controls. See 22 CFR part 121.)
(This wording does not appear on the USML.)

6A107 STA (c)(2) N/A MT
STA (c)(1) N/A
Gravity meters (gravimeters), not controlled by 6A007, and specially designed components for gravity meters and gravity gradiometers, as follows (see List of Items Controlled, and components "required" therefor
Related Controls: N/A See also 6A191, 6A202, and 6A992,

Items

a Gravity meters (gravimeters), other than those controlled by 6A007.b, designed or modified rated for airborne or marine use and having for a static or operational accuracy of ... and having for a time to steady-state registration.. usable "required" for "missiles"

b Specially designed components for gravity meters controlled in 6A007.b or 6A107.a and gravity gradiometers controlled in 6A007.c.

(Neither Wassenaar nor MTCR controls components for 6A007.)

6A108 STA (c)(2) N/A MT

STA (c)(1) N/A

Radar systems and tracking systems, other than those not controlled by 6A008 or 7A006, as follows

Related Controls:(1) This entry does not control airborne civil weather radar conforming to international standards for civil weather radars provided that they do not incorporate any of the following (a) Phased array antennas; (b) Frequency agility; (c) Spread spectrum; or (d) Signal processing specially designed "required" for the tracking of vehicles. (2) Items in 6A108.a that are specially designed or modified for "missiles" or for items on the U.S. Munitions List are subject to the export licensing authority of the U.S. Department of State, Defense Trade Controls (see 22 CFR part 121).

Items

a Radar and laser radar systems designed or modified for use in "required" for "missiles".

b Precision tracking systems usable :"required" for rockets, missiles, or unmanned aierial vehicles capable of achieving rated for a "range" ...

b.2 Range instrumentation radars ... with rated for all of the following capabilities:

6A191 STA (c)(2) N/A MT

STA (c)(1) N/A

Items otherwise described in 6A102, 6A107, or 6A108 "required" for missiles with a "range" between 25 and 300 km to China or between 150 and 300 km to Iraq

6A202 STA(c)(1) Yes to Estonia, Iceland, Lithuania

(Only (c)(1) countries NP1 LR)

STA(c)(2) N/A

Photomultiplier tubes, not controlled by 6A002 or 6A102, having both of the following characteristics ...

Related Controls: (1) ... (2) Also see 6A992 and 6A999.a.

6A203 STA(c)(1) Yes to Estonia, Iceland, Lithuania

(Only (c)(1) countries NP1 LR)

STA(c)(2) N/A

Cameras and components, other than those not controlled by 6A003 or 8A002.d or .e, as follows

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

(NSG 1.A.2, 5.B.3, and 5.B.4 do not control parts or accessories.)
Related Controls:.. (2) Also see ECCN 6A003.a.2, a.3, and a.4 6A999.b
Items
a Mechanical rotating mirror cameras, as follows, and specially designed components "required" therefor
b.1 ... capable of rated for ...
b.2 Streak tubes "required" for cameras controlled by
b.3 ... capable of rated for ...
b.4 Framing tubes and solid-state imaging devices "required" for use with cameras controlled by 6A203.b.3, as follows:
b.4.d Other framing tubes and solid-state imaging devices ...specially designed for cameras controlled by 6A203.a
c Radiationhardened TV cameras, or lenses "required" therefor, specially designed or rated as radiation hardened to withstand a total radiation dose ...

6A205 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
"Lasers", "laser" amplifiers and oscillators, other than those not controlled by NRC (0B001.g.5, 0B001.h6) or 6A005, as follows
Related Controls: ... (4) The relevant NRC items are limited to "Lasers" specially designed or prepared "required" for use in uranium isotope separation are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Items
a Argon ion "lasers" having rated for both of the following characteristics
b ... oscillators having rated for all of the following characteristics
b.2 Having
d Pulsed carbon dioxide "lasers" having rated for all of the following characteristics
e Para-hydrogen Raman shifters designed rated to operate at ...
f ... having rated for either of the following:

6A225 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Velocity interferometers rated for measuring .....
Unit: Equipment in number; parts and accessories in $ value

6A226 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
Pressure sensors, not controlled by 2B230 or 9B008, as follows
Unit: Equipment in number; parts and accessories in $ value
Items
a Manganin gauges rated for pressures ...

b Quartz pressure transducers rated for pressures ...

6A991 STA(c)(1) N/A AT
STA(c)(2) N/A
Marine or terrestrial acoustic underwater detection equipment, n.e.s. not controlled by 6A001, capable of detecting or locating underwater objects or features or positioning surface vessels or underwater vehicles,; and specially designed components, n.e.s.
(For consistency with 742 Supplement 2(c)(14).)

6A992 STA(c)(1) N/A AT
STA(c)(2) N/A
Optical sensors, not controlled by 6A002, 6A102, or 6A202
Unit: Equipment in number; parts and accessories components in $ value
Items
a. Image intensifier tubes and specially designed components "required" therefor
a.1 Image intensifier tubes having rated for all the following:
a.1.c Having any of the following
a.2 Specially designed microchannel plates having rated for both of the following characteristics:
b Direct view imaging equipment ... incorporating image intensifier tubes having the characteristics listed in controlled by 6A992.a.1

6A993 STA(c)(1) N/A AT
STA(c)(2) N/A
Cameras, not controlled by 6A003 or 6A203, as follows (see List of Items Controlled).
Items
a. Cameras that meet the criteria of Note 3 to 6A003.b.4.
b. [Reserved]
(This entire ECCN is irrational. The criteria of Note 3 to 6A003.b.4 describe various characteristics of poor performance which must be met for 6A003 decontrol eligibility. Even if redrafted, 6A993 is a candidate for deletion, since it is not listed in 742 Supplement 2.)

6A994 STA(c)(1) N/A AT
STA(c)(2) N/A
Ooptics
Unit: Equipment in number; parts and accessories in $ value cable and fibers in meters/feet
(6A994 is a candidate for deletion. It is omitted from 742 Supplement 2.)

6A995 STA(c)(1) N/A AT
STA(c)(2) N/A
"Lasers", not controlled by 6A005 or 6A205, as follows (see List of Items Controlled)

Unit: Equipment in number; parts and accessories in $ value
Items
a. ... having rated for ...
b.1. ... having rated for ...
b.2 ... having rated for ...
c ... having rated for ...
d ... having rated for ...
e ... having rated for ...
f ... having rated for ... and having rated for ...

6A996 STA(c)(1) N/A AT
STA(c)(2) N/A
"Magnetometers" ... sensors, and specially designed components "required" therefor, as follows ...
Items
a. ... having rated for ...
b1 Designed Rated for
b.2 Designed Rated for
b3 Having Rated for ...
b.3.b Designed Rated for
b.3.c Designed Rated for
b.3.d Having Rated for ...

6A997 STA(c)(1) N/A AT
STA(c)(2) N/A
Gravity meters (gravimeters), not controlled by 6A007, rated for ground use, n.e.s. as follows (see List of Items Controlled)
Items
a Having Rated for ...

6A998 STA(c)(1) N/A AT
STA(c)(2) N/A
Radar systems, equipment, and assemblies, n.e.s., not controlled by 6A008, 6A108, 7A006, or 7A106, as follows (see List of Items Controlled), and specially designed components therefor.
(Components deleted for consistency with 742 Supplement 2(c)(11).)
Items
a Airborne radar equipment, n.e.s., and specially designed components therefor.
b ... (LIDAR) equipment specially designed "required" for surveying or for meteorological observation

6A999 STA(c)(1) N/A AT
STA(c)(2) N/A
Items
a Seismic detection equipment, not controlled by 6A002, 6A102, 6A202, or 6A992,

b Radiation hardened TV cameras, n.e.s. not controlled by 6A003, 6A003 or 6A203

6B004 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for 6B004.b to Argentina.
CIV is a reasonable alternative to STA for 6B004.b to Ukraine for civil end-use and civil end-user.)

STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)
(GBS is a reasonable alternative to STA for 6B004.b except to the following STA-eligible countries which are not GBS_eligible:Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative to STA for these 12 countries for 6B004.b if for civil end-use and civil end-user.)

Optical equipment

Items

a Equipment rated for measuring ...

b Equipment ... having rated for ... specially designed "required" for ...

6B007 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)

Equipment rated to produce, align and calibrate land-based gravity meters with a static accuracy of ...

6B008 STA(c)(1) N/A MT portion
Yes non-MT portion to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)

STA(c)(2) N/A (STA exclusion)

Pulse radar cross-section measurement systems having rated for transmit pulse widths of 100 ns or less, and specially designed components "required" therefor

MT applies to entire entry portion of 6B008 also described in 6B108
(For consistency with MTCR 17.B.1.)

6B108 STA(c)(1) N/A MT

STA(c)(2) N/A

Systems, other than those not controlled by 6B008, specially designed "required" for radar cross section measurement usable for rockets, missiles or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater tan 300 km and their subsystems or "missile subsystens"

(To conform with MTCR 17.B.1.)

Related Controls: N/A See also 6B191.

6B191 STA(c)(1) N/A MT
STA(c)(2) N/A
Items otherwise described in 6B108 "required" for missiles with a "range" between 25 and 300 km to China or between 150 and 300 km to Iraq.

6B995 STA(c)(1) N/A AT
STA(c)(2) N/A
Specially designed or modified equipment, including "Laser" manufacturing equipment "required" for the following (see List of Items Controlled) and tools, dies, fixtures, or gauges, and other specially designed components and accessories "required" therefor
Unit: Equipment in number; parts and accessories components in $ value.
(6B995 is a candidate for deletion. It is omitted from 742 Supplement 2.)

6C002 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)
Optical sensor materials
Unit: Number Kilograms

6C004 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for 6C004.a and .e to Argentina, but not to Ukraine. CIV is a reasonable alternative to STA for 6C004.a and .e to Ukraine for civil end-use and civil end-user.)
STA(c)(2) Yes NP portion to to Brazil, Kazakhstan, and South Africa
((c)(2) countries NP1 NLR)
Yes Non-NP except to Hong Kong
(Only one (c)(2) country NS2 NLR)
(GBS is a reasonable alternative to STA for 6C004.a and .e to all (c)(2) countries except the following twelve, which are not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative to STA for these 12 countries for 6C004.a and .e if for civil end-use and civil end-user.)
: wArgentina, but not to Ukraine. CIV is a reasonable alternative to STA for 6C004.a and .e to Ukraine for civil end-use and civil end-user.)
Optical materials
NP applies to portions of 6C004 also described in 1C230, 1C231, or 1C234.

6C005 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
STA(c)(2) Yes except to Hong Kong
(Only one (c)(2) country NS2 NLR)
Synthetic crystalline "laser" host material

6C992 STA(c)(1) N/A AT
STA(c)(2) N/A
Optical sensing fibers, not controlled by 6A002.d.3, which are modified structurally to have rated for a 'beat length' ... or optical sensor materials, not described in controlled by 6C002.b, and having rated for a zinc content ...
Unit: Equipment in number; parts and accessories in $ value Kilograms

6C994 STA(c)(1) N/A AT
STA(c)(2) N/A
Optical materials, not controled by 6C004, as follows (see List of Items Controlled)
Unit: Equipment in number; parts and accessories in $ value Kilograms
Items
a.1 ... with rated for a purity ...
b 'Optical fiber preforms' made from bulk fluoride compounds containing ingredients with rated for a purity of 99.999% or better, specially designed "required" for the manufacture of 'fluoride fibers' controlled by 6A994.b.

6D001 STA(c)(1) Yes
(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for all of 6D001 except for 6A008.j.1, l.3, or 6B008 and to 17 of the 37 (c)(1) countries for 6A008.l.3 or 6B008)
STA(c)(2) N/A 6D001 for 6A008.j.1 (RS1)
N/A 6D001 for 6A004.c,d, 6A008.d, h, k, l.3, or 6B008
(STA exclusion)
Yes 6D001 for 6A004.a,b,e, 6A005, 6A008.a,b,c,e,f,g,i, j.2,3, l.1,2,4
(TSR is a reasonable alternative to STA for 6D001 except for 6A008.j.1, l.3, or 6B008 (which are also excepted from STA-eligibility) and except to the following (c)(2) countries not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)
"Software" specially designed "required" for the "development" or "production" of equipment controlled by 6A004, 6A005, 6A008, or 6B008
MT applies to "software" for equipment controlled by
6A008 or 6B008 for MT reasons MT Column 1
(MTCR 11 and 12 do not cover development or production software.
MTCR 17 does not cover any software for 17.B.1.)

NP applies to "software" for equipment controlled by
6A005 for NP reasons NP Column 1
(NSG 3.D.1 does not control software for 3.A.2.)
TSR: Yes, except for the following:
(1) Items controlled for MT reasons;
(2) "Software" specially designed "required" for the "development" or "production" of "space-qualified" "laser" radar of Light Detection and Ranging (LIDAR)equipment defined in 6A008.j.1; or
(3) ... "software" specially designed for the "development" or "production" of equipment controlled by 6A008.l.3 or 6B008

Related Controls: "Software" specially designed for the "development" or "production" of "space qualified" components for optical systems defined in 6A004.c and "space qualified" optical control equipment defined in 6A004.d.1 is subject to the export licensing authority of the Departmet of State, Directorate of Defense Trade Controls (22 CFR part 121). See also 6D991 and 6D992, ...

6D002 STA(c)(1) N/A 6D002 for MT portion of 6A008
Yes 6D002 for 6A002..b, 6B008, or non-MT portion of 6A008
(TSR is a reasonable alternative to STA for 6D002 (except for MT portions and for 6A008.j.1) to all (c)(1) countries except Ukraine.)
STA(c)(2) N/A 6D002 for MT portion of 6A008
N/A 6D002 for 6A008.j.1 (RS1)
Yes 6D002 for 6A002.b, 6B008, and non-MT, non-RS1 portion of 6A008
(TSR is a reasonable alternative to STA for 6D002 (except for MT portions and for 6A008.j.1) to all (c)(2) countries except the following twelve which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Software" specially designed "required" for the "use" ...
MT applies to "software" for equipment controlled by 6A008 or 6B008 for MT reasons.
(MTCR 17.D does not cover any software for 17.B.1.)
TSR: ... (2) "Software" specially designed for ...
Related Controls: "Software" specially designed for the "use" of "space qualified" imaging sensors (e.g., "monospectral imaging sensors" and "multispectral imaging sensors") defined in 6A002.b.2.b.1 is subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121)., unless, on or after September 23, 2002, the Dewparetrment of State issues a commodity jurisdiction determination assigning the export licensing authority to the Department of Commerce, Bureau of Indusstry and Security. "Software" specially designed for the "use" of "space qualified" LIDAR equipment specially designed for surveying or for meteorological observation, released from control under the note in 6A008.j, is controlled in 6D991.

(Issuance of CJ determinations does not constitute a jurisdictional bright line.)

6D003 STA(c)(1) Yes

(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for 6D003.c,f,g,h and to 17 of the 37 (c)(1) countries for 6D003.a. CIV is a reasonable alternative to STA for Ukraine for 6D003.h.1 for civil end-uses and civil end-users.)

