July 23, 2011

To: publiccomments@bis.doc.gov
From: Bill Root, waroot23@gmail.com; tel. 301 987 6418

Subject: Moving USML Items to CCL July 15 Proposed Rule RIN 0694-AF17

Summary:

The major objective of the subject proposed rule to encourage foreign manufacturers to discontinue their "ITAR-free" component procurement policies would be largely nullified by the numerous restrictions in the proposal.

In addition, the proposed definition of "specially designed" for components would greatly increase the number of items requiring licenses throughout the entire CCL, thereby harming national security by making inter-operability of weapons systems among our allies more difficult and diverting U.S. export control staff to administering controls on common items of little, if any, military significance, resulting in less time available for items of strategic significance.

In 1981, President Reagan issued a directive to treat China more favorably than the Soviet Union with respect to export controls, because of the Soviet invasion into Afghanistan. Months went by. Staffs in all the agencies continued to do what they believed they were supposed to do. China was receiving no favorable treatment. Eventually, a green line was established to list items which Commerce was directed to approve to China, but not to the USSR, without referral to other agencies for their concurrence. This worked.

It is recommended that

1 a green line for exports of "600 series" to the 44 STA eligible countries be established;
2 "required" substitute for "specially designed" for components: and
3 Commerce sole export control jurisdiction be restored for all munitions production and all materials except specified explosives and chemical and biological agents, in actions unrelated to 600 series transfers.

Detailed recommendations follow in the format suggested in the proposed rule.

In addition, documents recommending Commodity Jurisdiction clarification for Missile Technology items and recommending 1,444 CCL revisions related to the "specially designed" issue are attached.

**Detailed Recommended Changes in the Proposed Rule to Move USML Items to the CCL**

*(1) "600 Series"*
(A) Addition of the "600 series" on the CCL
(i) Structure of the new "600 series"

Omit xY6zz.y sub-items. These .y sub-items would be a sub-set of .x sub-items for components. The proposed rule would, in effect, have three definitions for "specially designed": the first for non-components; a second for .x sub-item major components; and a third for .y sub-item minor components. Under (*3*)(i) below, it is recommended that the proposed "required" definition for non-components also be used for all components. This would make differentiation between .x and .y components unnecessary. If, instead, the proposed rule were adopted, hundreds of thousands of components not now requiring a license would require a license. This is because the three definitions of "specially designed" would apply throughout the CCL, not just to "600 series"; the proposed definition for components is far broader than the existing interpretation of "specially designed" as "unique"; and only 0A606.y would have identified the minor components requiring a license only to AT-only countries. The Supplementary Information in the proposed rule states that the new definition of "specially designed" would result in new license requirements in only "rare cases." Therefore, this actual consequence of the new definition is unintended. Only a single "required" definition for non-components and all components would remedy this major internal inconsistency in the proposed rule.

Omit xB6zz and related portions of xD6zz and xE6zz ECCNs. Instead, include all munitions production on the CCL in 2B018, 2D018, and 2E018, revised to conform with WAML, leaving none on the USML or in CCL 600 series. The USG has still not complied with a COCOM agreement 30 years ago to revise IML 18 to control munitions production through technology license requirements when none of the equipment used required a license. About 15 years ago, confusion in how to apply IML 18 to general purpose machine tools in a Matrix Churchill export for munitions production in Iraq came within one vote of causing the UK Government to lose a vote of confidence. CJ confusion on munitions production greatly increases the risk that the U.S. Government will be similarly embarrassed. The current WAML 18 and related 21 and 22 items cover missile as well as conventional munitions production. The United States has still not complied with a MTCR agreement 24 years ago to control missile production facilities. For production of missile subsystems, ECCN 7B103 is now shown as State jurisdiction through an oversight not putting it back to Commerce jurisdiction several years ago when 9B115 and 9B116 were restored to Commerce jurisdiction. All other MT B items are now Commerce jurisdiction. Meanwhile, State has gradually been adding production items to the USML with no corresponding changes in the CCL. USML Category VII does not now have a production item; but the proposed revision of that Category would add production. COCOM IML 18 was originally put on the CCL, rather than the USML, because most munitions production uses general purpose machine tools. Adding 0B606

would make the present confusion in the United States worse rather than better. The limitation in 0B606 to production of 0A606 implies no Commerce jurisdiction for production of end-items remaining on the USML. Munitions production controls are so important that only one agency should have unequivocal jurisdiction. In the past, neither State nor Commerce has given enough attention to this matter, probably because of uncertainty as to the division of responsibilities.

Omit xC6zz. The few materials now on the USML recommended for transfer to the CCL under (*1*)(A)(iv) below should not have been regarded as munitions in the first place. WAML 16 controls structural materials only if sufficiently fabricated that the product "the use of which in a controlled product is identifiable by material composition, geometry or function, and which are specially designed for any products controlled by ML1-4, 6, 9, 10, 12, or 19." Such products fall within the proposed definition of "component."

(*1*)(A)(ii) Reasons for control for the "600 series"

NS should apply to only the WAML portions of "600 series" items and RS to only the unilateral portions. This is because of EAA restrictions on unilateral national security controls.

(*1*)(A)(iii) Addition of "600 series" items classified under .y to Supplement No. 2 to part 744.

Omission of "600 series" items from China military end-use controls is recommended. By definition, 600 series items "have little or no military significance." The .y minor components have even less significance than the other 600 series items.

(*1*)(A)(iv) Items formerly on the USML classified under the "600 series"

Before determining MTCR candidates for xA6zz there is a need to clarify which are already subject to Commerce jurisdiction and should not be construed as USML in the first place. For several years, the Congress has been particularly critical of jurisdictional confusion re MT items. Many ECCNs xAYzz are shown on the CCL as State jurisdiction even though there is no clear USML coverage. A document attached to these comments suggests which agency should now have jurisdiction for each MTCR item or portion thereof.

It is recommended that the following materials be moved from the USML to the CCL, but not in the 600 series:

the few structural materials now on the USML and
the "not elsewhere identified" portions of USML Explosives Category V.

0A606.b.4, and the corresponding 770.2(h)(3)(ii), should be revised to read as follows, in

order to describe the portion of WAML 6.b.1 which would not be retained on the USML per 770.2(h)(4):

> Unarmed and unarmored all-wheel drive vehicles capable of off-road use which have been manufactured or fitted with materials to provide ballistic protection to level III or better.

0A606.b.5, and the corresponding 770.2(h)(1) first sentence and (h)(3)(i), should be revised to read as follows, in order to avoid the confusing specially designed for a negative (non-combat) proposed wording:

> Ground transport vehicles (including trailers) "specially designed" for military use other than combat.

See comment below in (*1*)(A)(vi) on 0A606.a re "military use" and possible empty box.

0A606.b.6 should describe what type of railway train is "military" other than one "designed or modified" for missile launch, if there is one. The term "designed or modified" is not defined.except for MTCR context.

0A606.b.7 should describe what is meant by "recovery." With such an explanation there would probably be no need for the word "military."

0A606.b.8 should describe what type of amphibious vehicle is "military." With such an explanation there would probably be no need for the word "military."

(*1*)(A)(v) Sample "600 series" entry demonstrating how "parts," "components," "accessories and attachments" would be described

For components, see comments above in (1)(A)(i) and below in (*1*)(C)(v) on *de minimis* and in (*3*)(i) on "specially designed"

<u>It is suggested that "parts" and "accessories and attachments" be moved from the USML to CCL EAR99 rather than to CCL 600 series</u>. The example in the definition of "part" is excluded from the definition of "specially designed." "Accessories and attachments" are "not necessary for the operation of a component, end-item, or system" and the examples given indicate that they may be of trivial significance. Any which are significant should be retained on the USML as end-items for that reason.

(*1*)(A)(vi) Current xY018 ECCNs that will be moved to the "600 series" ECCNs

0A606.a, which comes from 0A018.a, should be revised to read:

. Construction equipment specially designed for military use.

This would be consistent with WAML 17.b. No matter how "specially designed" might be defined, neither the exporter nor government officials can determine from "military use" what construction equipment requires a license. One of the export control reform objectives is to replace the ambiguous phrase "military use" with technical descriptions.

Alternatively, it may be concluded that 0A606.a is an empty box.

0B606 items a,b,c,d, which come from 2B018.a,b,c,s, are also obsolete., not appearing in COCOM IML or WAML for several decades. See comment above re (*1*)(A)(i) recommending omission of xB6zz ECCNs.

Re xC608, which would presumably include 1C018, see recommendation to omit xC6zz in (*1*)(a)(i) above and to transfer "not elsewhere identified" portions of USML Explosives Category V to ECCNs other than 600 series in (*1*)(A)(iv) above. There is very little in 1C018 which is based on WAML language.

(*1*)(A)(vii) Conforming changes for other Wassenaar Arrangement Munitions List Items on the CCL

Re xB6zz, xC6zz, 0A606, 0B606, 0A018.a, 1B018, 1C018, 2B018, 2D018, and 2E018, see comments above re (*1*)(A)(i), (iv), and (vi).

0A018.c muzzle-loading (black powder) firearms is not on WAML.

New 0D018 and 0E018 ECCNs (or the equivalent in xD6zz and xE6zz) are needed to conform with WAML software and technology for what would remain in 0A018 as being WAML.

8A018.a is concurrent jurisdiction with USML Category XIII(c).

8A018.b.1,2,3,4 omit "for military use" in WAML 9.b.1,2,3 and 9.d and 8A018. b.3 "weight" should be changed to "mass" to conform with WAML 9.b.3.

New 8D018 and 8E018 ECCNs (or the equivalent in xD6zz and xE6zz) are needed to conform with WAML software and technology for 8A018.

Re 9A018.a, WAML 10.b covers other aircraft specially designed or modified for military use, including military training.