STA(c)(2)

N/A 6D003.a (STA exclusion)

N/A 6D003.c (RS1)

Yes 6D003.f,g,h

(TSR is a reasonable alternative to STA for 6D003.c,f,g,h to all (c)(1) countries except the following twelve which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for 6D003.h.1 to these 12 countries for civil end-use and civil end-user.)

Items

a.1 “Software” specially designed “required” for acoustic beam forming ...

a.2 “Source code” rated for the “real time processing” of acoustic data ...

a.3 “Software” specially designed “required” for acoustic beam forming ...

a.4 “Source code” rated for the “real time processing” of acoustic data ...

a.5 “Software” or “source code”, specially designed “required” for all of the following:

a.5.a “Real time processing” of acoustic data from sonar systems controlled by 6A001.a.1.e; and

a.5.b Automatically detecting, classifying and determining the location of divers or swimmers.

N.B. For diver determination “software” or “source code” specially designed or modified for military use, see the U.S. Munitions List

c “Software” designed or modified “required” for cameras ... and designed or modified to remove or rated to permit removal of a frame rate restriction and allow thereby allowing the camera to exceed the frame rate specified in 6A003.b.4 Note 3.a.

(6D003.c has apparently been replaced by 6D994.)

f.1 ... specially designed “required”

f.2 ... specially designed “required”

g ... specially designed “required”

h.1 ... capable of rated for ...

h.2 “Software” “required” ...

h.2.a ... specially designed “required”

6D102 STA(c)(1) N/A MT
STA(c)(2) N/A
"Software", not controlled by 6D002, specially designed or modified "required" for the "use" of equipment controlled by 6A008, 6A108, or 6B008 for MT reasons
(To conform with MRCR 11.D.1 and 12.D.3.)
Related Controls: N/A Also see 6D191 and 6D991.

6D103 STA(c)(1) N/A MT
STA(c)(2) N/A
"Software", not controlled by 6D003, that processes rated to process post-flight, recorded data, enabling determination of to determine vehicle position throughout its flight path, specially designed or modified "required" for "missiles"
(To conform with MTCR 12.D.2.)
Related Controls: Also see 6D191 and 6D993.

6D191 STA(c)(1) N/A MT
STA(c)(2) N/A
"Software" otherwise described in 6D102 for the "use" of 6A191 or otherwise described in 6D103 for missiles with a "range" between 125 and 300 km to China or between 150 and 300 km to Iraq

6D991 STA(c)(1) N/A AT
STA(c)(2) N/A
"Software", not controlled by 6D001, 6D002, or 6D102, specially designed "required" for the "development", "production", or "use" of equipment ...
(6D991 is a candidate for deletion. It is omitted from 742 Supplement 2.)

6D992 STA(c)(1) N/A AT
STA(c)(2) N/A
"Software", not controlled by 6D001 or 6D002, specially designed "required" for the "development" or "production" of equipment ...
(6D992 is a candidate for deletion. It is omitted from 742 Supplement 2.)

6D993 STA(c)(1) N/A AT
STA(c)(2) N/A
Other "software", not controlled by 6D003 or 6D103
Unit Equipment in number; parts and accessories in $ value
Items
a Air Traffic Control (ATC) "software" application "programs"hosted on general purpose computers located at Air Traffic Control centers, and capable of "required" for automatically handing over primary radar target data (if not correlated with secondary surveillance radar (SSR) data) from the host ATC center to another ATC center.

6D994 STA(c)(1) N/A AT

STA(c)(2) N/A
"Software", not controlled by 6D003.c, designed or modified "required" for cameras incorporating "focal plane arrays" specified controlled by 6A002.a.3.f and designed or modified to remove or rated to permit removal of a frame rate restriction and allow thereby allowing the camera to exceed the frame rate specified in controlled by 6A003.b.4 Note 3.a.

6E001 STA(c)(1) N/A 6E001 for 6A002, 6A007, 6A008, 6A102, 6A107, 6A108, 6B008, 6B108, 6D002, 6D102 or 6D103 for MT reasons
Yes 6E001 for 6A001, 6A003 to 6A006, 6A202, 6A203, 6A205 6A225, 6A226, 6B004, 6B007, 6D001, 6D003, and non-MT portions of 6A002, 6A007, 6A008, 6B008, and 6D002,
(TSR is a reasonable alternative to STA for 6E001 for all of 6A003, 6A005, 6A006, 6B004, 6B007, 6D003 and for portions of 6A001, 6A002, 6A004, 6A007, 6A008, 6B008, 6D001, 6D002 to all (c)(1) countries except Ukraine.)
STA(c)(2) N/A (STA exclusion for entire ECCN)
(TSR is a reasonable alternative to STA for 6E001 for all of 6A003, 6A005, 6A006, 6B004, 6B007, 6D003 and for portions of 6A001, 6A002, 6A004, 6A007, 6A008, 6B008, 6D001, 6D002 to all (c)(2) countries except the following twelve, which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)
"Technology" ... for the "development" of ... 6A (except ...6A993, ... or 6A999), ... 6D (except ... or 6D994)
MT applies to "technology" for ... 6D001, ...
UN applies to ... and Rwanda
TSR: Yes, except for the followinig:
(1) Items controlled for MT or NP reasons
(3) "Technology" for "software" specially designed for
(4)(a) ... 6A001.a.1.b.1 rated for sound pressure level <210 dB and operating frequency in band from 30 Hz to 2kHz
(4)(b) Equipment controlled by 6A001.a.2.c or 6A001.a.2.f when specially designed for realtime applications; or
(4)(c) "Software" controlled by 6D001 and specially designed for "development" or "production" of equipment controlled by ...
(5) Exports or reexports to Rwanda
Related Controls: "Technology according to the General Technology Note for the "development" of the following commodities is subject to the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part121):"Space qualified" (1) Components for optical systems defined in 6A004.c and

optical control equipment defined in 6A004.d.1; (2) Solidstate detectors defined in 6A002.a.1, "imaging sensor" (e.g., "monospectral imaging sensors" and "multispectral imaging sensors") defined in 6A002.b.2.b.1, and cryocoolers defined in 6A002.d.1 unless on or after September 23, 2002, the Department of State issues a commodity jurisdiction determination assigning the export licensing authority to the Department of Commerce, Bureau of Industry and Security. See also 6E101, 6E191, 6E201, and 6E991, and 6E992.

(A CJ determination is not a jurisdictional bright line.)

6E002 STA(c)(1) N/A 6E002 for 6A002, 6A007, 6A008, 6A102, 6A107, 6A108, 6B008, 6B108 for MT reasons

Yes 6E002 for 6A001, 6A003 to 6A006, 6A202, 6A203, 6A205 6A225, 6A226, 6B004, 6B007 and non-MT portions of 6A002, 6A007, 6A008, 6B008

(TSR is a reasonable alternative to STA for 6E002 for all of 6A003, 6A005, 6A006, 6B004, 6B007 and for portions of 6A001, 6A002, 6A004, 6A007, 6A008, 6B008 to all (c)(2) countries except Ukraine.)

STA(c)(2) N/A 6E002 for 6A002, 6A007, 6A008, 6A102, 6A107, 6A108, 6B008, 6B108 for MT reasons

N/A 6E002 for 6A002.a.1, a.2, a.3, .c, or .e, 6A003.b.3 or b.4, or 6A008.j.1 (RS1)

N/A 6E002 for 6A001.a.1.b, a.1.e, a.2, remainder of 6A002.a.3 and .6A002.b, 6A004.c, d, 6A006.a.1, a.2, c.1 using a.1 or a.2, or 6A006.d, 6A008.d, h, k, l.e, or 6B008.(STA exclusion not excluded for MT or RS1 reasons)

Yes 6E002 for 6A005, 6A202, 6A203, 6A225, 6A226, 6B004, 6B007, 6C002, 6C004, 6C005, and non-MT, non-RS1, non-Sta exclusion parts of 6A001 to 6A004 and 6A006 to 6A008

(TSR is a reasonable alternative to STA for 6E002 for all of 6A003, 6A005, 6A006, 6B004, 6B007 and for portions of 6A001, 6A002, 6A004, 6A007, 6A008, 6B008 to all (c)(2) countries except the following twelve, which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Technology" ... for the "production" of ... 6A (except ...6A993, ... or 6A999), ...
UN applies to ... and Rwanda
TSR: Yes, except for the followinig:
(1) Items controlled for MT or NP reasons
(3)(a) ... 6A001.a.1.b.1 rated for sound pressure level <210 dB and operating frequency in band from 30 Hz to 2kHz
(3)(b) Equipment controlled by 6A001.a.2.c or 6A001.a.2.f when specially designed for

realtime applications; or

(3)(c) "Software" controlled by 6D001 andspecially designed for the "development" or "production" of equipment controlled by 6A002.a.1.c, 6A008..l.3 or 6B008 or (6E002 does not control technology for software.)

(4) Exportsor reexports to Rwanda.

Related Controls: "Technology according to the General Technology Note for the "production" of the following commodities is subject to the export licensing authority of the Department of State, Directorate of DefenseTrade Controls (22 CFR part121):"Space qualified" (1) Components for optical systems defined in 6A004.c and optical control equipment defined in 6A004.d.1; (2) Solidstate detectors defined in 6A002.a.1, "imaging sensor" (e.g., "monospectral imaging sensors" and "multispectral imaging sensors") defined in 6A002.b.2.b.1, and cryocoolers defined in 6A002.d.1 unless on or after September 23, 2002, the Department of State issues a commodity jurisdiction determination assigning the export licensing authority to the Department of Commerce, Bureau ofIndustry and Security. See also 6E101, 6E191, 6E201, and 6E991, and 6E992.

(A CJ determination is not a jurisdictional bright line.)

6E003 STA(c)(1) Yes

(TSR is a reasonable alternative to STA for 6E003 to all (c)(2) countries except Ukraine.)

STA(c)(2) Yes

(TSR is a reasonable alternative to STA for 6E003 to all (c)(2) countries except Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

Items

d1 Optical surface coating and treatment "technology" "required" to achieve for uniformity of 99.5% or better for optical coatings ...

d2 Optical fabrication "technology" using "required" for single point diamond turning techniques to produce surface finish accuracies ...

e Lasers. Technology" "required" for the "development", "production", or "use" of specially designed diagnostic instruments or targets in test facilities for "SHPL" testing or testing or evaluation of materials irradiated by "SHPL" beams

(In the definition of "Super High Power Laser" change "capable of" to "rated for".)

6E101 STA(c)(1) N/A MT

STA(c)(2) N/A

"Technology" ...for the "use" of equipment or "software" controlled by ... 6D002, ... for MT reasons.

Related Definitions: (1) This entry only controls "technology" for equipment controlled by 6A008 when it is designed rated for airborne applications and is usable in "missiles". (2) This entry only controls "technology" for items in 6A002.a.1, a.3, and .e that are specially designed or modified" to protect "missiles" against nuclear effects (e.g.,

Electromagnetic Pulse (EMP), Xrays, combined blast and thermal effects), and usable for "misssiles". (3) This entry only controls "technology" for items in 6A007.b and .c when the accuracies in 6A007.b.1 and b.2 are met or exceeded. N/A

(Adding "for MT reasons" in the ECCN heading makes these definitions redundant. See above for recommended changes in "MT applies" descriptions in ECCNs 6A002, 6A007, and 6A008. Repeating such descriptions elsewhere runs a risk of inconsistencies.

6E191 STA(c)(1) N/A MT
STA(c)(2) N/A
"Technology "required" for the "development", "production", or "use" of 6A191 or 6B191 or for the "development" or "use" of 6D191 to Chin or Iraq.

6A201 STA(c)(1) Yes to Estonia, Iceland, Lithuania
(Only (c)(1) countries NP1 LR)
STA(c)(2) N/A
"Technology" ... for the "use" of equipment controlled by 6A003.a.2, 6A003.a.3, 6A005.a.2, 6A005.b.2.b, 6A005.b.3.a, 6A005.b.4.b, 6A005.b.6.b, 6A005.c.1.b, 6A005.c.2.b, 6A006.d.3.c, or 6A005.d.4.c (as described in the license requirement note to 6A005); 6A003, 6A005, 6A202, 6A203, 6A205, 6A225, 6A226 for NP reasons

(Recommended changes are for consistency with the standard manner of describing "software" and "technology" controls related to equipment ECCNs. Attempting to repeat in a technology ECCN the details of "NP applies" language in equipment ECCNs risks introducing inconsistencies, as has happened in this case. NP applies to only portions of the sub-items cited here.)

6E991 STA(c)(1) Yes 6E991 for 6A998.b (RS1)
N/A 6E991 for 6A991, 6A996, 6A997, or 6A998.a (AT)
STA(c)(2) N/A
"Technology", not controlled by 6E001, 6E002, or 6E101, "required" for the "development", "production", or "use" of equipment controlled by 6A991, 6A996, 6A997, or 6A998

6E992 STA(c)(1) N/A (AT)
STA(c)(2) N/A
"Technology", not controlled by 6E001, 6E002, 6E101, or 6E201 "required" for the "development"or "production" of equipment controlled by 6A992, 6A994, 6A995, 6B995, 6C992, 6C994, or 6D993

(6E992 is a candidate for deletion. It is omitted from 742 Supplement 2.)

6E993 STA(c)(1) N/A (AT)
STA(c)(2) N/A
"Technology", not controlled by 6E001, 6E002, 6E003,or 6E201, as follows
Items

a Optical fabrication technologies "required" for serially producing optical components at a rate exceeding 10 m^2 of surface area per year on any single spindle and having all rated for both of the following:

a.2 ... at the designed rated wavelength.:

b "Technology" "required" for optical filters ...

c "Technology" "required" for ...

d "Technology" "required" for ... "magnetometers" or ... "magnetometer" systems, having rated for any of the following:

(6E993 is a candidate for deletion. It is omitted from 742 Supplement 2.)

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 7

7A001 STA(c)(1) N/A 7A001 also described in 7A101 (MT)
Yes non-MT
STA(c)(2) N/A 7A001 also described in 7A101 (MT)
Yes non-MT
Accelerometers, as follows ... and specially designed components "required" therefor:
Related Controls: ...MT controls do not apply to accelerometers that are specially designed and developed as Measurement While Drilling (MWD) sensors for use in downhole well service applications.
(Such accelerometers are excluded from 7A101 and are thus excluded from the 7A001 MT applies entry)
Items
a.1 Specified Rated to function ... and having rated for any of the following:
a.2 Specified Rated to function ... and having rated for any of the following:
a.3 Designed Rated for use in inertial navigation or guidance systems and specified to function at linear acceleration levels ...
b ... specified rated to ...