Re 9A018.b, WAML 6.b.1 covers all wheel drive vehicles (remaining text per 9A018.b) but WAML 6.b.2 covers only components having all of the following:

a. Specially designed for 6.b.1; <u>and</u>
b. Providing ballistic protection to level III ... .

Re 9A018.c, WAML 10.f does not cover parts or accessories and does cover equipment for aero engines specified in WAML 10.d.
Re 9A018.d, WAML 10.g covers for use in "aircraft" (not specially designed for use in military "aircraft").

Re 9A018.e, WAML 10.h.1 makes no mention of canopies, harnesses, platforms and electronic release mechanisms.

Re 9A018.f, WAML 14 covers specialized equipment for military training.

(*1*)(B). License review policy for 600 series items for National Security (NS) and Regional Stability (RS) reasons.

Unilateral 600 series items should not be controlled for NS reasons. The EAA requires efforts to obtain multilateral agreement for unilateral NS controls and it is nearly certain that such efforts would fail. The only 600 series items which are multilateral are those few which are on the WAML (or would be if they were revised to conform with WAML texts). For example, any 600 series ECCN using the term "specially designed" would be largely unilateral, because the proposed definition of "specially designed" is unilateral and highly unlikely to be agreed multilaterally. Moreover, most of proposed 0A606.x and .y as they relate to proposed 0A606.b.4 would be unilateral. This is because WAML 6.b.2 covers no parts, accessories, or attachments and covers components only if they are not only specially designed but also provide ballistic protection to level III or better.

There is no apparent national security reason for controlling either multilateral or unilateral 600 series items to STA (c)(1) countries or Albania. The United States should encourage trade in these items among these countries in order to achieve inter-operability of weapons systems. Therefore, it is recommended that all 600 series items require licenses to NS2 (for multilateral) or RS2 (for unilateral) (rather than NS1 or RS1) or at least make all of them available for STA (c)(1) countries plus Albania without requiring prior approval of an application for specific items.

None of the 600 series unilateral items are believed to be subject to UN arms embargoes. It is doubtful that even the multilateral 600 series items would be regarded by the UN as subject to its arms embargoes. It is unreasonable for the United States to impose stricter 600 series controls on unilateral arms embargoes than those applicable to UN arms embargoes, given that all 600 series items are judged to have little, if any, military significance.

The current national security licensing policy for approval unless there is a significant risk of diversion to a D:1 country is an obsolete holdover from the Cold War which is now too strict for most, perhaps all, D:1 countries and insufficiently strict for other countries, including at least Cuba, Iran, Sudan, and Syria, which are not listed in D:1.

The proposed general policy of denial for NS-controlled series 600 items to all countries subject to a U.S. arms embargo is too strict. For more significant items remaining on the USML, ITAR is not that strict for exports to Afghanistan, Democratic Republic of the Congo, Cyprus, Haiti, Iraq, Libya, Somalia, Sri Lanka, and Vietnam (see 22 CFR 126.1(f,g,i,j,k,l,m.n) and November 18, 1992, Federal Register for Cyprus).

(*1*)(C) License Exceptions for 600 series items.
(*1*)(C)(i) Addition of general restrictions

Proposed 740.2(a)(12) would, with no benefit to national security, greatly increase USG license requirements to 20 countries (the 25 now subject to arms embargoes less the five E:1 countries now subject to wider embargoes).

740.2(a)(12) would be more restrictive than ITAR, which permits export to arms embargo countries without a license of firearms and ammunition pursuant to 22 CFR 123.17(a-e). The first sentence of 123.17(a) includes "Except as provided in 126.1." However, the fifth sentence of 126.1 unequivocally excepts 123.17 from the non-applicability of exemptions for export to countries listed in126.1. The five exemptions described in 123.17 are:

(a) Components and parts for Category I(a) firearms (non-automatic and semi-automatic firearms to caliber .50), except barrels, cylinders, receivers (frames) or complete breech mechnisms when the total value does not exceed $100 wholesale in any transaction;
(b) Nonautomatic firearms covered by I(a) manufactured in or before 1898, or replicas of such firearms;
(c) Temporary export of not more than three nonautomatic firearms in Category I(a) and not more than 1,000 cartridges therefor, subject to three conditions;
(d) Export by a foreign person of firearms in I(a) and ammunition which the foreign person brought into the United States pursuant to 27 CFR 478.115(d) importation conditions;
(e) Not to exceed 1,000 cartridges for nonautomatic firearms referred to in paragraph (a).

600 series items are of less military significance than the items exportable under 123.17.

740.2(a)(12) would impose major new controls on 20 of the 25 arms embargo countries if, based on the precedent of proposed 0A606.a, the portions of USML descriptions excluded from the USML and now on the CCL were added to 600 series ECCNs. Commerce now complies with arms embargoes, such as the one with Rwanda until 2008, without license requirements to the embargoed country for the following items which are explicitly removed from ITAR controls:

-BB and pellet firearms, riflescopes, and sighting devices not manufactured to military specifications; accessories and attachments to firearms that do not enhance their usefulness, effectiveness, or capabilities; components and parts: excluded from ITAR by Category I Note and classified EAR99 on the CCL;

-Electric squibs; No. 6 and No. 8 blasting caps, including electric ones; delay electric blasting caps; seismograph electric blasting caps; oil well perforating devices: excluded from ITAR by 22 CFR 121.11; classified EAR99 on the CCL;

-Military aircraft reciprocating engines: excluded from ITAR by Category VIII(b); classified EAR99 on the CCL;

-Fixed land-based arresting gear for aircraft: excluded from ITAR by Category VIII(d); controlled by 9A991.d on the CCL, which requires a license only to five E:1 countries;

-Components, parts, accessories, attachments, and associated equipment specifically designed or modified for use with electronic equipment controlled by Category XI(a) or (b) in normal commercial use: excluded from ITAR by Category XI(c); parts, accessories, attachments, and associated equipment classified EAR 99 on the CCL; some components are classified 3A001 but most are 3A991 or EAR99 on the CCL;

-Components, parts, accessories, attachments, and associated equipment specifically designed or modified for use with fire control, lasers, infrared focal plane array detectors and other night sighting equipment, and inertial platforms and sensors controlled by Category XII(a) to (d) in normal commercial use: excluded from ITAR by Category XII(e); parts, accessories, attachments, and associated equipment classified EAR 99 on the CCL; some components are classified 6A002, 6A003, 6A005, 7A001 to 7A004, 7A101 to 7A104 but most are 6A992, 6A995, 7A994, or EAR99 on the CCL.

Items now classified xA99z or EAR99 have little if any military significance.

.

Deletion of 15 CFR 746.8 re Rwanda and of the inclusion of Rwanda in UN controls specified in various ECCNs would be necessary for consistency with proposed 740.2(a)(12) and with the Note to paragraph (a)(12). The arms embargo of Rwanda was removed by a State Department Federal Register notice on September 25, 2008.

The 740.2(a)(13) limitation on use of STA only for a government agency ignores the numerous non-government uses of 600 series items. This would largely negate the purpose of transferring USML items to the CCL, namely, to encourage foreign manufacturers to import U.S. dual-use components.

Although 740.2(a)(13) permits LVS for components, proposed 0A606 does not do so. LVS eligibility is necessary for components, in order not to lose the 22 CFR 123.16(b)(2) exemption for spares up to a $500 limit. Otherwise components could be exported only under RPL on a one-for-one replacement.

Limiting GOV 740.11(b)(2)(iii) to STA (c)(1) countries for both 600 series end-items and 600 series components would establish a seventh set of cooperating countries. Hong Kong is a non-(c)(1) country included in four of these (A:1 plus footnote 1; 740.11(b)(3)(ii); NS Column 2 NLR; and STA (c)(2)) but not the other two (RS2 NLR and CC1 NLR). 740.11(b)(3)(ii) also includes Singapore and Taiwan. The other five STA (c)(2) countries are Albania, India, Israel, Malta, and South Africa. The only NATO member excluded from STA (c)(1) is Albania. Why Albania should be treated less favorably than other NATO and non-NATO members in STA (c)(1) is difficult to

understand. In any event, it would be desirable to standardize on just one set of cooperating countries for Commerce license exceptions.

Proposed 740.2(a)(13) omitted the 0A919 license exception described in 742.6(a)(13). This was probably an oversight.

Proposed 740.20(a)(14) should permit GOV 740.11(b)(2)(ii) or (b)(2)(iii) in order to benefit from the review of tentative emerging technologies by USG and the governments of cooperating countries. Permitting 740.11(b)(2)(ii) in 740.20(a)(14) would be consistent with the proposed texts of 0A521, 0B521, 0C521, 0D521, and 0E521.

(*1*)(C)(ii) Revisions to existing license exceptions to address "600 series"

Suggest not expanding RPL one-for-one replacement to cover accessories or attachments. 740.2(a)(2)(i) limits eligibility to exports "needed for repair"; whereas the definition of "accessories and attachments" states that they are "not necessary" for the related component, end item, or system

Suggest not disqualifying RPL 740.10(b)(1) servicing and replacement destinations identified n 740.2(a)(12) for at least other than 600 series ECCNs and preferably also for 600 series. See comments above in (*1*)(C)(i) re 740.2(a)(12).

It is premature for 740.10(c)(1) and (c)(2) to require maintaining records related to 743.4 reports. See comments below in (*1*)(C)(iv)(c) re 743.4.

Suggest standardizing a list of cooperating countries including both STA (c)(1) and (c)(2) countries, rather than adding yet another variation in GOV 740.11(b)(3)(iii).

(*1*)(C)(iii) License Exception STA eligibility requests for "600 series" end-items
(*1*)(C)(iii)(a) Proposed new paragraph (g) to 740.20

Suggest permitting STA eligibility for end-items without a prior application for eligibility in connection with a license application for a particular model. See comments in (*1*)(C)(i) re 740.2(a)(13). If such a procedure must be adopted, at least permit applications for qualifying end-items specified in ECCNs xA6zz rather than only a particular model for which a license is being requested..

(*1*)(C)(iii)(b) Proposed new paragraph (w) in 748.8 and 748 Supplement 2

Suggest not requesting the applicant to provide supporting information for why the item does not provide a critical military or intelligence advantage to the United States. The item would not have appeared in 600 series if the USG had not already determined that it

was of little, if any, military significance.

(*1*)(C)(iii)(c) Website publication of approved STA eligibility determinations

Instead of website publication, suggest publication of STA eligibility in the form of a regulatory revision.

(*1*)(C)(iii)(d) New Supplement 4 to part 774

Instead of listing specific end-items in a Supplement, suggest including STA eligible 600 series citations in 740.20.

(*1*)(C)(iv) Other conforming changes in the EAR to address proposed changes in license exceptions
(*1*)(C)(iv)(a) 732.4 Steps

Suggest deletion of parts 730 and 732, as not being regulatory, or at least a statement to that effect in 732 similar to 730.10. It is impossible to refine the steps with the regulatory precision in other parts of the EAR.

(*1*)(C)(iv)(b) New Red Flags

Suggest deletion of the two proposed Red Flags. Re proposed 732 Supp. 3 (b)(13), there would be no possible Red Flag for any of the specific parts listed in proposed ECCN 0A606,y, with the possible exception of blackout lights. Even blackout lights are probably included in the list on a finding by the USG of such broad use that a Red Flag would not be reasonable. Re (b)(14), see comments above in (*1*)(C)(i) re 740.2(a)(12)

(*1*)(C)(iv)(c) New reporting requirements

It is premature to establish a new 743.4 requirement for conventional arms reporting. Appendix 3 on the Wassenaar Website lists Specific Information Exchange on Arms Content by Category. It is unlikely that any 600 series items will require such information exchange. However, the 8.1 item on small arms seems to require reporting on exports permitted under 22 CFR 123.17 without an ITAR license even to countries subject to arms embargoes. If 123.17 becomes 600 series, Commerce may have to learn from State how it has complied with the 8.1 requirement.

(*1*)(C)(iv)(d) New records to be retained 762.2

Proposed 762.2(b)(47) re 743.4 is premature. See comment on (c) above.

The Government should not depend on the recipients of its responses to License Exception STA eligibility requests to maintain records of those responses, per proposed

762.2(b)(48)

(*1*)(C)(v) *De minimis* and "600 series" items

In 0A606.x (and 0A606.y if retained, see (*1*)(A)(i) above and (*3*)(i)(a) below), "in this ECCN" should be changed to "in 0A606.a or .b," since 0A606.c and 0A606.d describe components without the need for the "specially designed" modifier in 0A606.x.

If 0A606.y is retained, "except as described in 0A606.y" should be added to 0A606.x.to avoid covering the same component in more than one sub-item.

0A606.y.16 states "Tires, except run flat." The 2004 version of WAML Note 2 covers

> Pneumatic tyre casings of a kind specially designed to be bullet-proof or to run when deflated.

However,, the current version of WAML 6 Note 2 has deleted "or to run when deflated." Proposed 770.2(h)(2)(i) uses the 2004 version and also includes

> Tire inflation pressure control systems, operated from inside a moving vehicle.

which has also been deleted in the current WAML 6 Note 2. It is suggested that proposed 770.2(h)(2) be revised not only to update it to conform with WAML 6 Note 2 but also to indicate that these examples would remain on the USML except for"Black-out lighting," which, according to 0A606.y.6, would move to the CCL.

It is suggested that 0A919.d.2 be revised to read, for consistency with 734.3(a)(3):

> Incorporate more than 10% U.S.-origin "600 series" content requiring a license to the country of reexport destination.

Also see suggested revision in 0A919.a in (*1*)(C)(vi)(b) below

(*1*)(C)(vi) Other conforming changes to the EAR to address the addition of the "600 series"
(*1*)(C)(vi)(a) Structural change in 738.2(d)(1)

It is suggested that proposed 738.2(d)(1)5 be revised to read:

> Items subject to license requirements described in 742.6(a)(7)

(*1*)(C)(vi)(b) Clarification of items of export

Whether or not series 600 items remain in 0A919, it is suggested that 0A919.a be revised to read

> Described on the United States Munitions List (22 CFR 121.1) and, if of U.S.-origin, would require a U.S. reexport license to the country of reexport destination..

ECCNs xx018 now cover all WAML items not on the USML. Other changes are for consistency with 734.3(a)(3). See suggested revision to 0A919.d.2 in (*1*)(C)(v) above.

(c) Revisions to Interpretation 8 Ground Vehicles 770.2(h)

Comments on 770.2(h) are included above under (*1*)(A)(iv) re 0A606.b.4.

*(2) Creation of ECCN 0Y521 as equivalent to USML Category XXI*
*(2)*(i) Purpose of ECCN 0Y521

The stated "or for foreign policy reasons" of ECCNs 0Y521 is beyond the scope of the title of the proposed rule.

*(2)*(ii) Sample 0Y521 entry text

It is suggested that the texts of the five proposed entries:
- omit "or for foreign policy reasons";
  -omit "The list of Items Determined To Be Classified Under ECCN 0Y521 Controls is Published in Supplement No. 5 to Part 774";
- add eligibility for GOV 740.11(b)(2)(iii);
- add under "Items" the particular items determined;
- delete the last sentence, re 742.6(a)(7), and
  -include under Related Controls:
  See 742.6(a)(7)(iii) for the requirement that items classified under this ECCN be reclassified under another ECCN within one calendar year

*(2)*(iii) License requirements and related policies for ECCN 0Y521

No further comment

*(2)*(iv) Publication of ECCN 0Y521 classifications

Listing particular items in the ECCNs would permit deletion of proposed 774 Supp. 5

*(3) Changes to EAR Definitions*
*(3)*(i) "Specially designed" to apply to 600 series, existing ECCNs, and revised USML Categories
*(3)*(i)(a) Purpose

<u>It is recommended that there be a single "required" definition of "specially designed" for both non-components and components.</u>

It is highly desirable that, as proposed, a single definition apply to 600 series ECCNs, existing ECCNs, and revised USML categories using the same term. However, it is highly <u>undesirable for the single definition of "specially designed" to consist, in effedt, of three different definitions</u>: one for other than components; the second for major components; and the third for minor components..

Dismissing the MTCR ("unique") definition with the one ambiguous word "inappropriate" does not reveal why 60 years of reasonably successful experience with the unique interpretation should be abandoned. However, applying the definition of "required" to commodities as well as to software and technology, as proposed for other than components, would reflect the multilateral agreement 30 years ago that this would be better than "unique," at least for technology.

The negative format for the definition for components, which includes all components with stated exceptions, is inconsistent with the stated purpose of the Export Control Reform to define what is controlled in "positive" terms.

The recommended substitution of "required" for "specially designed" has been accepted in the proposed rule for non-components. Its application to components would achieve the objective of a single definition for all uses of the term; be a positive construct; and be consistent with the original motive for using "specially designed" as short-hand for identifying those few components which must be controlled in order not to defeat the purpose of controlling the end-items which contain them.

The major purpose of the proposed rule is to induce foreign manufacturers to change their "ITAR-free" mind-set when ordering components. The impact on that mind-set of making munitions components eligible for 10% *de minimis* would be offset by the likelihood that the broader definition of "specially designed" for components would result in U.S.-origin content exceeding 10% plus likely exacerbation of the mind-set because the xY6zz.x components to all except Canada would require a U.S. license even if incorporated in a foreign-produced item other than one described on the USML. This is probably now intended under ITAR and would be made explicit in a March 15 proposed rule which would put USML components in CCL end-items as well as CCL components in USML end-items under ITAR jurisdiction. But transfer to the CCL would increase foreign perceptions that dual-use components in munitions items require a U.S. license when incorporated in non-munitions items. A multi-national car manufacturer assembling vehicles with no military use in a foreign country would, reasonably, be reluctant to order U.S. components under the proposed rule. This reluctance would be higher if there was a desire to have flexibility to arm or armor those vehicles but would be strong even in the absence of such a desire.

*(3)*(i)(b) Role in 600 series

For some 600 series end-items, no definition of "specially designed" would be enough to achieve needed clarity to identify either which end-items are controlled or which components of those end-items are controlled, *e.g.*:

0A606.a , when revised to conform with WAML would be:
construction equipment specially designed for military use.

Virtually everything has a"military use." Such an item should either be deleted or redefined more narrowly.

Applying "required" to components would lead to deletion of proposed xY6zz.y sub-items, since such minor components do not meet the definition of "required" as applied to a USML or series 600 end-item.

*(3)*(i)(c) Improvement of clarity of control lists

Replacing the present "unique" interpretation of "specially designed" with "required," whether for non-components or components, would not improve clarity. "Unique" is about as clear as one can get without using technical specifications. But "required" for components would improve implementation of the 1951 Administrative Principle #4 (AP4), which stated that the purpose of the embargo should not be defeated by the export of components. This is because "required" relates to controlled performance levels, whereas "unique" does not.

Replacement of "unique" with the <u>proposed definition of "specially designed" for components would reduce clarity</u> by covering all components with exceptions which are either without substance or ambiguous.

Paragraph (b) of the definition covers all components not excepted by paragraphs (c) or (d). The word "enumerated" in paragraph (b) is defined as controlled for more than AT only, so it excludes not only EAR99 but also ECCNs xY99z. But EAR99 and these ECCNs are irrelevant, since they are controlled only to five countries subject to total embargoes.

Paragraph (c) has no substance. It excepts from paragraph (b) only those separately enumerated ECCNs or USML Categories which do not have "specially designed" as a control parameter.

Paragraph (d) has four exceptions applying to ECCNs or USML Categories not so separately enumerated (i.e., which do have "specially designed" as a control criterion).