7A002 STA(c)(1) N/A 7A002 also described in 7A102 (MT)
Yes non-MT
STA(c)(2) N/A 7A002 also described in 7A102 (MT)
Yes non-MT
Gyros or angular rate sensors, having rated for any of the following (see List of Items Controlled) and specially designed components "required" therefor:
Items
d. Specified to function at linear acceleration levels exceeding 100 g

7A003 STA(c)(1) N/A 7A003.d also described in 7A103 (MT)
Yes non-MT
STA(c)(2) N/A 7A003.d also described in 7A103 (MT)
Yes non-MT
Inertial systems and specially designed components "required" therefor, as follows
Related Controls:... Inertial Navigation Systems (INS) and inertial equipment, and specially designed components therefor, specifically designed, modified or configured for military use are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Cotntrols. (See 22 CFR part 121.)
(Military use is not a jurisdictional bright line.)
Items
a. ... designed rated for ...and having rated for any of the following and specially designed components "required" therefor
a.2 Specified to function at linear acceleration levels exceeding 10 g

b. ... and having rated for

c. ... and having rated for any of the following, and specially designed components "required" therefor

c1 Designed Rated to ...

c2 Designed Rated to ...

d ... and specially designed components "required" therefor

Note 1:The parameters of 7A003.a and 7A003.b are applicable with if rated for any of the following ...

a Input random vibration with an overall magnitude.....

b An angular rate capability about one or more axes ...

Note 3.7A003.c.1 does not control theodolite systems incorporating inertial equipment specially designed for civil surveying purposes.

7A004 STA(c)(1) N/A (MT)

STA(c)(2) N/A

... with rated for an azimuth accuracy ...

7A005 STA(c)(1) N/A 7A005.d also described in 7A105 (MT)

Yes non-MT

STA(c)(2) N/A 7A005.d also described in 7A105 (MT)

Yes non-MT

Global navigation satellite systems (i.e., GPS or GLONASS) receiving equipment, and specially designed components "required" therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

MT applies to portion of 7A005 also described in 7A105.

Related Controls: See also 7A994.

Items

a Employing a decryption algorithm specially designed or modified "required" for government use to access the ranging code for position and time; or

b Employing "adaptive antenna systems".

Note: 7A005.b does not control GNSS receiving equipment that only uses components designed rated to filter, switch or combine signals from multiple omni-directional antennae that do not implement adaptive antenna techniques.

Technical Note: For the purpose of 7A005.b, "adaptive systems" dynamically geneerate one or more spatial nulls on an antenna array pattern by signal processing in the time domain or frequency domain

(Above items, exccpt for substitutions for "specially designed or modified" and for "designed" were agreed in Wassenaar December 2009.)

7A006 STA(c)(1) N/A 7A006 also described in 7A106 (MT)

Yes 7A006 not also described in 7A106

STA(c)(2) N/A 7A006 also described in 7A106 (MT)

Yes 7A006 not also described in 7A106

Airborne altimeters operating at rated for frequencies other than ... and having rated for any of the following ...

MT applies to entire entry portion of 7A006 also described in 7A106

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

7A008 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes except to Hong Kong

(Only one (c)(2) country NS2 NLR)

Underwater sonar navigation systems ... having rated for a positioning accuracy ... and specially designed components "required" therefore therefor.

Related Controls: 7A008 does not control systems specially designed rated for ...

7A101 STA(c)(1) N/A (MT)

STA(c)(2) N/A

Accelerometers, other than those not controlled by 7A001, as follows (see List of Items Controlled), and specially designed components "required" therefor.

Related Controls: This entry does not control accelerometers which are specially designed and developed as rated for MWD ... for use in downhole well service operations.

Items

a Linear accelerometers designed for use in for inertial navigation systems or in guidance systems of all types, usable in "required" for "missiles" having and rated for all of the following characteristics, and specially designed components therefore:

b Accelerometers of any type, designed for use in inertial navigation systems or in guidance systems of all types, specified to function at acceleration levels greater than 100 g.

Note ro paragraph (b): This paragraph (b) does not include accelerometers that are designed rated to measure vibration or shock.

7A102 STA(c)(1) N/A (MT)

STA(c)(2) N/A

Gyros, other than those not controlled by 7A002, as follows (see List of Items Controlled), and specially designed components "required" therefor.

Related Controls: N/A Also see 7A191 and 7A994.

Items

a All types of gyros, usable in "required" for rockets, missiles, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km, with a rated and for "drift rate" 'stability' of ...

b Gyros of any type, designed for use in inertial navigation systems or in guidance systems of all types, specified to function at rated for acceleration levels greater than 100 g.

7A103 STA(c)(1) N/A (MT)
STA(c)(2) N/A
Instrumentation, navigation equipment and systems, other than those not controlled by 7A003 as follows (see List of Items Controlled), and specially designed components therefor
Related Controls: (1) For rockets, missiles, or unmanned aerial vehicles controlled under the U.S. Munitions List (22 CFR part 121), items described in 7A103.b are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121). (2) Inertial navigation systems and inertial equipment, and specially designed components therefor specifically designed, modified or configured for military use are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) See also 7A191 and 7A994.

Items

a. Inertial or other equipment using incorporating accelerometers or gyros controlled by 7A001, or 7A002 for MT reasons or 7A101 or 7A102 and systems incorporating such equipment;

Note 1. 7A103 does not control equipment containing accelerometers specially designed and developed as rated for MWD ... for use in down-hole well services operations.

Note 2: 7A103.a does not control inertial or other equipment using accelerometers or gyros controlled by 7A001 or 7A002 that are only NS controlled.

b Integrated flight instrument systems, which include gyrostabilizers or automatic pilots, designed or modified for use in "required" for rockets, missiles, other rockets, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km.

c Integrated Navigation Systems, designed or mofieid for use in "required" for rockets, missiles, other rockets, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km and capable of providing for a navigational accuracy of 200m Circular Error Probable (CEP) or less

7A104 STA(c)(1) N/A (MT)
STA(c)(2) N/A
Gyro-astro compasses and other devices, other than those not controlled by 7A004, ... and specially designed components "required" therefor.
Related Controls: This entry controls specially designed components for gyroastro compasses and other devices controlled by 7A004. See also 7A994.

(MTCR 9.A.2 controlled components are limited to those for 9.A.2.)

7A105 STA(c)(1) N/A (MT)

STA(c)(2) N/A
Receiving equipment, not controlled by 7A005., for Global Navigation Satellite Systems

7A117 STA(c)(1) N/A (MT)

(GNSS) (e.g., GPS, GLONASS, or Galileo) having "required" for any of the following characteristics, and specially designed components "required" therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Cotntrols. (See 22 CFR part 121.)

Items

1a Designed or modified for use in "missiles"; or

2b Designed or modified for airborne applications and having any of the following:

a.b.1 Capable of providing navigation information at speeds ...

b.b.2 Employing decryption, designed or modified for miliatry or governmental services to gain access to GNSS secured signal/data; or

c b.3 Being specially designed to employ anti-jam features (e.g., null-steering antenna or electronically steerable antenna) to function in an environment of active or passive countermeasures.

7A106 STA(c)(1) N/A (MT)

STA(c)(2) N/A

Altimeters, other than those not controlled by 7A006, of radar or laser radar type, designed or modified for use in "required" for "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.)

Related Controls: See also 7A994.

7A107 STA(c)(1) N/A (MT)

STA(c)(2) N/A

Three axis magnetic heading sensors having rated for all of the following charactristics (see List of Items Controlled), and specially designed components "required" therefor.

Items

a ...

b Capable of providing azimuth accuracy ... ; and

c Designed or modified to be integrated with flight control and navigation systems.

Note: ... interial inertial ...

7A115 STA(c)(1) N/A (MT)

STA(c)(2) N/A

Passive sensors ..., designed or modified for use in "required" for "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Cotntrols. (See 22 CFR part 121.)

7A116 STA(c)(1) N/A (MT)

STA(c)(2) N/A

Flight control systems ... designed or modified "required" for "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.)

STA(c)(2) N/A
"Guidance sets", not controlled by USML, capable of achieving rated for 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). (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

Related Controls: The relevant portion of USML is limited to guidance sets "required" for "missiles" or for UAVs rated for a "range" of 300 km or greater and a payload of 500 kg or greater.

7A191 STA(c)(1) N/A (MT)
STA(c)(2) N/A
Items otherwise described in 7A101, 7A102, 7A103, 7A105, 7A106, 7A115, 7A116, or 7A117 "required" for missiles rated for a "range" between 25 and 300 km to China or between 150 and 300 km to Iraq.

7A994 STA(c)(1) Yes QRS11 (RS1)
STA(c)(2) N/A
Other navigation direction finding equipment, airborne communication equipment, all aircraft, inertial navigation systems not controlled under 7A003 or 7A103, and other avionic equipment not controlled by 5A001, 5A101, 5A991, 6A008, 6A108, 6A998, 7A001-7A006, 7A101-7A107, 7A115, 7A116, or 7A191, including parts and components, n.e.s. "required" therefor

Related Controls: QRS11 Micromachined Angular Rate Sensors are subject to the export licensing jurisdiction of the U.S. Department of State, Directorate of Defense Trade Controls, unless the QRS1100100100/101 is integrated into and included as an integral part of a commercial primary or standby instrument system of the type described in ECCN 7A994, or aircraft of the type described in ECCN 9A991 that incorporates such systems, or is exported solely for integration into such a system; or the QRS1100050 443/569 is integrated into an automatic flight control system of the type described in ECCN 7A994, or aircraft of the type described in ECCN 9A991 that incorporates such systems or are exported solely for integration into such a system. (See Commodity Jurisdiction requirements in 22 CFR Parts 121: Category VIII(e), Note (1)). In the latter case, such items are subject to the licensing jurisdiction of the Department of Commerce. Technology specific to the development and production of QRS11 sensors remains subject to the licensing jurisdiction of the Department of State.

7B001 STA(c)(1) N/A 7B001 for 7A004, 7A116, or 7A117 or the MT portions of 7A001, 7A002, or 7A003(MT)
Yes 7B001 for 7A005, 7A006, 7A008 or the non-MT portions of 7A001, 7A002, or 7A003
STA(c)(2) N/A 7B001 for 7A004, 7A116, or 7A117 or the MT portions of 7A001, 7A002, or 7A003(MT)

Yes 7B001 for 7A005, 7A006, 7A008 or the non-MT portions of 7A001, 7A002, or 7A003

Test, calibration or alignment equipment, specially designed "required" for equipment controlled by 7A (except 7A994) 7A001 to 7A006, 7A008, 7A116, or 7A117

(7A101 to 7A104 are omitted, because MTCR 9.B.1 controls test equipment used "with"but not "for" equipment specified in 9.A and this equipment is covered by 7B101. 7A105, 7A106, and 7A115 are omitted, because MTCR 11 does not control any test equipment. 7A116 and 7A17 are included to conform with MTCR 2.B.1, 2.B.2, and 10.B.1. 7A117 is included even though that ECCN is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls.)

MT applies to entire entry 7B001 for 7A004, 7A116, or 7A117 or the MT portions of 7A001, 7A002, or 7A003

(The MT portions of 7A005 and 7A006 are omitted because MTCR 11 does not control any test equipment.)

Related Controls: (1) See also 7B002, 7B003, 7B101, 7B102, 7B103, 7B104, and 7B994.

7B002 STA(c)(1) N/A (MT)
STA(c)(2) N/A

Equipment specially designed "required" to characterize mirrors for ring "laser" gyros, as follows ...

7B003 STA(c)(1) N/A portion of 7B003 also described in 7B103 or 7B003 to be used with 7A004 or the MT portions of 7A001, 7A002, or 7A003 (MT)
Yes 7B003 for 7A005, 7A006, 7A008 or the non-MT portions of 7A001, 7A002, or 7A003

STA(c)(2) N/A portion of 7B003 also described in 7B103 or 7B003 to be used with 7A004 or the MT portions of 7A001, 7A002, or 7A003 (MT)
Yes 7B003 for 7A005, 7A006, 7A008 or the non-MT portions of 7A001, 7A002, or 7A003

Equipment, not controlled by 7B001 or 7B002, specially designed "required" for the "production" of equipment controlled by 7A (except 7A994) 7A001 to 7A006, 7A008, or 7A117.

("Production" is defined to include testing controlled by 7B001 or 7B002.. 7A101 to 7A104 are omitted, because MTCR 9.B.1 controls production equipment used "with", not "for", equipment specified in 9.A and this equipment is covered by 7B101. 7A105, 7A106, 7A107, and 7A115 are omitted because MTCR 11 does not control any production equipment. 7A116 is omitted, because MTCR 10.B.1 does not cover production equipment other than test, calibrations, and alignment equipment controlled by 7B001 and 7B101. 7A117 is included to conform with MTCR 2.B.1 and 2lB.2, even though that ECCN is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls.)

NS applies to entire entry 7B003 for 7A001 to 7A006 or 7A008
MT applies to entire entry 7B003 also described in 7B103 or used with 7A004 or MT portions of 7A001, 7A002, or 7A003

(The MT portions of 7A005 and 7A006 are omitted because MTCR 11 does not control any production equipment.)

Related Controls: (1) See also 7B103 (this entry is subject to the licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121)) and 7B994.

7B101 STA(c)(1) N/A (MT)
STA(c)(2) N/A

"Production equipment", and other test, calibration, and alignment equipment, other than that described in not controlled by 2B018, 2B119 to 2B122, 7B001 to 7B003, and or 7B102, designed or modified to be used with "required" for equipment controlled by 7A001 to 7A004 or 7A101 to 7A104 or the MT portions of 7A001 to 7A003

Related Controls: (1) See also 2B119 to 2B122, 7B001 to 7B003, 7B102, and 7B994. (2) This entry includes ... gyro tuning test station; gyro dynamic balance station; gyro run in/motor test station; gyro evacuation and filling stations; centrifuge fixtures for gyro bearings; accelerometer axis align stations; and accelerometer test stations.

(Deletions are all included in 7B003.)

7B102 STA(c)(1) N/A (MT)
STA(c)(2) N/A

Equipment, other than those controlled by 7B002, designed or modified to characterize mirrors, for laser gyro equipment, as follows (see List of Items Controlled).
Reflectometers rated for a threshold accuracy of 50 ppm or less (better)
Items

a Scatterometers ....
b Reflectometers ...
c Profilometers ...

The list of items controlled is contained in the ECCN heading.

Scatterometers and profilometers are included in 7B002.

7B103 STA(c)(1) N/A (MT)
STA(c)(2) N/A

Specially designed "production facilities", not controlled by 2B018, 2D018, or 2E018.a or .b, or "production equipment", not controlled by 7B001 to 7B003, 7B101, or 7B102, "required" for equipment controlled by 7A117. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(To conform with MTCR 2.B.1 and 2.B.2. Re-transfer to EAR jurisdiction is consistent with 9B116 and 9B115.)

Related Controls: N/A Also see 7B994

7B994 STA(c)(1) N/A (AT)
STA(c)(2) N/A

Other equipment, not controlled by 2B018, 2B119 to 2B122, 6B008. 6B108, 7B001 to

7B003, or 7B101 to 7B103, for the test, inspection, or "production" of navigation and avionics equipment.