The first one is for various fasteners and simple hardware which is given as an example in the definition of "part" and is, therefore, not relevant to components.

The second is an item specifically excluded from control on the USML or the CCL. This appears to be non-substantive; but it does have substance. It applies to decontrol Notes which use "specially designed" in the description of what is not controlled. Attempting to apply either "required" or the proposed definition for components in such Notes would be irrational. Therefore, "specially designed" should either be simply deleted from such Notes or be replaced with another term, such as rated. It also has substance in that a

proposed Note applies this to items specifically excluded from the USML, such as aircraft tires and propellers used with reciprocating engines. However, 0A606.y.16 specifies tires of ground vehicles as being "specially designed."

The third is component of an end-item not enumerated on the USML or CCL (*i.e.*, ECCNs xY99z or EAR99) not altered for use in an enumerated end-item after serial production of that ECCN xY99z or EAR99 end-item has begun. This could have some substance if the exporter knew when its terms were met. A foreign manufacturer considering whether to buy U.S. components would not know for sure that serial production of those exact components had begun for use in an end-item which, under U.S. regulations was ECCN xY99z or EAR99. Moreover, the proposed rule is silent as to whether serial production of the components for an enumerated end-item would, as implied, invalidate this exception from control.

The fourth is a part or component that can be exchanged with an EAR99 or AT-only controlled part or component on a one-for-one basis. This appears to expand the third exception to include components for which serial production had not begun. However, this would be difficult to interpret. Prior to this proposed rule, exporters assumed that everything generically on the 0A606.y.1-17 list, except perhaps blackout lights, was EAR99. Supplementary Information states that 0A606.y warrants no more than AT-only control. However, under UN reason for control it would apply to nine countries not included in the. E:1 group of five countries for AT-only or total U.S. embargoes. One of these is Libya. <u>How could a European exporter considering an export to Libya determine whether someone else's battery exchangeable with a U.S.-origin battery was EAR99 or, conversely, was now also enumerated in ECCN 0A606.y.4</u>?

*(3)*(i)(d) Goals and limitations

Supplementary Information in the proposed rule states:

> If an item is "specially designed" today, it would continue to be "specially designed" after adoption of this definition. If it is not "specially designed" today (meaning prior to adoption of the definition included in this rule), it also should not, except in rare cases, become "specially designed"after adoption of this definition in a final rule.

This may have been the goal. But it is not the reality.

Adoption of the "required" definition for other than components reasonably removes from "specially designed" unique items such as containers which are unrelated to controlled performance levels. Adoption of "required" for both non-components and components expands coverage beyond "unique"; but this is also reasonable because "required" better conforms with AP4.

However, adoption of the proposed definition of "specially designed" for components would greatly increase items now construed to be "specially designed." <u>The 17 sub-items</u>

of 0A606.y. plus an unknown number of additional components covered by 0A606.x indicate that the proposed definition of specially designed for components would include many items not now considered to be "specially designed," because they are not unique to controlled ground vehicles.

There are two principal causes for the huge impact on components throughout the entire CCL, not just for the 600 series. One is that the proposed definition has no measurable limits, such as unique or relationship to controlled performance levels. The other is the apparently small effect of the exception for serial production of components also used in ECCNs xY99z and EAR99. One would have thought that most of the 17 components listed in 0A606.y would have been excepted from specially designed on this basis. But the authors of this definition concluded differently, despite the obviously inconsistent statement that adoption of the new definition would only in rare cases cause items which today are not "specially designed" to become "specially designed."

Adoption of the "required" definition for components as well as for non-components would bring the definition into conformity with the AP4 genesis for the term "specially designed," namely control the export of only those few components which would defeat the purpose of the embargo.

The Supplementary Information states:

> Reviewing each ... CCL reference, and clearing the proposed revisions through the multilateral regimes where required, is not realistically possible in the near term.

With all due respect, such review and such clearance is not only realistic but is essential before the adoption by the United States of any definition. Anticipation of successful multilateral clearance of the proposed definition for components would be unrealistic, not only in the near term but also in the long term. However, review of each CCL reference and successful negotiation for a single "required" definition to replace "specially designed" for both non-components and components is a realistic expectation in the near term. This is because:

- -a review of all relevant CCL references took place several years ago;
- -attached documents bring that review up to date; and
- -adoption of "required" would both:
  - -conform with AP4; and
  - -be easy to negotiate, given the precedent that "required" already applies both multilaterally and unilaterally for technology.

*(3)*(ii) Addition of ten definitions and revision of two definitions

It is recommended that all references in EAR and ITAR to, and definitions of, "parts" and "accessories and attachments" be deleted. The examples given in the definition of "parts" are explicitly excepted from the definition of "specially designed." Items of concern are those needed for the operation of controlled end items. By definition,

"accessories and attachments" are not necessary for this purpose. Several years ago computer accessories were removed from the CCL on a finding that there none of concern. End-items which can significantly enhance the performance of other controlled end-items should be controlled based on their own technical specifications.

Adoption of "required" for components would permit omission of the distinction between major and minor components in the definition of "components."

It is suggested that, in the definition of "facilities," "a particular purpose" be changed to
the particular purpose stated in the export control item using the term "facilities."
There is no other particular purpose relevant to export controls.

Deletion of the definition of "material" is recommended. There is no known need for such a definition. The proposed definition is in a negative, rather than the desired "positive," format. It is inconsistent with several xC2zz ECCNs which include manufactures or devices thereof, *e.g.*, 1C225, 1C230, 1C231 1C232, 1C233, 1C234, 1C235, 1C236.d, and 1C237.

It is suggested that, in the definition of "military commodity," "Related Controls for" be inserted before "ECCNs 0A606 ..." and "(Related Controls)" be deleted after "6A003." This would make it clear that none of these ECCNs are "military commodities."

It is suggested that, in the definition of "system," "a specialized function" be changed to:
the function specified in the export control item using the term "system."
There is no other specialized function which is relevant to export controls.

*(4) Other Changes to Assist in the Structural Alignment of the USML and the CCL*
*(4)*(i) Revisions in CCL headings for product groups A and C

See recommendation to delete "parts" and "accessories and attachments" in (*3*)(ii) above.

*(4)*(ii) Change of definition of materials

See recommendation in (*3*)(ii) above.

*(4)*(iii) Authority of the Under Secretary

<u>Deletion of the proposal to remove the Under Secretary's authority concerning making License Exception STA available for "600 series" "end-items" pursuant to 740.20(g) is recommended.</u>

Transferring items from the USML to the CCL makes BIS, rather than DDTC,

responsible for administering controls on those items. Therefore, BIS must have the authority to do so. Only one instance in the past 50 years comes to mind when BXA acted without the concurrence of advising agencies. This was removal in the 1960's of controls on any product containing integrated circuits. The rapidly expanding volume of such products was making enforcement of that control impossible. Other agencies were glad to acquiesce without having to go on record with a formal concurrence.

The proposal is unprecedented. It would add a fourth paragraph to 15 CFR 756.1(a). The existing three paragraphs do not limit the authority of the Under Secretary.They simply deny to a person directly and adversely affected by an administrative action the opportunity to appeal to the Under Secretary.

July 23, 2011

**Missile Technology Commodity Jurisdiction**
(prepared by Bill Root)

H.R. 4246, submitted by Congressmen Sherman, Manzullo, Crowley, and Blount several years ago, notes (1) a GAO report several years before that concerning uncertainty for 25% of Missile Technology Control Regime (MTCR) items as to whether DDTC or BIS has jurisdiction; and (2) a lack of response to repeated Congressional requests for clarification.

To conform with the MTCR, this document recommends revisions of ITAR 22 CFR 121.16 to show which USML Categories and which BIS ECCNs correspond with which MTCR items. For the many MTCR items which are shown as partly DDTC and partly BIS, it also identifies proposed substantive relationships.

This document assumes that all the items and ITAR references now listed in 121.16 are deleted and replaced by the current MTCR Annex. It includes MTCR Item, USML Category, and CCL ECCN numbers to indicate which agency would have, jurisdiction for each MTCR item based on current USML and CCL texts minimally revised to avoid concurrent jurisdiction. It is based on MTCR Annex item numbers and texts currently available on the MTCR website.

Proposed USML Category or CCL ECCN numbers for MTCR items omitted from U.S. controls are <u>underlined</u>.. For the MTCR items for which the USML and CCL contain identical texts, the USML Category number is shown with a ~~strike through~~, in the belief that these are dual-use items. MTCR items with citations in both the USML and CCL columns and no strike through are partly covered by the USML and partly covered by the CCL.

Omitted and concurrent jurisdiction items are egregious examples of needed clarification. However, U.S. jurisdiction for many of the other MTCR items is also urgently in need of clarification. For most MTCR items arguably partially or wholly controlled by ITAR, the USML uses different terminology. Therefore, there is considerable room for doubt as to the extent of MTCRcoverage of the corresponding USML text. CCL wording is much closer to MTCR texts; but there are also many CCL deviations from MTCR texts, especially in CCL descriptions of the MT portions of ECCNs which correspond with Wassenaar items.

Some MTCR-relevant ECCNs are annotated on the CCL as being subject to DDTC jurisdiction, either wholly or partially. These are shown in [square brackets] in the USML column. The inadequate description of many of these is another egregious example of needed clarification. Every MTCR item annotated in this way is arguably at least partially under BIS jurisdiction. Therefore, with one exception, all ECCN numbers in square brackets in the USML column also appear without square brackets in the CCL column. 9A104 is the exception. That item is defined so as to omit what might reasonably be defined as BIS jurisdiction because of the statutory transfer of communication satellite jurisdiction from Commerce to State.

**121.16 Missile Technology Control Regime Annex**

Some of the items on the Missile Technology Control Regime Annex are controlled wholly or partially by ~~both~~ the Department of Commerce on the ~~Commodity~~ Commerce Control List (CCL) and some are controlled wholly or partially by the Department of State on the United States Munitions List (USML). ~~To the extent an article is~~ For items wholly or partially on the ~~United States Munitions List~~ USML, a reference appears ~~in parentheses~~ listing the ~~U.S. Munitions List~~ USML category ~~in which it appears~~ which is relevant. For items wholly or partially on the Commerce Control List (CCL), a reference appears listing the CCL Export Control Classification Number (ECCN). The following ~~items constitute~~ list identifies all items on the Missile Technology Control Regime Annex ~~which are covered by the U.S. Munitions List~~, together with the recommended corresponding USML Category and/or CCL ECCN number.

| MTCR Item | General Description | USML Category | CCL ECCN |
|---|---|---|---|
| 1.A.1 | Rocket systems 500 kg 300 km | IV.a,b, [9A004], [9A104] | 9A004 |
| 1.A.2 | Unmanned airvehicle systems 500 kg 300 km | VIII.a, [9A104] | 9A012 |
| 1.B.1 | Production facilities for 1A | | 9B116 |
| 1.D.1 | Software for 1B1 | | 9D101 |
| 1.D.2 | Coordination software | IV.i, VIII.i,[9D105] | 9D105 |
| 1.E.1 | Development and use technology for 1A | IV.i, VIII.i,[9E001], [9E101],[9E102] | 9E001,9E101, 9E102 |
| 1.E.1 | Production technology for 1A | | 9E002,9E101 |
| 1.E.1 | Technology for 1B1; 1D1 | | 9E001,9E002, 9E102 |
| 1.E.1 | Technology for 1D2 | IV.i, VIII.i,[9E001], [9E101],[9E102] | 9E001,9E101, 9E102 |
| 2.A.1.a | Individual rocket stages in 1A | IV.c.h, [9A119] | 9A119 |
| 2.A.1.b.1 | Heat shields | IV.c,h, [9A116.a] | 9A116.a |
| 2.A.1.b.2 | Heat sinks | IV.c,f,h, [9A116.b] | 9A116.b |
| 2.A.1.b.3 | Electronic equipment | XI.a.7, [9A116.c] | 9A116.c |
| 2.A.1.c | Rocket motors and engines | IV.c,h, [9A005], [9A105], [9A007]. [9A107] | 9A005 9A105,9A007, 9A107 |
| 2.A.1.d | Guidance sets | XII.d, [7A117] | 7A117 |
| 2.A.1.e | Thrust vector control sub-systems | IV.c,h, [9A006.c], [9A008],[9A106] | 9A006.c 9A008,9A106 |
| 2.A.1.f | Weapon or warhead safing, arming, fuzing, and firing mechanisms | [9A121] | 9A121 |

| | | | | |
|---|---|---|---|---|
| 2.B.1 | Production facilities for 2A1a-c,e,f | | | 9B116 |
| 2.B.1 | Production facilities for 2A1d | | 7B103 | |
| 2.B.2 | Production equipment for 2A1a-c,e,f | | | 9B115 |
| 2.B.2 | Production equipment for 2A1d | | | 7B003,7B103 |
| 2.D.1 | Use software for 2B1 for 2A1a-c,e,f | | | 9D101 |
| 2.D.1 | Use software for 2B1 for 2A1d | | | 7D101 |
| 2.D.2 | Use software for 2A1c | IV.i, [9D104] | | 9D104 |
| 2.D.3 | Use software for 2A1d | XII.f, [7D101] | 7D101 | |
| 2.D.4 | Use software for 2A1b3 | XI.d, [9D104] | | 9D104 |
| 2.D.5 | Use software for 2A1e | IV.i, [9D104] | | 9D104 |
| 2.D.6 | Use software for 2A1f | IV.i, [9D104] | 9D104 | |
| 2.E.1 | Development and use technology for 2A1a, b1,2, c,e,f; 2D2,5,6 | IV.i, [9E101], [9E102] | | 9E101,9E102 |
| 2.E.1 | Development and use technology for 2A1b3; 2D4 | XI.d, [9E101], [9E102] | 9E101,9E102 | |
| 2.E.1 | Production technology for 2A1a-c,e,f; D2,4,5,6 | | | 9E101 |
| 2.E.1 | Development and use technology for 2A1d; 2D3 | XII.f, [7E001] | 7E001 | |
| 2.E.1 | Production technology for 2A1d; 2D3 | | | 7E002 |
| 2.E.1 | Technology for 2B1 & 2D1 for 2A1a-c,e,f | | | 9E001,9E002 9E102,2E018 |
| 2.E.1 | Technology for 2B1 & 2D1 for 2A1d | | 7E001,7E002 | 7E101,2E018 |
| 3.A.1 | Engines | IV.h,VIII.b [9A101] | | 9A001, 9A101 |
| 3.A.2 | Ramjet/scramjet/pulsejet/combined cycle engines | IV.h,VIII.b,[9A011] [9A111],[9A118] | | 9A011, 9A111,9A118 |
| 3.A.3 | Rocket motor cases | IV.h. [9A006], [9A008],[9A108] | | 9A006, 9A008,9A108 |
| 3.A.4 | Staging mechanisms | IV.c,h, [9A117] | | 9A117 |
| 3.A.5 | Liquid and slurry propellant control systems | [9A006],[9A008], | | 9A006,9A008, 9A106.d |
| 3.A.6 | Hybrid rocket motors | IV.h,[9A109], [9A009] | | 9A109,9A009 |
| 3.A.7 | Radial ball bearings | [2A001] | | 2A001,2A101 |
| 3.A.8 | Liquid propellant tanks | | | 9A103 |
| 3.A.9 | Turboprop engine systems | [9A102] | | 9A102 |
| 3.B.1 | Production facilities for 3A; 3C | | | 9B116 |
| 3.B.2 | Production equipment for 3A, 3C | | | 9B115,9B001, 9B002-9B004 |
| 3.B.3 | Flow forming machines | | | 2B109, 2B009 |

| | | | |
|---|---|---|---|
| 3.C.1 | Interior lining | IV.c,f,h, [9A006],[9A008] | 9A106.a, 9A006,9A008 |
| 3.C.2 | Insulation | IV.c,f,h, [9A006],[9A008] | 9A106.a, 9A006,9A008 |
| 3.D.1 | Software for 3B1 | | 9D101, 9D003 |
| 3.D.1 | Software for 3B3 | | 2D101, 2D001 |
| 3.D.2 | Software for 3A1,2,4,6 | IV.i,[9D003] | 9D003 |
| 3.D.2 | Software for 3A1,4 | VIII.i | |
| 3.D.2 | Software for 3A1,5 | [9D104] | 9D104 |
| 3.D.3 | Software for 3A2,3,4 | IV.i,[9D001] | 9D001 |
| 3.E.1 | Development and use technology for 3A1-6, 9; 3D2,3 | IV.i,VIII.i,[9E001] [9E101],[9E102] | 9E001, 9E101,9E102 |
| 3.E.1 | Production technology for 3A1-6,9,;3D2,3 and technology for 3B1,2; 3D1 for 3B1,2 | | 9E001 9E101, 9E102 |
| 3.E.1 | Technology for 3B3; 3D1 for 3B3 | | 2E101. 2E001 2E002 |
| 4.B.1 | Production equipment for item 4 liquid | | 1B115.a, 1B018.a, 2B018 |
| 4.B.2 | Production equipment for item 4 solid | | 1B115.b, 1B018.a, 2B018 |
| 4.B.3.a | Batch mixers | | 1B117 |
| 4.B.3.b | Continuous mixers | | 1B118 |
| 4.B.3.c | Fluid energy mills | | 1B119 |
| 4.B.3.d | Metal powder production equipment | | 1B102, 1B002 |
| 4.C.1 | Composite double base propellants | | 1C111.d |
| 4.C.2.a | hydrazine | V.c.3.i-iii | |
| 4.C.2.b | Hydrazine derivatives | V.c.3.iv | |
| 4.C.2.c | aluminum | V.c.5 | 1C111.a.1 |
| 4.C.2.d | zirconium | V.c.6.ii.B, [1C011.a] | 1C111.a.2, 1C011.a, 1C234 1C007.d |
| 4.C.2.d | beryllium | V.c.6.i.A | 1C111.a.2, 1C230 |
| 4.C.2.d | magnesium | V.c.6.ii.B, [1C011.a] | 1C111.a.2, 1C011.a, 1C228 |
| 4.C.2.e | boron | V.c.6.ii.A | 1C111.a.2 1C011.b |
| 4.C.2.f | high energy density fuel substances | V.b.3 | |
| 4.C.3 | perchlorates, chlorates, chromates | V.d.11 | |