(Extraordinarily broad 7B994 is a candidate for deletion. It is not included in 742 Supplement 2, although it is included in the 744 Supplement 2 for controls on military end-use to China.).

7D001 STA(c)(1) Yes
STA(c)(2) N/A 7D001 for 7A003 (RS1)
Yes 7D001 for 7A001, 7A002, 7A004 to 7A006, 7A008, or 7B001 to 7B003

"Software" specially designed or modified "required" for the "development" or "production" of equipment controlled by 7A (except 7A994) or 7B (except 7B994). 7A001 to 7A006, 7A008, or 7B001 to 7B003

NS applies to "software" for equipment controlled by 7A001 to 7A004, 7A006, 7A008, 7B 001, 7B002, or 7B003

MT applies to "software" for equipment controlled for MT reasons, MT does not apply to "software" for equipment controlled by 7A008

(MTCR 2, 9, 10, and 11 do not control development or production software.)

RS applies to "software" for inertial ... equipment, and specially designed components "required" therefor, for "civil aircraft"

TSR: N/A Yes

Related Controls: (1) See also 7D003, 7D101 7D102, 7D103, and 7D994. (2) The "software" related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, or 7B103 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) (3) "Software" for inertial navigation systems and inertial equipment, and specially designed components therefor, not for use on civil aircraft are subject to the export licensing authority of the U.S. Derpartment of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.)

7D002 STA(c)(1) N/A portion of 7D002 also described in 7D101 (MT)
Yes portion of 7D002 not also described in 7D101
STA(c)(2) N/A (STA exclusion)

... "use"of any inertial navigation equipment, including inertial equipment not controlled by 7A003 or 7A004 ...

MT applies to entire entry portion of 7D002 also described in 7D101

(MTCR does not control "software" for uncontrolled equipment.)

TSR: N/A Yes, except N/A for MT

Related Controls: See also 7D003, 7D102 and 7D994

7D003 STA(c)(1) N/A portion of 7D003 also described in 7D101, 7D102, or 7D103 or the portion of 7D002 controlled for MT reasons(MT)

Yes non-MT portion of 7D003
STA(c)(2) N/A portion of 7D003 also described in 7D101, 7D102, or 7D103 or the portion of 7D002 controlled for MT reasons(MT)
N/A 7D003.a,b,c, d.1-4,7 (STA exclusion)
Yes non-MT portion of 7D003.d.5,6 or .e

MT applies to "software" for equipment controlled by MT reasons. MT does not apply to "software for equipment controlled by 7A008. portion of 7D003 also described in 7D101, 7D102, or 7D103 or the portion of 7D002 controlled for MT reasons

(MTCR does not control software pursuant to 7D003 specifications; but there may be some overlap between those specifications and MTCR controls.)

TSR: N/A Yes, except for the following:

(1) Items controlled for MT reasons;

(2) Exports or reexports to destinations outside of ... of 7D003.a or .b

Related Controls: See also 7D001, 7D002. 7D101, 7D102, 7D013 and 7D994

Items

a "Software" specially designed or modified "required" to improve ...

b "Source code" "required" for ...

c "Source code" "required" for ...

d "Source code" "required" for ...

e Computer-Aided-Design (CAD) "software" specially designed "required" for ...

7D101 STA(c)(1) N/A MT
STA(c)(2) N/A

"Software", not controlled by 7D002 or 7D003 or USML, specially designed or modified "required" for the "use" of equipment controlled by 7A001 to 7A006, 7A101 to 7A107, 7A106, 7A115, 7A116, 7A117, 7B001, 7B002, 7B003, 7B101, 7B102, 7B103 for MT reasons

(To conform with MTCR 2.D.1, 2.D.3, 9.D.1, 10.D.1, 11.D.1, and 11.D.2.)

Related Controls: (1) The relevant USML "software" is limited to that "required" for the "use" of The software related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, the portion of 7A117 controlled by USML , or 7B103 are subject to the export licensing authority of the U.S. Departtment of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) (2) "Software" for inertial navigation systems and inertial equipment, and specially designed components therefor, not designed for use on civil aircraft by civil aviation authorities of a country listed in Country Group A:1 is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) See also 7D191 and 7D994.

7D102 STA(c)(1) N/A MT
STA(c)(2) N/A

Integration "software", not controlled by 7D001, 7D002, or 7D003, ...

Related Controls: The "software" related to 7A003.b or 7A103.b are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) See also 7D994
Items
a Integration "software"required" for ... 7A103,b.
b Integration "software" specially designed "required" for ... 7A003 or 7A103.a.

7D103 STA(c)(1) N/A USML
STA(c)(2) N/A USML
"Software" specially designed "required" for modelling or simulation of the "guidance sets" controlled by 7A117 or for their design integration with "missiles". (This entry is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.).

7D191 STA(c)(1) N/A MT
STA(c)(2) N/A
"Software" "required" for the "use" of 7A191.

7D994 STA(c)(1) N/A AT
STA(c)(2) N/A AT
"Software",n.e,s,, not controlled by 5D001, 5D101, 6D001 to 6D003, 6D103, 7D00` to 7D003, 7D101 to 7D103, "required" for the "development", "production", or "use" of navigation, airborne communication and other avionics.

(Extraordinarily broad 7D994 is a candidate for deletion. It is not included in 742 Supplement 2, although it is included in the 744 Supplement 2 for controls on military end-use to China.).

7E001 STA(c)(1) N/A 7E001 for 7A004, 7A101 to 7A107, 7B101 to 7B103, 7D101 to 7D103 and the MT portions of 7A001 to 7A003, 7A005, 7A006. 7B001 to 7B003, 7D002, 7D003 (MT)
Yes 7E001 for 7A008, 7D001, and the non-MT portions of 7A001 to 7A003, 7A005, 7A006. 7B001 to 7B003, 7D002, 7D003 STA(c)(2)
N/A (STA exclusion)
"Technology", not controlled by USML, ... for the "development" of ... 7A (except 7A994, 7B (except 7B994) or 7D (except 7D994)
NS applies to "technology" for items controlled by 7A001 to 7A004, 7A006, 7A008, 7B001 to 7B003, 7D001 to 7D003...
MT applies to "technology" for equipment or "software" controlled by 7A001 to 7A006, 7A101 to 7A107, 7A115 to 7A117, 7B001 to 7B003, 7B101 to 7B103, 7D002, 7D003, 7D101 to 7D103 for MT reasons. MT does not apply to "technology" for equipment

controlled by 7A008.
(MTCR does not control technology for 7D001.)
RS applies to ... and specially designed components "required" therefor, for civil aircraft
TSR: N/A Yes, except N/A for MT
Related Controls: (1) See also 7E004, 7E101, 7E104, 7E191, and 7E994. (2) The relevant USML items are limited to "technology" related to "required" for the "development" of 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, the portion of 7A117 controlled by USML , or 7B103 software in 7D101, 7D102.a, or 7D103 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Control (see 22 CFR part 121).

7E002 STA(c)(1) N/A 7E002 for 7A004, 7A101 to 7A107, 7B101 to 7B103 and the MT portions of 7A001 to 7A003, 7A005, 7A006. 7B001 to 7B003(MT)
Yes 7E002 for 7A008 and the non-MT portions of 7A001 to 7A003, 7A005, 7A006. 7B001 to 7B003
STA(c)(2) N/A (STA exclusion)
"Technology" ... for ... "production"
NS applies to "technology" for equipment controlled by 7A001 to 7A004, 7A006, 7A008 or 7B001 to 7B003
MT applies to "technology" for equipment controlled by 7A001 to 7A006, 7A101 to 7A107, 7A115 to 7A117, 7B001 to 7B003, 7B101 to 7B103 for MT reasons. MT does not apply to "technology" for equipment controlled by 7A008.
RS applies to ... and specially designed components "required" therefor, for civil aircraft
TSR: N/A Yes, except N/A for MT
Related Controls: (1) See also 7E004, 7E101, 7E104, 7E191, and 7E994. (2) The "technology" related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, or 7B103 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).

7E003 STA(c)(1) N/A 7E003 for 7A004 and the MT portions of 7A001 to 7A003 (MT)
Yes 7E003 for the non-MT portions of 7A001 to 7A003
STA(c)(2) N/A 7E003 for 7A004 and the MT portions of 7A001 to 7A003 (MT)
Yes 7E003 for the non-MT portions of 7A001 to 7A003
"Technology" ... for the repair, refurbishing or overhaul of ... 7A001 to 7A004
MT applies to entire entry "technology for equipment controlled by 7A004 and for the MT portions of 7A001 to 7A003.
TSR: N/A Yes, except N/A for MT
Related Controls: See also 7E101, 7E102, and 7E994. This entry does not control maintenance "technology" directly associated with rated for calibration, removal or replacement of damaged or unserviceable LRUs and SRAs of a "civil aircraft" as described in 'Maintenance Level 1' or 'Maintenance Level II'.

7E004 STA(c)(1) N/A portion of 7E004.b.5 also described in 7E104 (MT)

Yes 7E004.a, b.1-4,6, .c and portion of b.5 not described in 7E104
STA(c)(2) N/A portion of 7E004.b.5 also described in 7E104 (MT)
Yes 7E004.a, b.1-4,6, .c and portion of b.5 not described in 7E104
MT applies to entire entry except 7E004.a.7 portion of 7E004.b.5 also described in 7E104
TSR: N/A Yes, except N/A for MT
Related Controls: See also 7E001, 7E002, 7E101, 7E104 and 7E994.
Items
a. "Technology" "required" for the "development" or "production" of any of the following:
a.1 ... operating at rated for frequencies ...
a.5 Electric actuators ... specially designed rated for "primary flight control";
a.6 "Flight control optical sensor array" specially designed rated for implementing "active flight control systems"
a.7 "DBRN" systems designed rated to navigate underwater ...
c.3 Rotor blades incorporating "variable geometry airfoils", for use in systems using rated for individual blade control.

7E101 STA(c)(1) N/A MT
STA(c)(2) N/A
"Technology", not controlled by 7E003 or the USML, according to the General Technology Note for the "use" of equipment or "software" controlled by 7A001to 7A006, 7A101 to 7A107, 7A115 to 7A117, 7B001, 7B002, 7B003, 7B101, 7B102, 7B103, 7D002, 7D003, or 7D101 to 7D103 for MT reasons; or "technology", according to the General Technology Note, for the "production" of "software"controlled by 7D002, 7D003 or 7D101 to 7D103 for MT reasons.
RS applies to ...specially designed components "required" therefor, for civil aircraft
Related Controls:The relevant USML items are limited to "technology" related to "required" for the "use" of 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, the portion of 7A117 controlled by USML, software specifieed in the Related Controls paragraph of ECCN 7D101, 7D102.a, or 7D103 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.)

7E102 STA(c)(1) N/A MT
STA(c)(2) N/A
"Technology" "required" for the "development" of protection of avionics ..., as follows
Items
a Design "technology" for shielding systems
b Design "technology" for the configuration of hardened electrical circuits ...
c Design "technology" for the determination of hardening criteria ...

7E104 STA(c)(1) N/A ITAR
STA(c)(2) N/A

Design "Technology" "required" for "development" of the integration of the flight control, guidance, and propulsion data into a flight management system, designed or modified "required" for "missiles", for optimization of rocket system trajectory of "missiles". (This entry is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part121.

7E191 STA(c)(1) N/A ITAR
STA(c)(2) N/A

7E994 STA(c)(1) N/A AT
STA(c)(2) N/A
"Technology", n.e.s., not controlled by 5E001, 5E101, 5E111, 6E001, 6E002, 6E101, 7E001 to 7E004, 7E101, 7E102, or 7E104, "required" for the "development", "production", or "use" of navigation, airborne communication, and other avionics equipment.
Related Controls:
(Extraordinarily broad 7E994 is a candidate for deletion. It is not included in 742 Supplement 2, although it is included in the 744 Supplement 2 for controls on military end-use to China.).

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 7

8A001 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)

STA(c)(2) N/A 8A001.b,c.d (STA exclusion)
Yes 8A001.a, .e to .i except to Hong Kong
(Only one (c)(2) country NS2 NLR) Submersible vehicles or surface vessels, as follows

Related Controls: (1) ... (2) See also USML Category XX.

Items

a Manned, untethered submersible vehicles designed rated to operate at depths ...

b Manned, untethered submersible vehicles having rated for any of the following

b.1 Designed to 'operate autonomously' and having for a lifting capacity of all the following:

b.2 Designed to operate at depths exceeding 1,000 m; or

b.3 Having all of the following:

b.3.a Designed to continuously 'operate autonomously' for 10 hours or more; and

c [illegible]
exceeding 1,000 m and having for any of the following

c.1 Designed for self-propelled maneuver using propulsion motors

d Unmanned, untethered submersible vehicles having rated for any of the following

d.1 Designed for deciding a course ...

e Ocean salvage systems with rated for a lifting capacity ... and having for any of the following:

e.1 Dynamic positioning systems capable of position keeping within 20 m of a given point ...

e.2 Seafloor navigation and navigation integration systems, for depths exceeding 1,000 m and with positioning accuracies to within 10 m of a predetermined point;

f [illegible]
following:

f.1 Maximum design speed ...

g Surface-effect vehicles (rigid sidewalls) with rated for a maximum design speed

h Hydrofoil vessels with active systems rated for automatically controlling foil systems, with and for a maximum design speed ...

i 'Samall water plane area vessels' having rated for any of the following:

i.1 Full load displacement exceeding 500 tonnes with and a maximum design speed

i.2 Full load displacement exceeding 1,500 tonnes with and a maximum design speed

...

8A002 STA(c)(1) Yes to Argentina, Ukraine
(Only two (c)(1) countries NS2 LR)
(GBS is a reasonable alternative to STA for Argentina (but not to Ukraine) for 8A002.e.2 civil end-use or i.2 if 5 degrees 'freedom of

movement'. CIV is a reasonable alternative to STA for these sub-items if the export is for civil end-use and to a civil end-user in Ukraine.) STA(2) N/A
8A002.b, h, j, o.3, and p. (STA exclusion)

Yes 8A002.a, c to g, i, k to n, o,1,2, q except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(GBS is a reasonable alternative to STA for 8A002.e.2 civil end-use or i.2 if 5 degrees 'freedom of movement' except to following (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative to STA for these 12 countries, which are eligible for CIV if for civil end-use and civil end-user and for CIV-eligible 8A002.e.2 civil end-use or i.2 if 5 degrees 'freedom of movement'.)

Marine systems, equipment and components, not controlled by 8A018, as follows

(If 8A018 were revised as recommended, 8A002.g would become an empty box.)

Related Controls: See also 2B007, 2B207, 2B997, 6A003, 6A203, 8A992, and USML Categories VI(e.f) and XIII(c)(1) and for underwater communications systems, see Category 5, Part 1 - Telecommunications. 8A002 does not control closed and semi-closed circuit (rebreathing) apparatus that is controlled under 8A018.a. See also 8A992 for self-controlled underwater breathing apparatus that is not controlled by 8A002 or released for from control by the 8A002.q Note.