| | | | | | |
|---|---|---|---|---|---|
| 4.C.4.a.1 | dinitrogen trioxide | | | | 1C111.a.3.a |
| 4.C.4.a.2 | nitrogen dioxide | | | | 1C111.a.3.b |
| 4.C.4.a.3 | dinitrogen pentoxide | | | | 1C111.a.3.c |
| 4.C.4.a.4 | mixed oxides of nitrogen | | | | 1C111.a.3.d |
| 4.C.4.a.5 | inhibited red fuming nitric acid | | ~~V.d.10~~ | | 1C111.a.3.e |
| 4.C.4.a.6 | fluorine compounds | | | | 1C018.m |
| 4.C.4.a.6 | chlorine compounds | | | | 1C018.m |
| 4.C.4.b.1 | ammonium perchlorate | | V.d.2 | | |
| 4.C.4.b.2 | ADN | | V.d.1 | | |
| 4.C.4.b.3 | HMX | | V.a.12.i | | |
| 4.C.4.b.3 | RDX | | V.a.20.i | | |
| 4.C.4.b.4 | HNF | | V.d.7 | | |
| 4.C.4.b.5 | CL-20 | | V.d.13 | | |
| 4.C.5.a | CTPB | | | 1C111.b.1 | |
| 4.C.5.b | HTPB | V.e.7 | | 1C111.b.2 | |
| 4.C.5.c | GAP | V.e.6 | | | |
| 4.C.5.d | PBAA | | | 1C111.b.3 | |
| 4.C.5.e | PBAN | | | 1C111.b.4 | |
| 4.C.5.f | TPEG | | | | 1C111.b.5 |
| 4.C.6.a.1 | MAPO | V.f.10 | | | |
| 4.C.6.a.2 | BITA | | V.f.14 | | |
| 4.C.6.a.3 | Tepanol | | V.f.17 | | |
| 4.C.6.a.4 | Tepan | | V.f.16 | | |
| 4.C.6.a.5 | polyfunctional aziridine amides | | V.f.14 | | |
| 4.C.6.b | TPB | V.f.18 | | | |
| 4.C.6.c.1 | carboranes, decaboranes, pentaboranes | | V.e.2 | | |
| 4.C.6.c.2 | ferrocene derivatives | | V.f.3 | | |
| 4.C.6.c.2.a | catocene | | V.f.3.ii | | |
| 4.C.6.c.2.n | butacene | | ~~V.f.3.i~~ | | 1C111.c.1 |
| 4.C.6.d.1 | TEGDN | | | | 1C111.c.2 |
| 4.C.6.d.2 | TMETN | | | | 1C111.c.4 |
| 4.C.6.d.3 | BTTN | | V.e.3 | | |
| 4.C.6.d.4 | DEGDN | | | | 1C111.c.5 |
| 4.C.6.d.5 | IsoDAMTR | | V.a.31.xi | | |
| 4.C.6.d.6 | NENA | V.e.8 | | | |
| 4.C.6.d.7.a | BDNPA | | V.e.18 | | |
| 4.C.6.d.7.b | BDNPF | | V.e.18 | | |
| 4.C.6.e.1 | 2-nitrodiphenylamine | | | | 1C111.c.3 |
| 4.C.6.e.2 | N-methyl-p-nitroaniline | | V.e.16 | | |
| 4.D.1 | Software for 4.B | | | | 1D101,1D001, 1D018, 2D018 |
| 4.E.1 | Development and use technology for 4C | | Vh,[1E001], [1E101] | | 1E001,1E101 |

| | | | | |
|---|---|---|---|---|
| 4.E.1 | Production technology for 4C and technology for 4B | | | 1E101, 1E001, 1E018, 2E018 |
| 6.A.1 | Composite structures | | IV.f, XIII.d,[1A002] [1A102],[9A110] [9A010] | 1A002 1A102,9A110 9A010 |
| 6.A.2 | Pyrolized components | IV.f[7A102] | | 7A102 |
| 6.B.1 | Production of structural composites | | | 1B101, 1B001 |
| 6.B.2 | Nozzles for 6E3 processes | | | 1B116 |
| 6.B.3 | Hot isostatic presses | | | 2B104, 2B004 |
| 6.B.4 | Chemical vapor deposition furnaces | | | 2B105 |
| 6.B.5 | Densification and pyrolysis | | | 2B117 |
| 6.C.1 | Prepregs and preforms | | | 9C110, 1C010 |
| 6.C.2 | Pyrolized materials | | IV.f, [1C102] | 1C102 |
| 6.C.3 | Graphites bulk density | | [1C107.a] | 1C107.a |
| 6.C.4 | Graphites pyrolytic or fibrous reinforced | | [1C107.b] | 1C107.b |
| 6.C.5 | Ceramic composite materials | | [1C107] | 1C007 |
| 6.C.6 | Silicon carbide | | [1C107.c] | 1C107.c, 1C007.d |
| 6.C.7 | Tungsten | | | 1C117,1C226, 1C004 |
| 6.C.7 | Molybdenum | | | 1C117 |
| 6.C.8 | Maraging steel | | | 1C116 |
| 6.C.9 | Titanium | | | 1C002,1C118 |
| 6.D.1 | Software for 6B1 | | | 1D101,1D001 |
| 6.D.2 | Software for 6B3,4,5 | | | 2D101,2D001 |
| 6.E.1 | Technology for 6A1 | | XIII.l,[9E101] | 9E101,9E102 |
| 6.E.1 | Technology for 6A1,2; 6C2 | | IV.i, [1E001] | 1E001 |
| 6.E.1 | Technology for 6B or 6D | | [1E101] | 1E101 |
| 6.E.1 | Technology for 6B1 | | | 1E001 |
| 6.E.1 | Technology for 6B2 | | | 1E101, 1E001 |
| 6.E.1 | Technology for 6B3,4,5; 6D | | | 2E101, 2E001 |
| 6.E.1 | Technology for 6B3,4,5 | | | 2E002 |
| 6.E.1 | Technology for 6C1.3-9 | | [1E001] | 1E001, 1E101 |
| 6.E.2 | Technology to regulate autoclaves or hydroclaves | | | 1E103 |
| 6.E.3 | Producing pyrolytically derived materials | | | 1E104 |
| 9.A.1 | Integrated flight instrument systems | | [7A103.b] | 7A103.b |
| 9.A.2 | Gyro-astro compasses | ~~XII.d~~ | | 7A104, 7A004 |
| 9.A.3 | Linear accelerometers | VIII.e, XII.d | | 7A101, 7A001 |
| 9.A.4 | Gyros with stability | | VIII.e, XII.d | 7A102, 7A002 |
| 9.A.5 | Continuous output accelerometers or gyros | | XII.d | 7A001.c, 7A002.b |
| 9.A.6 | Inertial equipment | | VIII.e, XII.d, | 7A103.a, |

| | | | | |
|---|---|---|---|---|
| | | | [7A103.a],[7A003] | 7A003 |
| 9.A.7 | Integrated navigation systems | [7A103.c] | | 7A103.c |
| 9.A.8 | Magnetic heading sensors | | | 7A107 |
| 9.B.1 | Production equipment used with 9A | | | 2B018 |
| 9.B.1.a.1 | Scatterometer | | | 7B102.a, 7B002.a |
| 9.B.1.a.2 | Reflectometer | | | 7B102.b |
| 9.B.1.a.3 | Profilometer | | | 7B102.c, 7B002.b |
| 9.B.1.b | Other specified equipment | | | 7B101, 7B003 |
| 9.B.2.a | Balancing machines | | | 2B119.a |
| 9.B.2.b | Indicator heads | | | 2B119.b |
| 9.B.2.c | Motion simulators | | | 2B120 |
| 9.B.2.d | Positioning tables | | | 2B121 |
| 9.B.2.e | Centrifuges | | | 2B122, 2B229 |
| 9.D.1 | Software for 9A1,3-6 | | XII.f | |
| 9.D.1 | Software for 9A2-4,6 | | | 7D002, 7D003 |
| 9.D.1 | Software for 9A2-4,6; 9B1 | | [7D101] | 7D101 |
| 9.D.1 | Software for 9A3,4,6 | | VIII.i | |
| 9.D.1 | Software for 9B2 | | | 2D101, 2D018 |
| 9.D.2 | Integration software for 9A1 | | [7D102.a] | 7D102.a |
| 9.D.3 | Integration software for 9A6 | | | 7D102.b |
| 9.D.4 | Integration software for 9A7 | | | 7D102.c |
| 9.E.1 | Technology for 9A1,3-6; 9D1 for 9A1,3-6 | | XII.f | |
| 9.E.1 | Technology for 9A2;9B1,9D1 for 9A2, 9B1;9D2,3 | | [7E101],[7E001] | 7E101, 7E001 |
| 9.E.1 | Technology for 9A2; 9B1 | | [7E002] | 7E002, 7E003 |
| 9.E.1 | Technology for 9A3,4,6; 9D1 for 9A3,4,6 | | VIII.i | |
| 9.E.1 | Technology for 9B1 | | | 2E018 |
| 9.E.1 | Technology for 9B2; 9D1 for 9B2 | | | 2E101 |
| 9.E.1 | Technology for 9B2 | | | 2E002 |
| | | | | |
| 10.A.1 | Flight control systems | IV.h, [7A116] | | 7A116 |
| 10.A.2 | Attitude control equipment | | IV.c,h, [7A116] | 7A116 |
| 10.A.3 | Flight control servo valves | | | 9A106.d |
| 10.B.1 | Test equipment for 10A | | | 7B001, 2B018 |
| 10.D.1 | Software for 10A | | IV.i | |
| 10.D.1 | Software for 10B | | [7D101] | 7D002,2D018, 7D101 |
| 10.E.1 | Integrate fuselage, propulsion, lifting | | | 1E105 |
| | | | | |
| 10.E.2 | Integrate flight control, guidance, propulsion | IV.i, [7E104] | | 7E004.b.5, 7E104 |
| 10.E.3 | Technology for 10A1,2; 10D1 for 10A1,2 | | IV.i | |
| 10.E.3 | Technology for 10B1; 10D1 for 10B1 | | [7E101],[7E001] | 7E101, 7E001, |