Items

a Systems, equipment, and components specially designed or modified "required" for submersible vehicles and designed rated to operate ..., as follows:

a.4 ... Components manufactured from material specified controlled by 8C001;

b Systems specially designed or modified "required" for the automated control of the motion of submersible vehicles controlled by 8A001, using navigation data, having rated for closed loop servo-controls and having for any of the following: b1 Enabling a vehicle to move within 10 m ...

d.1.a Television systems ... having rated for a 'limiting resolution' ... and specially designed or modified for remote operation ...

d.1.b Underwater television cameras having rated for a 'limiting resolution' ...

d.1.c Low light level television cameras specially designed or modified rated for underwater use and having for all of the following

d.2 Systems specially designed or modified rated for remote operation ...

e Photographic still cameras specially designed or modified rated for underwater use below 150 m, with for a film format of 35 mm or larger,and having for any of the following:

e3 Automatic compensation control specially designed to permit for an underwater camera housing to be usable at depths exceeding 1,000 m

f Electronic imaging systems, specially designed or modified for underwater use, capable of storing digitally more than 50 exposed images. Reserved

Note: 8A002.f does not control digital cameras specially designed for consumer purposes, other than those employing electronic image multiplication techniques.

N.B. For electronic imaging systems specially designed or modified rated for underwater use incorporating image intensifier tubes see 6A002.a.2.a, 6A002.a.2.b, and 6A003.b.3 or incorporating "focal plane arrays" see 6A002.a.3.g and 6A003.b.4.c.

(Deletion of sub-item f and Note and addition of N.B., except for substitution of specially designed or modified, agreed in Wassenaar December 2009.)

g Light systems specially designed or modified rated for underwater use, as follows:

g.1 Stroboscopic light systems capable of rated for a light output energy ...

g.2 Argon arc light systems specially designed rated for use below 1,000 m

h "Robots" specially designed rated for underwater use, controlled by using a dedicated computer control, and having any of the following

h.2 The ability to exert Exertion of a force of 250 N or more, and using titanium based alloys or "composite" "fibrous or filamentary materials" in their structural members

i Remotely controlled articulated manipulators specially designed or modified rated for use with submersible vehicles and having for any of the following

i.2 Controlled by proportional master-slave techniques or by using a dedicated computer control, and having 5 degrees of 'freedom of movement' or more

j [illegible] follows

j.1 Brayton or Rankine cycle engine air independent power systems having rated for any of the following:

j.1.a Chemical scrubber or absorber systems specially designed to remove carbon dioxide, carbon monoxide and particulates ...

j.1.b Systems specially designed to use a monoatomic gas ...

j.1.c Devices or enclosures, specially designed for underwater noise reduction ... or special mounting devices for shock mitigation; or

j.1.d Systems having rated for all of the following:

j.1.d.1 Specially designed to pressurize the products of reaction or for fuel reformation;

j.1.d.2 Specially designed to store the products of the reaction; and

j.1.d.3 Specially designed to discharge the products of the reaction...

j.2 Diesel cycle engine air independent systems having rated for all of the following:

j.2.a Chemical scrubber or absorber systems, specially designed to remove ...

j.2.b Systems specially designed to use a monoatomic gas;

j.2.c Devices or enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; and

j.2.d Specially designed exhaust systems that do not exhaust continuously the products

of combustion;

j.3 Fuel cell air independent power systems with rated for an output exceeding 2 kW and having for any of the following

j.3.a Devices of enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; or

j.3.b Systems having rated for all of the following:

j.3.b.1 Specially designed to pressurize

j.3.b.2 Specially designed to store

j.3.b.3 Specially designed to discharge

... j.4 Stirling cycle engine air independent power systems having rated for all of the following

j.4.a Devices or enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; and

j.4.b Specially designed exhaust systems which discharge the products of combustion against a pressure of 100 kPa or more

k Skirts, seals and fingers, having rated for any of the following

k1 Designed for cushion pressures of 3,830 Pa or more, operating in a significant wave height of 1.25 m (Sea State 3) or more and specially designed for surface effect vehicles (fully skirted variety)...

k2 Designed for cushion pressures of ... and specially designed for surface effect vehicles (rigid sidewalls) ...

l Lift fans rated at more than 400 kW and specially designed for surface effect vehicles ...

m ... hydrofoils, specially designed "required" for vessels controlled by 8A001.h

n Active systems specially designed or modified "required" to control automatically the sea-induced motion of vehicles or vessels

o1 Water-screw propeller or power transmission systems, specially designed "required" for surface effect vehicles ... as follows:

o.1.c Systems employing rated for pre-swirl or post-swirl techniques, for smoothing the flow into a propeller;

o.1.e Power transmission shaft systems incorporating "composite" material components and capable of rated for transmitting more than 1 MW;

o2 Water-screw propeller, power generation systems or transmission systems, designed rated for use on vessels, as follows and for any of the following

o.2.b Internally liquid-cooled electric propulsion engines with rated for a power output exceeding 2.5 MW,

o.2.c "Superconductive" propulsion engines or permanent magnet electric propulsion engines, with rated for a power output exceeding 0.1MW

o.2.d Power transmission shaft systems incorporating "composite" material components and capable of rated for transmitting more than 1 MW;

o3 Noise reduction systems designed rated for use on vessels of 1,000 tonnes displacement or more, as follows and for either of the following

o.3.a Systems that attenuate underwater noise ....specially designed "required" for sound or vibration isolation and having rated for an intermediate mass exceeding

30% of the equipment to be mounted;

o.3.b Active noise reduction or cancellation systems, or magnetic bearings, specially designed "required" and incorporating electronic control systems capable of rated

for actively reducing equipment vibration ...

p Pumpjet propulsion systems having rated for a power output ...

8A018 STA(c)(1) Yes

STA(c)(2) Yes

UN applies ... and Rwanda

LVS: $5,000, except N/A for Rwanda

Related Controls: See also 8A002, and 8A992, 9A002, and USML Category VI(e.f)

Items

a Closed and semi-closed circuit (rebreathing) apparatus, specially designed for military use, and specially designed components "required" therefor for use in the conversion of opencircuit apparatus to military use

b.1 Diesel engines ... specially designed "required" for submarines and specially designed components "required" therefor;

b.2 Electic motors specially designed "required" for submarines ... and specially designed components "required" therefor

b.3 Nonmagnetic diesel engines, 50 hp and over, specially designed for military purposes with rated for nonmagnetic content in exceeds excess of 75 percent of total mass and specially designed components "required" therefor

b.4 [redacted] therefor

8A918 STA(c)(1) Yes to Argentina, South Korea, Ukraine
(Only three (c)(1) countries RS2 LR)

STA(c)(2) N/A

Marine boilers

UN applies ... and Rwanda...

LVS: $5,000, except N/A for Rwanda

Items

a Marine boilers designed to have rated for any of the following characteristics:

b Components, parts, accessories, and attachments for the above "required" for 8A918.a

8A992 STA(c)(1) N/A AT

STA(c)(2) N/A

Vessels, marine systems or equipment, not controlled by 8A001, 8A002, or 8A018, or 8A918, and specially designed parts components "required" therefor

Related Controls: See also 8A002 and 8A018 USML Categories VI(f) and XX.

Items

a.1 Television systems ... having rated for a limiting resolution ... and specially designed or modified for remote operation with a submersible vehicle; or

a2 Underwater television cameras having rated for a limiting resolution ...

b Photographic still cameras specially designed or modified rated for underwater use, having for a film formate format of 35 mm or larger, and having for

autofocusssing autofocusing or remote focussing focusing specially designed for underwater use;

c Stroboscopic light systems, specially designed or modified rated for underwater use, capable of and for a light output energy of more than 300 J per flash

f [illegible] therefor, n.e.s.;

g Marine engines ... and submarine engines, n.e.s., and specially designed parts therefor, n.e.s.;

h Other self-contained underwater breathing apparatus (scuba gear) and related equipment, n.e.s.;

k Air compressors and filtration systems specially designed rated for filling air cylinders

(Deletion of components from 8A992.f, marine engines and components from 8A992.g, and all of 8A992.iand .k would be consistent with 742 Supplement 2(c)(16-20) and with PRC military end-use controls.)

8B001 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes 8A001 except to Hong Kong

(Only one (c)(2) country NS2 NLR)

Water tunnels having rated for a background noise ... and designed for measuring acoustic fields ...

8C001 STA(c)(1) Yes to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR)

STA(c)(2) Yes 8A001 except to Hong Kong

(Only one (c)(2) country NS2 NLR)

‘Syntactic foam’ designed rated for underwater use and having for all of the following ... Items

a Designed for marine depths exceeding 1,000 m; and

8D001 STA(c)(1) Yes

(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for all of 8E001 except for 8A001.b or .d or 8A002.o.3.b and to 17 of the 37 (c)(1) countries for 8A001.b or .d or 8A002.o.3.b)

STA(c)(2) N/A “development” or “production” of 8A001.b,c,d or 8A002.b,h,j, o.3, .p

(STA exclusion)

Yes “development”, “production”, or “use” of 8A001.a, .e to .i or

8A002.a, .c to .g, .i, .k to..n, .o.1,2, .q or
“use” of 8A001.b,c,d or 8A002.b,h,j, o.3, .p
except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(TSR is a reasonable alternative to STA for all of 8D001 except for 8A001.b or .d or 8A002.o.3.b (which are also excepted from STA-eligibility), except to the following (c)(2) countries not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Software" specially designed or modified "required" for the "development", "production", or "use" of equipment or materials, controlled by 8A (except 8A018, 8A918, or 8A992), 8B, or 8C

TSR: Yes, except for exports or reexports to destinations outside of ... of "software" specially designed "required" for the "development" or "production" of equipment controlled by 8A001.b, 8A001.d, or 8A002.o.3.b.

Related Controls: N/A See also 8D992 and USML Category VI(g).

8D002 STA(c)(1) Yes

(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for all of 8D002)

STA(c)(2) N/A (STA exclusion)

(TSR is a reasonable alternative to STA for all of 8D002 to all (c)(2) countries except the following twelve, which are not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

Specific "software" specially designed or modified "required" for the "development", "production", repair, overhaul or refurbishing (re-machining) of propellers specially designed rated for underwater noise reduction

Related Controls: See also 8D018, 8D992, and USML Category VI(g).

8D018 STA(c)(1) Yes

STA(c)(2) Yes

"Software" "required" for the "development", "production", or "use" of 8A018.

(To conform with WML 21.a.)

NS appliesto entire entry NS Column!

Related Controls: See also 8D992, 9D001 to 9D004, and USML Category VI(g).

8D992 STA(c)(1) N/A AT

STA(c)(2) N/A

"Software", not controlled by 8D001, 8D002, or 8D018, specially designed or modified "required" for the "development", "production", or "use" of equipment controlled by 8A992

(Deletion of “software” for 8A992.i and .k would be consistent with 742 Supplement 2(c)(16-20) and with PRC military end-use controls.)

8E001 STA(c)(1) Yes

(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for all of 8D001 except for 8A001.b or .d or 8A002.o.3.b and to 17 of the 37 (c)(1) countries for 8A001.b or .d or 8A002.o.3.b)

STA(c)(2) N/A 8E001 for 8A001.b,c,d or 8A002.b,h,j, o.3, .p

(STA exclusion)

Yes 8E001 for 8A001.a, .e to .i or
8A002a, .c to .g, .i, .k to..n, .o.1,2, .q
except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(TSR is a reasonable alternative to STA for all of 8E001 except for 8A001.b or .d or 8A002.o.3.b (which are also excepted from STA-eligibility), except to the following (c)(2) countries not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

"Technology", not controlled by 8A018, ... for the "development" or "production" of equipment or materials controlled by 8A (except 8A018, 8A918, or 8A992), 8B or 8C.
Related Contreols: N/A See also 8E992 and USML Category VI9(g)

8E002 STA(c)(1) Yes

(TSR is a reasonable alternative to STA to all (c)(1) countries except Ukraine for all of 8E002)

STA(c)(2) N/A 8E002.a (STA exclusion)
Yes 8E002.b

except to Hong Kong

(Only one (c)(2) country NS2 NLR)

(TSR is a reasonable alternative to STA for all of 8E002 except to the following (c)(2) countries not TSR-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.)

Other "technology", not controlled by 8E001 or 8E018, as follows ...
Related Controls: See also 8E992 and USML Category VI(g).
Items

a "Technology" "required" for the "development", "production", repair, overhaul or refurbishing (re-machining) of propellers specially designed rated for underwater noise reduction;

b "Technology" "required" for the overhaul or refurbishing of equipment controlled by 8A001, 8A002.b, 8A002.j, 8A002.o or 8A002.p

8E018 STA(c)(1) Yes

STA(c)(2) Yes

"Technology" "required" for the "development", "production", or "use" of 8A018.
(To conform with WML 22.)
NS applies to entire entry NS Column!
Related Controls: See also 8E992, and USML Category VI(g).

8E992 STA(c)(1) N/A AT
STA(c)(2) N/A
"Technology", not controlled by 8E001, 8E002, or 8E018, "required" for the

"development", "production", or "use" of equipment controlled by 8A992

(Deletion of "technology" for 8A992.iand .k would be consistent with 742 Supplement 2(c)(16-20) and with PRC military end-use controls.)

January 31, 2011

Recommended STA Texts and "Positive List" CCL and USMLRevisions: CCL Category 9

9A001 STA (c)(1) N/A MT
Yes not MT
STA (c)(2) N/A MT
Yes not MT
Aero gas turbine engines incorporating any of the "technologies controlled by 9E003.a, as follows
(Deleted language is because 9A001.b is not based on incorporation of 9E003.a technologies.)
b Designed Rated to power an aircraft designed to cruise at Mach 1 or higher, for more than 30 minutes.

9A002 STA (c)(1) Yes to Argentina and Ukraine
(Only two (c)(1) countries NS2 LR)
STA (c)(2) Yes to all (c)(2) countries except Hong Kong
(Only one (c)(2) country NS2 NLR)
'Marine gas turbine engines' ... and specially designed assemblies and components "required" therefor.

9A003 STA (c)(1) Yes to Argentina and Ukraine
(Only two (c)(1) countries NS2 LR)
STA (c)(2) Yes to all (c)(2) countries except Hong Kong
(Only one (c)(2) country NS2 NLR)
Specially designed assemblies and components, incorporating any of the "technologies" controlled by 9E003.a, for gas turbine engine propulsion systems and having any of the following: Components "required" for engines controlled by 9A001.a
a. Controlled by 9A001; or

b. Whose design or production origins are either countries in Country Group D:1 or unknown to the manufacturer.

9A004 STA (c)(1) N/A MT
Yes not MT
STA (c)(2) N/A MT
Yes not MT
Space launch vehicles and "space craft", not controlled by USML Categories IV or XV
MT applies to portion of 9A004 also described in 9A104
Related Controls: ... (7) The relevant portions of USML are limited to Category IV "missiles" and to Category IV and Category XIV(d)(4) UAVs rated for "range" of 300 km or greater and "payload" of 500 kg or greater (8) ECCN 9A104 controls rockets rated for a "range" of 300 km or greater and a "payload" of less than 500 kg.

9A012 STA (c)(2) N/A MT4
Yes not MT
STA (c)(2) N/A MT

Yes not MT

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

MT applies to portion of 9A005 also described in 9A105

Related Controls: The relevant portion of USML Category IV is limited to liquid propellant rocket engines "required" for "missiles" having a total impulse caqpacity of 1.1×10^6 Ns or greater.

9A006 STA (c)(1) N/A MT
Yes not MT
STA (c)(2) N/A MT
Yes not MT

Systems and components , not controlled by USML Category IV, specially designed "required" for liquid rocket propulsion systems. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(Assumes 9A006 expanded to include Wassenaar 9.A.6.a though .h, changing specially designed to "required" in .a and ..g.)

MT applies to portion of 9A006 also described in 9A106

Related Controls: The relevant portion of Category IV is limited to thrust vector control systems "required" for liquid propellant rocket engines for "missiles":

9A007 STA (c)(1) N/A MT
Yes not MT
STA (c)(2) N/A MT
Yes not MT

Solid rocket propulsion systems , not controlled by USML Category IV. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(Assumes 9A007 expanded to include Wassenaar 9.A.7.a though .e and Technical Note.)

MT applies to portion of 9A007 also described in 9A107

Related Controls: The relevant portion of Category IV is limited to solid propellant rocket engines, "required" for "missiles" having total impulse capacity equal to or greater than 1.1×10^6 Ns.)

9A008 STA (c)(1) N/A MT
Yes not MT
STA (c)(2) N/A MT

Yes not MT

Components specially designed "required" for solid rocket propulsion systems. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

MT applies to portion of 9A008 also described in 9A108.

Related Definitions: 'Insulation' is intended to be applied to the components of a rocket motor, i.e., the case, nozzle inlets, case closures, includes curex or semi-cured compounded rubber sheet stock containing an insulating or refractory material. It may also be incorporated as stress relief boots or flaps.

(Assumes 9A008 expanded to include Wassenaar 9.A.8.a though .d, including Technical Notes for .a and .b.)

9A009 STA (c)(1) N/A MT

Yes not MT

STA (c)(2) N/A MT

Yes not MT

Hybrid rocket propulsion systems . (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(Assumes 9A009 expanded to include Wassenaar 9.A.9.a and .b)

MT applies to portion of 9A009 also described in 9A109.

9A010 STA (c)(1) N/A MT

Yes not MT

STA (c)(2) N/A MT

Yes not MT

Specially designed components, systems and structures "required" .for launch vehicles, launch vehicle propulsion systems or "spacecraft" (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

MT applies to portion of 9A010 also described in 9A110 or 9A105.

(Assumes 9A010 expanded to include Wassenaar 9.A.10.a though .d, changing specially designed to "required"..)

STA (c)(1) N/A MT

Yes not MT

STA (c)(2) N/A MT

Yes not MT

Ramjet, scramjet or combined cycle engines and specially designed components "required" therfor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

MT applies to portion of 9A011 also described in 9A111.

Yes not MT

Nonmilitary "unmanned aerial vehicles," ("UAVs"), associated systems, equipment and components, not controlled by USML Category VIII, as follows

MT applies to nonmilitary unmanned air vehicles (UAVs) and remotely piloted vehicles (RPVs) that are capable of rated for a maximum range of at least "range" of 300 kilometers or greater regardless of payload

(To conform with MTCR 19.A.2. RPVs are a subset of UAVs.)

Unit ..Equipment in number; parts and accessories components in $ value

Related Controls: (1) See the U.S. Munitions List Category VIII (22 CFR part 121. Also see sections 744.3 and 744.6 of the EAR. (2) The relevant portion of Category VIII is limited to UAVs rated for delivering at least a 500 kg "payload" to a "range"of at least 300 km.

Items:

a.1 An Rated for autonomous flight control and navigation capability ...

a.2 Capability of Rated for controlled flight ...

b.1 Equipment specially designed "required" for remotely controlling ...

b.2 Systems for navigation, attitude, guidance or control, other than those not controlled in Category 7 and specially designed to provide "required" for providing autonomous flight control or navigation capability to "UAVs" controlled by 9A012.a

b.3 ... specially designed to convert "required" for converting ...

b.4 ... specially designed or modified to propel "required" for propelling.

9A018 STA (c)(1) Yes

STA (c)(2) Yes 9A018.a and .b to Albania

(Albania is only (c)(2) country RS2 NLR.)

Yes 9A018.c,d,e,f to all (c)(2) countries except Hong Kong

Equipment on the Wassenaar Arrangement Munitions List, not controlled by USML Categories VII or XIII

(Assumes relevant portions of Categories VII, IX, and XIII are revised to cover only the recommended revision of 9A018 Related Controls below, at which time this Related Controls section (1) would be deleted.

. UN applies ... and Rwanda

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

Related Controls: (1) The relevant portions of USML Categories VII, IX, and XIII are limited to (a) Parachute systems designed rated for use in dropping military equipment, braking military "aircraft", slowing spacecraft descent, or retarding weapons delivery; (b) Instrument flight trainers for combat simulation; and (c) military ground armed or armored vehicles and parts and components specific thereto described in 22 CFR part 121 Category VII "required" therefor; and allwheel drive vehicles capable of offroad use that have been armed or armored with articles described in 22 CFR part 121 Category

XIII (see 770.2(h) - interpretation 8) are all subject to the export licensing jurisdiction of the U.S. Department of State, Directorate of Defense Trade Controls. (2) See also 9A001, 9A003, 9A991, 9A992..

a.3 Specially designed component parts Components "required" therefor.

b Ground transport vehicles (including trailers) and parts and component "required" therefor designed or modified for noncombat military use and unarmed allwheel drive vehicles capable of offroad use which have been manufactured or fitted with materials to provide having ballistic protection to level III (National Institute of Justice standard 0208.02, September 1985) or better (see 770.2(h) Interpretation 8)

c Pressure refuelers, pressure refueling equipment, equipment specially designed to facilitate "required" for operations in confined areas; and ground equipment developed specially for military "aircraft" and specially designed parts and accessories, n.e.s. and components "required" therefor;

d Pressurized breathing equipment specially designed "required" for use in military unpressurized "aircraft"

e Military parachutes and complete canopies, harnesses, and platforms and electronic release mechanisms therefor for parachutes, except such types as are in normal sporting use;

f Military instrument flight trainers, except for combat simulation civil "aircraft"; and components and accessories specially designed for such equipment."required therefor

9A101 STA (c)(1) N/A (MT)
STA (c)(2) N/A

Turbojet and tubofan engines, other than those not controlled by 9A001, as follows
Related Controls: 9A101.b controls only engines for nonmilitary unmanned air vehicles (UAVs) or remotely piloted vehicles (RPVs), and does not control other engines designed or modified for use in "missiles", which are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).

b Engines.designed or modified for use in rated for "missiles" or unmanned aerial vehicles rated for a "range" of 300 kilometers or greater, regardless of thrust or specific fuel consumption.

(It is believed that there are no engine characteristics

peculiarly responsible for such use which would warrant ITAR jurisdiction.)

9A102 STA (c)(1) N/A (MT)

STA (c)(2) N/A

'Turboprop engine systems' specially designed "required" for UAVs rated for a "range" of 300 km or greater and specially designed components "required" therefor, having a maximum power greater than 10 kW (achieved uninstalled at sea level standard conditions), excluding civil certified engines.

Related Definitions: 'Turboprop engine system' incorporates turboshaft engines and power transmission systems to transfer the power to a propeller.

9A103 STA (c)(1) N/A (MT)

STA (c)(2) N/A

Liquid propellant tanks specially designed rated for the propellants controlled in by 1C011, 1C111 or other liquid propellants used in rated for "missiles." (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

(It is believed that there are no tank characteristics peculiarly responsible for such use which would warrant ITAR jurisdiction.)

9A104 STA (c)(1) N/A (MT)

STA (c)(2) N/A

Sounding rockets, capable of a range of at least 300 km Rocket systems, not controlled by ECCN 9A004 or by USML Category IV, rated for a "range" of 300 kilometers or greater. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

Related Controls: (1) The relevant portions of USML are limited to Category IV "missiles" and to Category IV and Category XV(d)(4) UAVs rated for "range" of 300 km or greater and "payload" of 500 kg or greater. (2) See also ECCN 9A191.

9A105 STA (c)(1) N/A (MT)

STA (c)(2) N/A

Liquid propellant rocket engines, not controlled by ECCN 9A005 or USML Category IV, "required" for rockets or UAVs rated for a "range" of 300 km or greater and having a total impulse capacity of 8.41 x 10^5 Ns or greater. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

Related Controls: The relevant portion of USML Category IV is limited to liquid propellant rocket engines "required" for "missiles" having a total impulse capacity of 1.1 x 10^6 Ns or greater.

9A106 STA (c)(1) N/A (MT)
STA (c)(2) N/A

Systems or components other than those not controlled by 9A006 or by USML Category IV, usable in "missiles" "required" for liquid propellant rocket engines for "missiles", as follows These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)
Unit: Equipment and components in number; parts and accessories in $ value..
Related Controls: Items described in 9A106.a, b, and c are subject to the export licensing authority of the U.S. Department of State, Directorate of Dcfense Trade Controls (See 22 CFR part 121). (1) The relevant portion of Category IV is limited to thrust vector control ystems "required" for liquid propellant rocket engines for "missiles" (2) See also ECCN 9A191.

Items

a. Ablative liners for thrust or combustion chambers
b. Rocket nozzles
c. Thrust vector control sub-systems

Technical Note: Examples ... 9A106.c includes ...

d Liquid and slurry propellant (including oxidizers) control systems, and specially designed components "required" therefor, designed or modified rated to operate in vibration environments greater than 10g rms between 20 Hz and 2000 Hz
Note: The only servo valves and pumps controlled by 9A106.d are the following:

a Servo valves designed rated for ...
b Pumps, for liquid propellants, with rated for shaft speeds ...
c Flight control servo valves designed or modified for use in "required" for "missiles" and designed or modified rated to operate in a vibration environment greater than 10g rms over the entire range between 20 Hz and 2kHz

9A107 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Solid propellant rocket engines, usable in "required" for rockets with a range capability rated for a "range" of 300 km or greater, other than those not controlled by 9A007 or USML Category IV, having total impulse capacity equal to or greater than 8.41 x 10^5 Ns, but less than 1.1 x 10^6 These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)
Related Controls: The relevant portion of Category IV is limited to solid propellant rocket engines, "required" for "missiles" having total impulse capacity equal to or greater than 1.1 x 10^6 Ns.)

9A108 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Solid rocket propellant components Rocket motor cases, 'insulation' components and nozzles therefor "required" for solid propellant, other than those controlled by 9A008 , usable in rockets with a range capability rated for a "range" of 300 km or greater, not

controlled by 9A008 . These items are subject to the export licensing authority of the

Related Definitions: 'Insulation' is intended to be applied to the components of a rocket motor, i.e., the case, nozzle inlets, case closures, includes curex or semi-cured compounded rubber sheet stock containing an insulating or refractory material. It may also be incorporated as stress relief boots or flaps.

9A109 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Hybrid rocket motors, usable in "required" for rockets with a range capability rated for a "range" of 300 km or greater, other than those not controlled by 9A009 and specially designed components "required" therefor. These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

9A110 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Composite structures, laminates and manufactures thereof, other than those not controlled by entry 1A002 or 9A010, specially designed "required" for use in "missiles" or the subsystems coontrolled by entries 9A005, 9A007, 9A105.a, 9A106 to 9A108, 9A116, or 9A119 "missile subsystems"
Related Controls: (1) See also 1A002. (2) "composite" structures, laminates, and manufactures thereof, specially designed for use in missile systems are under the licensing authority of the Directorate of Defense Trade Controls, U.S. Department of State, except thosespecially designed for nonmilitary unmanned air vehicles controlled by 9A012.

9A111 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Pulse jet Ramjet/scramjet/pulsejet/combined cycle engines, not controlled by 9A011 usable in "required" for rockets, missiles, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km, and specially designed components "required" therefor. These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

9A120 9A112 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Complete unmanned aerial vehicles, not specified in controlled by 9A012 or by USML Category VIII, having all of the following as follows
Unit: Equipment in number; parts and accessories in $ value
Related Controls: (1) See ECCB 9A012 or the U.S. Munitions List Category VCIII (22 CFR part 121), Also see ECCN 2B352.h for controls on certain spraying or fogging systems and components therefor, specially designed or modified for fitting to aircraft,

"lighter than air vehicles," or on "UAVs." (2) The relevant portion of USML Category VIII is limited to UAVs rated for delivering at least a 500 kg "payload" to a "range" of at

least 300 km.
Items:Revise to read:
a. Rated for a "range" equal to or greater tan 300 km; or
b. Having all of the following:
b.1 Having any of the following:
b.1.a Rated for autonomous flight control and navigation; or
b.1.b Rated for controlled flight out of the direct vision range of a human operator; and
b.2 Having any of the following:
b.2.a Incorporating an aerosol dispensing system/mechanism with a capacity greater than 20 liters; or
b.2.a Rated to incorporate an aerosol dispensing system/mechanism with a capacity greater than 20 liters.

9A115 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Apparatus, and devices, and vehicles not controlled by USML Categories IV and VII, designed or modified "required" for the transport, handling, control, activation and or launching of rockets, missiles, and unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km. These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)
Related Controls: The relevant portions of Categories IV and VII are limited to apparatus, devices, and vehicles "required" for the transport, handling, control, activation or launching of "missiles".

9A116 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Reentry vehicles, usable in "required" for "missiles", and equipment designed or modified "required" therefor, not controlled by USML Category IV, as follows. These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)
Related Controls: The relevant USML Category IV items are limited to reentry vehicles "required" for "missiles"
Items
a Heat shields, and components "required" therefor, fabricated of ceramic or ablative materials;
b Heat sinks, and components "required" therefor, fabricated of light-weight high heat capacity materials;
c Electronic equipment "required" for reentry vehicles.

9A117 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Staging mechanisms, separation mechanisms, and interstages therefor,, usable in "required" for "missiles"..These items are subject to the export licensing authority of the

U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

9A118 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Devices to regulate combustion of ramjet/scramjet/pulsejet/combined cycle engines which are usable in rockets with a range capability greater than "required" for UAVs rated for a "range" of 300 km or greater, controlled by 9A011 or 9A111. These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

9A119 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Individual rocket stages, not controlled by USML Category IV, usable in "required" for rockets or UAVs with a range capability greater than rated for a "range" of 300 km or greater, other than those controlled by 9A005, 9A007, 9A009, 9A105, 9A1107, and 9A109. These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)
Related Controls: The relevant portion of Category IV is limited to individual rocket stages "required" for "missiles."