| | | | |
|---|---|---|---|
| | | | 2E018 |
| 10.E.3 | Technology for 10B1 | [7E002] | 7E002 |
| 11.A.1 | Radar, including altimeters | [6A108.a], XI,a,3,[7A106] | 6A108.a, 6A008,7A006, 7A106 |
| 11.A.2 | Passive sensors | XI.b, [7A115] | 7A115 |
| 11.A.3 | Global positioning satellite receivers | XV,c, [7A005] [7A105} | 7A105 |
| 11.A.4 | Electronic assemblies >125$^{o}$C | XI.a.7 | 3A001.a.1.a, 3A101.c |
| 11.D.1 | Software for 11A1 | XI.d, [6D002],[7D101] | 6D102, 6D002, 7D101 |
| 11.D.1 | Software for 11A2 | XI.d | |
| 11.D.1 | Software for 11A4 | XI.d | 3D101 |
| 11.D.2 | Software for 11A3 | XV.f, [7D101]7D101 | |
| 11.E.1 | Protection against EMP and EMI | | 7E102 |
| 11.E.2 | Technology for 11A1; 11D1 for 11A1 | [7E101],[7E001] [7E002] [6E001] | 7E101, 7E001, 6E102, 6E101, 6E001,7E002 |
| 11.E.2 | Technology for 11A1 | [6E002] | 6E002 |
| 11.E.2 | Technology for 11A1,2,4; 11D1 for 11A1,2,4 | XI.d | |
| 11.E.2 | Technology for 11.A.3; 11D2 | XV.f | |
| 11.E.2 | Technology for 11A4; 11D1 for 11A4 | | 3E101 |
| 11.E.2 | Technology for 11A4 | | 3E001 |
| | | | |
| 12.A.1 | Apparatus for handling 1A | IV.c,[9A115] | 9A115 |
| 12.A.2 | Vehicle for handling 1A | IV.c,[9A115] | 9A115 |
| 12.A.3 | Gravity meters | | 6A107, 6A007.b,c |
| 12.A.4 | Telemetry | | 5A101 |
| 12.A.5 | Tracking | | 6A108.b |
| 12.A.6 | Thermal batteries | | |
| 12.D.1 | Software for 12A1,2 | IV.i,[9D104] | 9D104 |
| 12.D.2 | Software to process post-flight data | | 6D103 |
| 12.D.3 | Software for 12A4 usable in 1A | | 5D101 |
| 12.D.3 | Software for 12A5 usable in 1A | | 6D102 |
| 12.E.1 | Technology for 12A1,2; 12D1 | IV.i,[9E101], [9E001] | 9E101,9E001 |
| 12.E.1 | Technology for 12A3,5; 12D2; 12D3 for 12A5 | | 6E101 |
| 12.E.1 | Technology for 12A3,5 | | 6E002 |
| 12.E.1 | Technology for 12A4; 12D3 for 12A4 | | 5E101 |
| | | | |
| 13.A.1.a | Computers temperature rated | | 4A101.a, 4A001.a.1 |

| | | | |
|---|---|---|---|
| 13.A.1.b | Computers, ruggedized or radiation-hardened [4A001.a] | | 4A101.b, 4A001.a.2 |
| 13.E.1 | Technology for 13A | | 4E001 |
| 14.A.1 | Analog to digital converters | XI.c. [3A101.a] | 3A001.a.1.a, 3A001.a.2, 3A001.a.5.a, 3A101.a |
| 14.E.1 | Technology for 14A | XI.d | 3E101, 3E001 |
| 15.B.1 | Vibration testing equipment | | 2B116, 9B006 |
| 15.B.2 | Wind tunnels | | 9B105 |
| 15.B.3 | Test benches | | 9B117 |
| 15.B.4 | Environmental and anechoic chambers | | 9B106,9B006, 1B018.b |
| 15.B.5 | Accelerators | | 3A101.b |
| 15.D.1 | Software for 15B1 | | 2D101 |
| 15.D.1 | Software for 15B2,3,4 | 9D101 | |
| 15.D.1 | Software for 15B5 | | 3D101 |
| 15.D.1 | Software for 15B for testing 1A or 2A | | 1D018,2D018, 9D004 |
| 15.E.1 | Technology for 15B1; 15D1 for 15B1 | | 2E101, 2E001 |
| 15.E.1 | Technology for 15B1 | | 2E002 |
| 15.E.1 | Technology for 15B2,3,4; 15D1 for 15B2,3,4 | | 9E102, 9E001 |
| 15.E.1 | Technology for 15B2,3,4 | | 9E002 |
| 15.E.1 | Technology for 15B4; 15D1 for 15B4 | | 1E018 |
| 15.E.1 | Technology for 15B5; 15D1 for 15B5 | | 3E101, 3E102 |
| 15.E.1 | Technology for 15B5 | | 3E001 |
| 16.A.1 | Hybrid computers | XI.a.6,[4A102] | 4A102 |
| 16.D.1 | Software modeling 1A or 2A | IV.i,[9D103],[7D103] | 9D103,7D103 |
| 16.E.1 | Technology for 16A1 development | XI.d, [4E001] | 4E001 |
| 16.E.1 | Technology for 16D1 development | IVi, [7E001],[9E101] | 7E001,9E101 |
| 16.E.1 | Technology for 16A1 production | XI.d, [4E001] | 4E001 |
| 16.E.1 | Technology for 16D1 production | Ivi, [7E101],[9E101] | 7E101,9E101 |
| 16.E.1 | Technology for 16A1 use | XI.d, [4E001] | 4E001 |
| 16.E.1 | Technology for 16D1 use | Ivi, [7E101],[9E102] | 7E101,9E102 |
| 17.A.1 | Reduced observables devices | | 1A101 |
| 17.B.1 | Radar cross section measurement | | 6B108, 6B008 |
| 17.C.1 | Reduced observables materials | | 1C101, 1C001 |
| 17.D.1 | Reduced observables software | | 1D103 |
| 17.E.1 | Technology for 17A1; 17C1; 17D1 | | 1E101 |
| 17.E.1 | Technology for 17A1; 17C1 | | 1E001 |

| | | | |
|---|---|---|---|
| 17.E.1 | Technology for 17B1; 17D1 for 17B1 | | 6E101, 6E001 |
| 17.E.1 | Technology for 17B1 | | 6E002 |
| | | | |
| 18.A.1 | Microcircuits radiation hardened against nuclear effects | XV.d | 3A001.a.1.a |
| 18.A.2 | Detectors | [6A002], | 6A102,6A002, 6A003 |
| | | [1A004.c] | 1A004.c |
| 18.A.3 | Radomes | [6A103] | 6A103 |
| 18.E.1 | Technology for 18A1 | | 3E101, 3E001 |
| 18.E.1 | Technology for 18A2 | [6E001], [6E002] | 6E101,6E001, 6E002 |
| 18.E.1 | Technology for 18A3 | XI.d | |
| | | | |
| 19.A.1 | Rocket systems 300 km | IV.a,b,[9A004], | 9A004, 9A104 |
| 19.A.2 | Unmanned airvehicle systems 300 km | VIII.a | 9A012 |
| 19.A.3 | Unmanned airvehicle to dispense aerosols | [9A120] | 9A120 |
| 19.D.1 | Coordination software for 19A1,2 | IV.i,VIII.i,[9D105] | 9D105 |
| 19.E.1 | Technology for 19A1 | IV.i | |
| 19.E.1 | Technology for 19A2 | VIII.i, [9E101] | 9E101, 9E102 |
| 19.E.1 | Technology for 19A3 | | 9E101, 9E102 |
| | | | |
| 20.A.1.a | Individual rocket stages usable in 19A | IV.c,h, [9A119] | 9A119 |
| 20.A.1.b | Rocket motors or engines usable in 19A | IV.h, [9A005],9A005 [9A105],[9A107] | 9A105,9A107 |
| 20.B.1 | Production facilities for 20A | | 9B116, 9B007 |
| 20.B.2 | Production equipment for 20A | | 9B115, 9B007 |
| 20.D.1 | Software for 20B1 | | 9D101,9D001, 9D002 |
| 20.D.2 | Software for 20A1b | IV.i,[9D104] | 9D104 |
| 20.E.1 | Technology for 20A1; 20D2 | IV.i | |
| 20.E.1 | Technology for 20B1,2; 20D1 | [9E101],[9E102] [9E001] | 9E101, 9E102. 9E001 |
| 20.E.1 | Technology for 20B1,2 | | 9E002 |

## Descriptions of USML Portions of CCL MT ECCNs

The following revises the descriptions of United States Munitions List portions of Export Control Classification Number items on the Commerce Control List controlled in whole or in part for Missile Technology (MT) reasons to conform with other texts on the USML and CCL or on the Missile Technology Control Regime Annex. It also revises, for greater precision, the descriptions of a few ECCNs subject to Commerce jurisdiction which refer to USML items.

**1A002**

USML MT applies to 1A002 also described in 1A002 or 9A110 and specifically designed or modified for items as described on the USML

MT applies to 1A002 also described in 1A102 or 9A110, not USML

**1A004**

USML MT applies to 1A004.c chemical and biological protective and detection equipment specifically designed, developed, modified, configured, or adapted for military applications and commercial equipment that incorporates such equipment as components or parts unless the components or parts are integral to the device, inseparable from the device, and incapable of replacement without compromising the effectiveness of the device Category XIV.f.2

**1A101**

MT applies to entire entry MT Column 1

(MTCR Item 17 is controlled by BIS. No similar item on the USML has been identified.)

**1A102**

USML MT applies to 1A102 also specifically designed or modified for items described on the USML

MT applies to 1A102, not USML MT Column 1

**1B115**

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

a,b. ... liquid or solid 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, a.31.xi, 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.7, d.10, d.11, d.13, d.17, e.2, e.3, e.6, e.7, e.8, e.16, e.18 f.3.i-v, f.10, f.14, f.16, f.17, or f.18;

**1B119**

Fluid energy mills, not controlled by 2B018, for grinding or milling propellant or propellant constituents ~~specified in~~ 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, a.31.xi, 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.7, d.10, d.11, d.13, d.17, e.2, e.3, e.6, e.7, e.8, e.16, e.18, 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

**1C011**

USML MT applies to 1C011.a and portion of 1C011.b metal fuels in particle form, whether spherical, atomized, spheroidal, flaked or ground, manufactured from material consisting of 99 percent or more of items described in 1C011.b Category V.c.6

MT applies to 1C011.b, not USML MT Column 1

**1C018**

USML MT applies to:1C018.m incorporated into items on the United States Munitons List

MT applies to 1C018.m, not USML MT Column 1

**1C101**

MT applies to entire entry MT Column 1

(MTCR Item 17 is controlled by BIS. No similar item on the USML has been identified.)