9A121 STA (c)(1) N/A (ITAR)
STA (c)(2) N/A
Weapon or warhead safing, arming, fuzing, and firing mechanisms "required" for "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

9A191 STA (c)(1) N/A (MT)
STA (c)(2) N/A
ECCNs 9A101, 9A103 to 9A112, 9A115 to 9A119, 9A121 with "range" in the definition of "missiles" revised to between 25 and 300 km to China or between 150 and 300 km to Iraq.

9A980 STA (c)(1) Yes to Argentina, Austria, Finland, Ireland, South Korea, Sweden, Switzerland, and Ukraine (CC1 NLR to all other (c)(1) countries)
STA (c)(2) N/A
Nonmilitary mobile crime science laboratories; and parts and accessories, n.e.s.,

9A990 STA (c)(1) N/A (AT only)
STA (c)(2) N/A
Diesel engines, n.e.s., and tractors and specially designed parts therefor, n.e.s. as follows (See List of Items controlled)
(742 Supplement 2(c)(7,8) do not control parts.)
a Diesel engines, n.e.s., for trucks, tractors, and automotive applications "required" for tank transporters, of continuous brake horsepower of 400 BHP (298 kW) or

greater ...

b Off-highway wheel tractors of carriage capacity 9 mt (20,000 lbs) or more and parts and accessories, n.e.s.

c On-highway tractors, with single or tandem rear axles rated for 9mt per axel axle (20,000 lbs) or greater and specially designed parts.

9A991 STA (c)(1) N/A (AT plus China military use; but China is not a (c)(1) country)
STA (c)(2) N/A
"Aircraft", n.e.s. not controlled by USML Category VIII, and gas turbine engines, not controlled by 9A001 and 9A018, 9A101 , or USML Category VIII, and parts and components, n.e.s "required" therefor, as follows (see List of Items controlled)
UN applies ... and Rwanda
Related Controls: (1) ... Technology specific to "required" for the development and production of QRS11 sensors remains subject to the licensing jurisdiction of the Department of State. (2) The other relevant portions of USML Category VIII are limited to aircraft "required" for gunnery, bombing, rocket or missile launching, surveillance, reconnaissance, refueling, aerial mapping, cargo dropping, or personnel dropping.
Items:

a Military "aircraft", demilitarized (not specifically equipped or modified for military operation), as follows: ...

b Civil "aircraft"

c Aero gas turbine engines and specially designed parts components "required" therefor

Note: 9A991.c does not control aero gas turbine engines that are destined for use in rated for civil "aircraft" and that have been in use in bona fide civil "aircraft" for more than eight years. If they have been in use in bona fide civil "aircraft" for more than eight years, such engines are controlled under 9A991.d.

d Aircraft parts and components, n.e.s. Components "required" for "aircraft."

e Pressurized aircraft breathing equipment, n.e.s.; and specially designed parts therefor, n.e.s. and components "required" therefor.

(9A018.d may make 9A991.e redundant, except for components.)

9A992 STA (c)(1) N/A (AT only)
STA (c)(2) N/A
(9A992 is covered by 9A018.e.if revised as recommended.)

9B001 STA (c)(1) N/A MT portion
Yes Non-MT to Ukraine
(Ukraine only (c)(1) country not GBS NLR)
STA (c)(2) N/A 9B001.b (STA exclusion)
N/A MT portion of 9B001.a
Yes non-MT portion of 9B001.a
(GBS is available for non-MT portions of both 9B001.a and 9B001.b to all (c)(2) countries except following twelve countries not

GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is available for non-MT portion of 8B001 to these 12 countries, which are eligible for CIV if for civil end-use and civil end-user.)

Equipment, tooling and fixtures, specially designed "required" for manufacturing gas turbine blades, vanes, to tip shroud castings, as follows

MT applies only to equipment for engines that meet the characteristics described in 9A001 portion of 9B001 for "production equipment" or "production facilities" "required" for "missile propulsion components, equipment, or materials"

(To conform with MTCR 3.B.1 and 3.B.2.)

Related Controls: (1) For specially designed production equipment of systems, subsystems and components controlled by 9A005 to 9A009, 9A011, 9A101, 9A105 to 9A109, 9A111, and 9A116 to 9A119 usable in "missiles" see 9B115 See 9B115 for "production equipment" or 9B116 for "production facilities" "required" for "missiles", "missile subsystems", or "missile propulsion components, equipment, or materials", (2) See also 9B002, 9B003, 9B004, 9B009, and 9B991

Related Definitions: N/A "Missile propulsion components, equipment, or materials": (MTCR context) Cat 9:

Gas turbine engines, controlled by:

9A001 for MT reasons or

9A101;

Liquid propellant tanks controlled by ECCN 9A103,;

Rocket motor cases, 'insulation' components, and nozzles, liquid nd slurry propellant control systems, and rocket motor case 'interior lining' and 'insulation' material, controlled by: :

9A006 or 9A008 for MT reasons or

9A106 or 9A108;

Hybrid rocket motors controlled by:

9A009 for MT reasons or

9A109;

Ramjet/scramjet/pulsejet/combined cycle engines and devices to regulate their combustion, controlled by:

9A011 for MT reasons or

9A111 or 9A118;

Staging mechanisms, separation mechanisms, and interstages therefor controlled by ECCN 9A117

9B002 STA (c)(1) N/A MT portion

Yes Non-MT to Argentina, Ukraine

(Only two (c)(1) countries NS2 LR.. Argentina is GBS-eligible. Ukraine is not GBS-eligible but is CIV eligible if to civil end-use and civil end-user.)y not GBS NLR)

STA (c)(2) N/A MT portion
Yes Non-MT to all except Hong Kong
(Only one (c)(2) country is NS2 NLR)
(GBS is a reasonable alternative to STA for non-MT portion of 9B002 except to following twelve (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative STA for these 12 countries, which are eligible for CIV if for civil end-use and civil end-user.)

On-line (real time) control systems... specially designed "required" for ...
MT applies only to equipment for engines that meet the characteristics described in 9A001 portion of 9B001 for "production equipment" or "production facilities" "required" for "missile propulsion components, equipment, or materials"
LVS: $3,000, except for N/A for MT N/A
(GBS permits export without dollar limit.)
Related Controls: N/A See also 9B001, 9B003, 9B004, 9B009, 9B115, 9B116, 9B991.

9B003 STA (c)(1) N/A MT portion
Yes Non-MT to Ukraine
(Only two (c)(1) countries NS2 LR.. Argentina is GBS-eligible. Ukraine is not GBS-eligible but is CIV eligible if to civil end-use and civil end-user.)y not GBS NLR)
(Ukraine only (c)(1) country not GBS NLR)

STA (c)(2) N/A MT portion
Yes Non-MT to all except Hong Kong
(Only one (c)(2) country is NS2 NLR)
(GBS is a reasonable alternative to STA for non-MT portion of 9B002 except to following twelve (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative STA for these 12 countries, which are eligible for CIV if for civil end-use and civil end-user.)

Equipment specially designed "required" for the "production" or test of gas turbine brush seals designed rated to operate ... and specially designed components "required" or accessories therefor.
MT applies only to equipment for engines that meet the characteristics described in 9A001 portion of 9B001 for "production equipment" or "production facilities" "required" for "missile propulsion components, equipment, or materials"
(To conform with MTCR 3.B.1 and 3.B.2.)
LVS: $3,000, except for N/A for MT N/A

(GBS permits export without dollar limit.)

Related Controls: See also 9B001, 9B002, 9B004, 9B009, 9B115, 9B116, 9B991.

9B004 STA (c)(1) N/A MT portion

Yes Non-MT to Ukraine

(Only two (c)(1) countries NS2 LR.. Argentina is GBS-eligible. Ukraine is not GBS-eligible but is CIV eligible if to civil end-use and civil end-user.)y not GBS NLR)

STA (c)(2) N/A MT portion

Yes Non-MT to all except Hong Kong

(Only one (c)(2) country is NS2 NLR)

(GBS is a reasonable alternative to STA for non-MT portion of 9B002 except to following twelve (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.

CIV is a reasonable alternative STA for these 12 countries, which are eligible for CIV if for civil end-use and civil end-user.)

MT applies only to equipment for engines that meet the characteristics described in 9A001 portion of 9B001 for "production equipment" or "production facilities" "required" for "missile propulsion components, equipment, or materials"

(To conform with MTCR 3.B.1 and 3.B.2.)

LVS: $3,000, except for N/A for MT N/A

(GBS permits export without dollar limit.)

Related Controls: N/A See also 9B001, 9B002, 9B003, 9B009, 9B115, 9B116, 9B991.

9B005 STA (c)(1) N/A MT

Yes Non-MT

STA (c)(2) N/A MT

Yes Non-MT

On-line (real time) control systems ...specially designed for use with "required " for any of the following

MT applies to portion of 9B005 also described in 9B105

Related Controls: See also 9B007, 9B105, 9D004.a, 9E003.b.1

a Wind tunnels designed rated for speeds of Mach 1.2 or more;

Note: 9B005.a does not control wind tunnels specially designed rated for ...

c Wind tunnels or devices ... capable of rated for simulating ...

9B006 STA (c)(1) N/A MT

Yes Non-MT to Argentrina, Ukraine

(Only two (c)(1) countries NS2 LR.. Argentina is GBS-eligible. Ukraine is not GBS-eligible but is CIV eligible if to civil end-use and civil end-user.)y not GBS NLR)

STA (c)(2) N/A MT
Yes Non-MT to all except Hong Kong
(Only one (c)(2) country is NS2 NLR)
(GBS is a reasonable alternative to STA for non-MT portion of 9B002 except to following twelve (c)(2) countries not GBS-eligible: Armenia, Azerbaijan, Cambodia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Moldova, Mongolia. Tajikistan, Turkmenistan, Uzbekistan.
CIV is a reasonable alternative STA for these 12 countries, which are eligible for CIV if for civil end-use and civil end-user.)
Acoustic vibration test equipment capable of rated for ... and specially designed quartz heaters "required" therefor
MT applies to portion of 9B006 also described in 9B106
LVS: $3,000 N/A
(GBS permits export without dollar limit.)
Related Controls: See also 2B116, 9B007, 9B106, and 9B990. Note that some items in 9B006 may also be controlled under 9B106
(As in other potential overlap situations, 9B106 should not control what is controlled by 9B006, by inclusion of "not controlled by 9B006" in its heading.)..

9B007 STA (c)(1) N/A MT portion
Yes Non-MT
STA (c)(2) N/A MT portion
Yes Non-MT
Equipment specially designed "required for" ...
MT applies to entire entry portion of 9B007 also described in 9B115 to 9B117
(9B007 is broader than MTCR 2.B.1, 2.B.2, 20.B.1, and20.B.2, which are limited to equipment to produce specified types rocket motors.)
Related Controls: N/A See also 1B018.b, 2B116, 9B005, 9B006, 9B008, 9B105, 9B`06, and 9B990.

9B008 STA (c)(1) Yes to Argentina and Ukraine
STA (c)(2) Yes to Albania, Cyprus, Malta
Transducers specially designed "required" for ...
Related Controls: N/A See also 2B230 and 6A226

9B009 STA (c)(1) Yes to Argentina and Ukraine
STA (c)(2) Yes to Albania, Cyprus, Malta
Tooling specially designed "required" for ...
Related Controls: N/A See also 9B001-9B004, and 9B991

9B010 STA (c)(1) N/A MT
Yes not MT

STA (c)(2) N/A MT
Yes not MT
Equipment specially designed "required" for ...
MT applies to portion of 9B010 for the production of UAVs rated for a "range" of 300 km or greater.and "payloads" of 500 kg or greater.
Related Controls: N/A See also 9B116

9B105 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Wind tunnels, not controlled by 9B005, rated for speeds of Mach 0.9 or more usable for rockets, missiles, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km and their subsystems."missile subsystems"
Related Controls: See also 9B005 9B007 and 9B191.

9B106 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Environmental chambers, not controlled by 9B006, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving rated for a "range" equal to or greater than 300 km and their subsystems."missile subsystems" as follows
Related Controls: N/A See also 2B116 and 9BB990.

9B115 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Specially designed "production equipment", not controlled by 1B003, 2B018, or 9B001-9B004, "required" for the systems, subsystems, and components controlled by 9A004 to 9A009, 9A011, 9A101, 9A104 to 9A109, 9A111, 9A116, to 9A119 "missile subsystems"; "missile propulsion components, equipment, or materials", or "other rocket subsystems"
Related Equipment: ... Also see 9B009, 9B191, and 9B991..
Related Definitions: N/A Other rocket subsystems (MTCR context) (Cat. 9) Items controlled by 9A105, 9A107, or 9A119

9B116 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Specially designed "production facilities", not controlled by 2B018, 2D018, 2E018.a, or .b, or 9B001-9B004, "required" for the systems, subsystems, and components controlled by 9A004 to 9A009, 9A011, 9A101, 9A104 to 9A109, 9A111, 9A116, to 9A119 "missiles"; "missile subsystems"; "missile propulsion components, equipment, or materials", or "other rocket subsystems"
Related Equipment: ... Also see 9B191..

9B117 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Test benches and test stands for solid or liquid propellant rockets, motors or rocket

engines, "required" for "missiles" or "missile subsystems", having either of the following characteristics:
Related Controls: See also 9B191 and 9B990
b. Capable of Rated for simultaneously measuring ...

9B191 STA (c)(1) N/A (MT)
STA (c)(2) N/A
ECCNs 9B105, 9B115, 9B116, or 9B117 with "range" in the definition of "missiles" revised to between 25 and 300 km to China or between 150 and 300 km to Iraq.

9B990 STA (c)(1) N/A (AT only)
STA (c)(2) N/A
Vibration and test equipment, not controlled by 1B018, 2B116, 9B006, or 9B106, and specially designed parts and components, n.e.s. "required" therefor
(Deletion of components would be consistent with 742 Supplement 2(c)(23).)

9B991 STA (c)(1) N/A (AT only)
STA (c)(2) N/A
Specially designed equipment, tooling or fixtures, not controlled by 9B001, 9B004, 9B009, or 9B115, as described in the List of Items Controlled, "requjired" for manufacturing or measuring gas turbine blades, vanes, or tip shroud castings.
(9B991 is a candidate for deletion, since the only reason for control is AT, EAR99 requires a license to AT countries, and 9B991 is omitted from 742 Supplement 2.)

9C110 STA (c)(1) N/A (MT)
STA (c)(2) N/A
Resin impregnated fiber prepregs and metal coated fiber preforms therefor, not controlled by 1C010.e, for ...

9D001 STA (c)(1) N/A MT portion
Yes Non-MT
STA (c)(2) N/A MT portion
N/A Non-MT portion of 9D001 for 9B001.b or for 9E003.a.1-5,8 or 9E003.h (STA exclusion)
Yes Non-MT portion of 9D001 for 9A001 to 9A012, 9B001.a, 9B002 to 9B010, 9E003.a.6,7, 9-11, b-g
"Software", not controlled by USML Category IV, specially designed or modified "required" for the "development" of equipment or "technology" controlled by 9A (except 9A018, 9A990 or 9A991), 9B (except 9B990 or 9B991) 9A001 to 9A012, 9A106, 9A108, 9A111, 9A117, 9A118, 9B001 to 9B010, or 9E003.
(MTCR controls no "development" software except in 3.D.3 for 3.A.2, 3.A.3, and 3.A.4, which are, respectively, 9A111 and 9A118, 9A106 and 9A108, and 9A117. MTCR 20.D.1 does not state whether it is "development" or "use" but

is assumed to be "use" for consistency with 2.D.1.)
NS applies to "software" for equipment or "technology" controlled by 9A001 to 9A003, 9A012, 9B001 to 9B010, 9E003.
MT applies to "software" for equipment controlled by 9A006, 9A008, 9A011, 9A106.a and .b, 9A108, 9A111, 9A117, or 9A118, or 9B116 for MT reasons.
TSR: N/A Yes, except for the following:
(1) Items controlled for MT reasonsp or
(2) Exports or reexports to destinations outside of ... of "software" for the "develooment" of 9E003.a.1 or 9E003.a.3.a
Related Controls: (1) "Software" "required" for the "development" of items controlled by 9A004 is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) (2) "Software" "required" for the "development" of equipment or "technology" subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls is also subject to the same licensing jurisdiction. (See 22 CFR part 121.) (1) The relevant portions of USML are limited to "software" for the "development" of the equipment described in 9A117 or in Related Controls sections for 9A004 to 9A007, 9A012, 9A106, 9A108 as relevant USML equipment. (2) See also 9D004, 9D191, 9D990, and 9D991.

9D002 STA (c)(1) Yes
STA (c)(2) N/A portion of 9D002 for 9B001.b (STA exclusion)
Yes portion of 9D002 for 9A001 to 9A012, 9B001.a, 9B002 to 9B010
"Software", not controlled by 1D018 or 2D018, specially designed or modified "required" for the "production" of equipment controlled by 9A (except 9A018, 9A990, or 9A991) or 9B (except 9B990 or 9B991) 9A001 to 9A012, 9B001 to 9B010
(MTCR does not control any "software" for "production". The MTCR control of "software" for the "use" of "production facilities" is covered by 9D101.
)
NS applies to "software" for equipment controlled by 9A001 to 9A003, 9A012, 9B001 to 9B010, or 9E003.
MT applies to "software" for equipment controlled by 9B116 for MT reasons.
Related Controls: (1) "Software" "required" for the "production" of items controlled by 9A004 is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) (2) "Software" "required" for the "production" of equipment or "technology" subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls is also subject to the same licensing jurisdiction. (See 22 CFR part 121.)

9D003 STA (c)(1) N/A MT portion
Yes Non-MT
STA (c)(2) N/A MT portion
Yes Non-MT portion
"Software", not controlled by USML Category IV, specially designed or modified "required" for the "use" of ... (FADEC) for propulsion systems controlled by 9A (except

9A018, 9A990 or 9A991) 9A001, 9A009, or 9A011 or equipment controlled by 9B (except 9B990 or 9B991) 9B001 to 9B010, as follows ...

NS applies to "software" for "use" of FADEC for equipment controlled by 9A001 to 9A003 9A009, 9A011, 9B001 to 9B010

MT applies to "software" required for the "use" of FADEC for gas turbine engines controlled by 9A101, 9A106, or 9A110 9A001, 9A009, 9A011, 9B001 to 9B004, 9B007 for MT reasons

GBS: Yes, except N/A for MT

CIV: Yes except N/A for MT

TSR: Yes, except N/A for MT N/A

(It is irrational to require a TSR assurance against transfer to CIV eligible recipients.)

. Related Controls:(1) See also 9D004, 9D101, 9D102, 9D103, 9D191, 9D990, and 9D991 (2) "Software" "required" for the "use" of equipment or "technology" subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls is also subject to the same licensing jurisdiction. (See 22 CFR part 121.) The relevant portions of USML are limited to "software" for the "use" of the equipment described in Related Controls for 9A009 as relevant USML equipment.

9D004 STA (c)(1) N/A MT portion

Yes Non-MT

STA (c)(2) N/A MT portion

Yes Non-MT portion

MT applies to entire entry, except 9D004.g and .f portion of 9D004.a for equipment controlled by 9B105 and portions of 9D004.b and .d for equipment controlled by the MT portion of 9A001 or by 9A101

(To conform with MTCR 3.D.2 and 15.D.1.)

TSR: N/A Yes, except N/A for MT

Related Controls: N/A See also 9D001-9D003, 9D101, 9D104, 9D105, 9D990, 9D991.

Items:

a. … requjired "required" …

b. ... specially designed "required" ... capable of rated for ...

c. … specially designed "required" …

d. … requjired "required" … ... not controlled by ECCNs xx0xx in the Commerce Control List

e. … specially designed "required" …

f. … specially designed "required" …

g.1. ... specially designed "required" ...

9D018 STA (c)(1) Yes

STA (c)(2) Yes for 9A018.a and .b to Albania

(Albania is only (c)(2) country RS2 NLR.)

Yes for 9A018.c,d,e,f to all (c)(2) countries except Hong Kong

"Software" "required" for the "development", "production", or "use" of equipment

controlled by 9A018
(To conform with WML 21.a.)
UN applies ... and Rwanda
Related Controls: N/A See also 9D990, 9D991,and USML Categories VII, VIII, and IX.

9D101 STA (c)(1) N/A (MT)
STA (c)(2) N/A
"Software", not controlled by 1D018, 2D018, 9D003, or 9D004, specially designed or modified "required" for the "use" of commodities controlled by 9B001 to 9B004, 9B006, 9B007, 9B105, 9B106, 9B116, or 9B117 for MT reaqsons.
(To conform with MTCR 1.D.1, 2.D.1, 3.D.1, 15.D.1, and 20.D.1.)
Related Controls: N/A See also 2D101, 9D102, 9D191, 9D990, and 9D991.

9D103 STA (c)(1) N/A (ITAR)
STA (c)(2) N/A
"Software" specially designed "required" for modelling, simulation or design integration of "missiles", or the subsystems controlled by 9A0056, 9A007, 9A105.a, 9A1106, 9A108, 9A116, or 9A119 "missile subsystems". This entry is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)

9D104 STA (c)(1) N/A (MT)
STA (c)(2) N/A
"Software", not controlled by 9D003 or 9D004 or USML Categories IV or VIII, specially designed or modified "required" for the "use" of equipment controlled by 9A001, 9A005, 9A006.d, 9A006.g, 9A007.a, 9A008.d, 9A009.a, 9A010.d, 9A011, 9A012 (for MT controlled itgems only reasons), 9A101, 9A105, 9A106.c, and .d, 9A107, 9A108.c, 9A109, 9A111, 9A115.a, 9A116.d, 9A117, or 9A118
Related Controls: "Software" for commodities controlled by 9A005 to 9A011, 9A105, 9A106.c, 9A107 to 9A109, 9A111, 9A115, 9A116, 9A117, 9A118 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121). (1) The relevant portions of USML are limited to "software" for the "use" of equipment described in 9A121 or in Related Controls sections for 9A005 to 9A007, 9A105 to 9A107, 9A115, 9A116 as relevant USML equipment. (2) Also see 9D101, 9D191, 9D990, and 9D991.

9D105 STA (c)(1) N/A (MT)
STA (c)(2) N/A
"Software", not controlled by the USML, that coordinates the function of more than one subsystem specially designed or modified "required" for "use" in "missiles" UAVs rated for a "range" of 300 km or more (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defen se Trade Controls. See 22 CFR part 121.)
Related Controls: The relevant portis of USML are limited to "software" "required" for

"use" in "missiles" or in UAVs rated for a "range" of 300 km and a "payload" of 500 kg.

9D191 STA (c)(1) N/A (MT)
STA (c)(2) N/A
"Software" "required" for the "use" of 9A191 or 9B191 or 9D101, 9D103 to 9D105 with "range" in the definition of "missiles" revised to between 25 and 300 kilometers to China or between 150 and 300 kilometers to Iraq.

9D990 STA (c)(1) N/A (AT only))
STA (c)(2) N/A
"Software",.n.e.s., not controlled by 1D018, 2D018, 2D101, 9D001, 9D002,, 9D101, for the "development" or "production" of 9A990 or 9B990.
(9D990 is a candidate for deletaion, since EAR99 requires a license to AT countries and 9D990 is not listed in 742 Supplement 2.)

9D991 STA (c)(1) N/A (AT plus China military use; but China is not a (c)(1) country)
STA (c)(2) N/A
"Software", not controlled by 6D001, 6D002, 6D102, 6D103, 7D001-7D003, 7D101, 9D001-9D004, 9D018, 9D101, 9D104, or the USML Category VIII "required" for the "development" or "production" of equipment controlled by 9A991 or 9B991.
Related Controls: N/A The relevant USML Category VIII controls are limited to "development" of QRS11 sensors; aircraft "required" for gunnery, bombing, rocket or missile launching, surveillance, reconnaissance, refueling, aerial mapping, cargo dropping, or personnel dropping;

9E001 STA (c)(1) N/A MT portion
Yes Non-MT
STA (c)(2) N/A STA exclusion
"Technology", not controlled by USML, ... for the "development" of equipment or "software" controlled by 9A001.b, 9A004 to 9A012, 9B (except 9B990 or 9B991), or 9D (except 9D990 or 9D991) 9B001 to 9B010, or 9D001 to 9D004
NS applies to "technology" for items controlled by 9A001.b, 9A004 to 9A012, 9B001 to 9B010, 9D001 to 9D004 for NS reasons
MT applies to "technology" for items controlled by 9B001, 9B002, 9B003, 9B004, 9B005, to 9B007, 9B010,, 9D001, 9D002, 9D003, 9D004 for MT reasons
Related Controls:(1) ... (2) The "technology"required for the "development" of equipment controlled by 9A004, is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) (3) "Technology. Required for the "development" of equipment or "software" subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls, is also subject to the same licensing jurisdiction. (See 22 CFR part 121) (2) The relevant USML controls are limited to "technology" for equipment described in Related Controls sections of 9A004 to 9A007, 9A012, 9D001, 9D003

9E002 STA (c)(1) N/A MT portion

Yes Non-MT
STA (c)(2) N/A STA exclusion
"Technology" ... for the "production" of equipment controlled by 9A001.b, 9A004 to 9A011 or 9B (except 9B990 or 9B991) 9B001 to 9B010
MT applies to "technology" for equipment controlled by 9A001.b, 9A004 to 9A009, 9A011, 9B001, 9B002, 9B003, 9B004, 9B005, to 9B007, 9B010, 9B105, 9B106, 9B116, and 9B117 for MT reasons
TSR: N/A Yes, except for exports or reexports to destinations outside of lll of "technology" controlled by 9E003.a.1 or 9E003.a.3.a.
Related . . . (3) The for the of pr equipment controlled by
Controls:(1) See also 9E003, 9E018, 9E101, 9E102, 9E191, 9E990, and 9E991.(2)
9A004, is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.) (4) "Technology. Required for the "production" of equipment or "software" subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls, is also subject to the same licensing jurisdiction. (See 22 CFR part 121)

9E003 STA (c)(1) Yes
STA (c)(2) N/A 9E003.a.1-5,8 STA exclusion
Yes 9E003.a.6,7,9-11, b-g
Other "technology", not controlled by USML, as follows
Related Controls:(1) Hot section "technology" specifically designed, modified, or equipped for military uses or purposes, or developed principally with U.S. Department of Defense funding, I subject to the licensing authority of the U.S. Department of State. (2) "Technology" is subject to the EAR when actually applied to a commercial aircraft engine program. Exporters may seek to establish commercial application either on a case bycase basis through submission of documentation demonstrating application to a commercial program in requesting an export license from the Dewpartment of Commerce inrespect to a specific export,, or in the case of use for broad categories of aircraft, engines, or components, a commodity jurisdiction determination from the Department of State.
Items:
e. "Technology" "required" for ...
h "Technology" not otherwise controlled in 9E003.a.1 through a.10 and currently used in the "development", "produciton", or overhaul of hot section parts and components of civil derivatives of military engines controlled on the U.S. Munitions List.

9E018 STA (c)(1) Yes
STA (c)(2) Yes 9A018.a and .b to Albania
(Albania is only (c)(2) country RS2 NLR.)
Yes 9A018.c,d,e,f to all (c)(2) countries except Hong Kong

“Technology” “required” for ...

9E101 STA (c)(1) N/A (MT)
STA (c)(2) N/A
"Technology", not controlled by USML, ... for the "development", "production", or "use" of commodities or "software" controlled by 9A012, 9A101, 9A102, 9A104 to 9A111, 9A115 to 9A119, 9C119, 9D101, 9D103, 9D104, 9D105

(MTCR does not control technology for 9A103, 9A120 (renumbered here to 9A112), or 9D105.)

Related Controls: "Technology" controlled by 9E101 for items in 9A012, 9A101.b, 9A104, 9A105, 9A109, 9A110 that are specially designed for use in missile systems and subsystems, 9A111, 9A115, 9A116 to 9A119. 9D103, and 9D105 are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121). The relevant USML controls are limited to "technology" for the "development" or "use" of equipment or "software" controlled by 9A121, 9D103 or Related Controls sections of 9A104 to 9A107, 9A012, 9A112, 9A115, 9A116, 9A119, 9D104.

9E102

(This entire ECCN should be deleted. It would be subsumed by revised 9E101.)

9E191 STA (c)(1) N/A (MT)
STA (c)(2) N/A
"Technology" "required" for the "development", "production", or "use" of 9A191 or 9B191 or the "development" or "use" of 9D191

9E990 STA (c)(1) N/A (AT)
STA (c)(2) N/A
"Technology", n.e.s. not controlled by 2E018, 2E101, 9E001, 9E002, 9E018, or 9E102, "required" for the "development", "production", or "use" of equipment controlled by 9A990 or 9B990

(9E990 is a candidate for deletion. EAR99 requires a license to AT countries. This ECCN is not listed in 742 Supplement 2.)

9E991 STA (c)(1) N/A (AT)
STA (c)(2) N/A
"Technology", n.e.s. not controlled by 6E001, 6E002, 6E101, 7E001 to 7E004, 7E101, 9E001 to 9E003, 9E018, 9E101 or USML Category VIII, fo r the "development", "production", or "use" of equipment controlled by 9A991 or 9B991
Related Controls: N/A The relevant USML Category VIII controls are limited to "development" or "use" of QRS11 sensors; aircraft "required" for gunnery, bombing, rocket or missile launching, surveillance, reconnaissance, refueling, aerial mapping, cargo dropping, or personnel dropping;

9E993 STA (c)(1) N/A (AT)
STA (c)(2) N/A

Other "required" "technology", not described controlled by 9E003, as follows:
(9E993 is a candidate for deletion. EAR99 requires a license to AT countries. This ECCN is not listed in 742 Supplement 2.)