**1C102**

USML MT applies to 1C102 materials fabricated or semi-fabricated for rocket systems described on the USML Category IV.f

MT applies to 1C102, not USML MT Column 1

(To conform with MTCR 6.A.2 and the USML. However transfer of USML IV.f to the CCL is recommended.)

**1C107**

MT applies to entire entry

(1C107 conforms with MTCR Items 6.C.3, 4, 5, 6. No similar item on the USML has been identified.)

**1C111**

MT applies to entire entry MT Column 1

(Butacene is 1C111.c.1 Deletion of identical V.f.3.i is recommended.)

**1D103**

MT applies to entire entry MT Column 1

(MTCR Item 17 is controlled by BIS. No similar item on the USML has been identified.)

**1E001**

USML MT applies to technology directly related to”development” of USML MT portions of 1A002, 1A004, 1A102, 1C011, 1C102

MT applies to technology for MT portions of 1A002, 1A004, 1A101,

1A102, 1B001, 1B002, 1B101, 1B102, 1B115 - 1B119, 1C001, 1C002, 1C004, 1C007, 1C010, 1C011, 1C101, 1C102, 1C107, 1C116 - 1C118, not USML MT Column 1

**1E018**

USML MT applies to 1E018 directly related to "development" or "use" of USML portion of 1C018.m

MT applies to 1E018 for MT portions of 1B018 or 1C018, not USML MT Column 1

**1E101**

USML MT applies to technology directly related to the "use" of USML portions of 1A002, 1A004, 1A102, 1C011, 1C018, 1C102

MT applies to 1E101, not USML MT Column 1

**1E103**

USML MT applies to portion of 1E103 for USML portion of 9A110

MT applies to 1E103, not USML MT Column 1

**<u>1E105</u>**

Design "technology" according to the General Technology and Software Note for integration of air vehicle fuselage propulsion system and lifting control surfaces, designed or modified for "missiles", to optimize aerodynamic performance throughout the flight regime of an unmanned aerial vehicle

USML MT controls 1E105 technology directly related to Category IV(a) through (h) or Category VIII(a) through (h)

MT controls 1E105 technology, not USML MT Column 1

**2A001**

USML MT applies to 2A001 for quiet running bearings specifically designed or modified for Category VI(a-e) or specifically designed, developed, modified, configured, or adapted for military application Categories VI(f) and XIII(g)

MT applies to 2A001 radial ball bearings, ABEC-9 or better, inner ring bore diameter 12 to 50mm, outer ring outside diameter 25 to 100mm, and width 10 to 20mm, not USML, MT Column 1

**3A001**

USML MT applies to:

- 3A001.a.1.a usable in "missiles" and also controlled by Category XV(d); -3A001.a.2.a also described in new 3A101.c with MT temperature range and in Category XV(e);

-3A001.a.5.a also described in 3A101.a and in Category XV(e);
MT applies to:
-3A001.a.1.a usable in "missiles," not USML;
-3A001.a.2.a also described in new 3A101.c with MT temperature range, not USML;
-3A001.a.5.a also described in 3A101.a, not USML MT Column 1

**3A101**
USML MT applies to 3A101.a specifically designed or modified for 9A104.a or .b Category IV(h)
MT applies to 3A101, not USML MT Column 1

**3E001**
USML MT applies to 3E001 directly related to "development" of USML MT portions of 3A001 and 3A101
MT applies to 3E001 for MT portions of 3A001 and 3A101, not USML MT Column 1

**3E101**
USML MT applies to 3E101 directly related to "use" of USML MT portion of 3A101
MT applies to 3E101, not USML MT Column 1

**4A001**
USML MT applies to 4A001.a.2 equipment designed or rated for transient ionizing radiation also described in Category XV.d
MT applies to 4A001.a, not USML also described in 4A101 MT Column 1

**4A102**
USML MT applies to 4A102 also described in Category XI(a)(6)
MT applies to 4A102, not USML MT Column 1

**4E001**
USML MT applies to 4E001.a directly related to "development" or "use" of USML MT portions of 4A001, 4A102
MT applies to 4E001 for MT portions of 4A001,4A101, 4A102, not USML MT Column 1

**6A002**
USML MT applies to portions of 6A002 a.1 or.a.3 specially designed or modified to protect "missiles" against nuclear effects and usable for "missiles" also described in Category XII(c) or XV:
MT applies to:6A002 a.1,.a.3, not USML, and 6A002.e specially designed

or modified to protect “missiles” against nuclear effects and usable for “missiles” MT Column 1

**6A108**
USML MT applies to 6A108.a also described in Category IV(h) or XI(a)(3).
MT applies to 6A108, not USML MT Column 1

**6D002**
MT applies to 6D002 for MT portion of 6A008 MT Column 1
(6B008 omitted, because MTCR 17.D does not control software for 17.B.1,)

**6D102**
MT applies to entire entry MT Column 1

**6E001**
USML MT applies to 6E001 directly related to USML MT portions of 6A002, 6A108,
MT applies to 6E001 for MT portions of 6A002, 6A007, 6A008, 6A102, 6A103, 6A107, 6A108, 6B008, 6B108, 6D002, 6D102, 6D103, not USML MT Column 1

**6E101**
USML MT applies to 6E101 directly related to USML MT portions of 6A002, 6A108
MT applies to 6E101, not USML MT Column 1

**7A003**
USML MT applies.to 7A003 also described in 7A103 and in Category XII(d) or VIII(e):
MT applies to 7A003 also desccribed in 7A103, not USML MT Column 1

**7A005**
USML MT applies to 7A005 also described in 7A105 and in Category XV
MT applies to 7A005 also described in 7A105, not USML MT Column 1

**7A103**
USML MT applies to 7A103. also described in Category XII(d) or VIII(e)
MT applies to 7A103, not USML MT Column 1

**7A105**
USML MT applies to 7A105 also described in Category XV(c)(1-4)
MT applies to 7A105, not USML MT Column 1

**7A106**
USML MT applies to 7A106 also described in Category IV(a-g)
MT applies to 7A106, not USML MT Column 1

**7A115**
USML MT applies to 7A115 designed or modified for 9A104.a or .b
MT applies to 7A115. not USML MT Column 1

**7A116**
USML MT applies to 7A115 designed or modified for 9A104.a or .b
MT applies to 7A115, not USML MT Column 1

**7A117**
USML MT applies to 7A115 designed or modified for 9A104.a or .b
MT applies to 7A115, not USML MT Column 1

**7D001**
USML MT applies to 7D001 directly related to the "development of USML MT portions of 7A003.b or 7A005
MT applies to software for 7A controlled for MT reasons, not USML MT Column 1

**7D101**
USML MT applies to 7D101 directly related to USML MT portions of 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, or 7A117
MT applies to 7D101, not USML MT Column 1

**7D102**
USML MT applies to 7D102 directly related to the USML MT portions of 7A003.b or 7A103.b
MT applies to 7D102, not USML MT Column 1

**7D103**
USML MT applies to 7D103 directly related to Category IV(a-h)
MT applies to 7D103, not USML MT Column 1

**7E001**
USML MT applies to 7E001 directly related to USML MT portions of 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, or 7A117
MT applies to 7E001 for MT portions of 7A001 to 7A006, 7A101 to 7A107, 7B001 to 7B003, 7B101 to 7B103, 7D002, 7D003, or 7D101 to 7D103, not USML MT Column 1

**7E101**

USML MT applies to 7E101 directly related to USML MT portions of 7A003, 7A005, 7A103, 7A105, 7A106, 7A115, 7A116, 7A117, 7D101, 7D102, 7D103
MT applies to 7E101, not USML MT Column 1

**7E104**
USML MT applies to 7E104 directly related to Category IV(a-h) or VIII(a-h)
MT applies to 7E104, not USML MT Column 1

**9A005**
USML MTapplies to 9A005 specifically designed or modified for 9A104
MT applies to 9A005 also described in MT portion of 9A105 MT Column 1
NS applies to 9A005 not USML, not MT NS Column 1

**9A006**
USML MT applies to 9A006 specifically designed or modified for 9A104
MT applies to 9A006 also described in MT portions of 9A106 or 9A108 MT Column 1
NS applies to 9A006, not USML, not MT NS Column 1

**9A007**
USML MTapplies to 9A007 specifically designed or modified for 9A104
MT applies to 9A007 also described in MT portion of 9A107 MT Column 1
NS applies to 9A007, not USML, not MT NS Column 1

**9A008**
USML MT applies to 9A008 specifically designed or modified for 9A104
MT applies to 9A008 also described in MT portions of 9A106 or 9A108 MT Column 1
NS applies to 9A008, not USML, not MT NS Column 1

**9A009**
USML MT applies to 9A009 specifically designed or modified for 9A104
MT applies to 9A009 also described in MT portion of 9A109 MT Column 1
NS applies to 9A009 not USML, not MT NS Column 1

**9A010**
MT applies to 9A010 also described in MT portion of 9A110 MT Column 1
NS applies to 9A010, not MT NS Column 1

**9A011**
USML MT applies to 9A011 specifically designed or modified for 9A104
MT applies to 9A011 also described in MT portion of 9A111 MT Column 1
NS applies to 9A011, not USML, not MT NS Column 1

**9A101**
USML MT applies to 9A101 also described in Category VIII(b)
MT applies to 9A101, not USML MT Column 1

**9A104**
USML MT applies to 9A104

**9A105**
USML MT applies to 9A105 specifically designed or modified for 9A104
MT applies to 9A105, not USML MT Column 1

**9A106**
USML MT applies to 9A106 specifically designed or modified for 9A104
MT applies to 9A106, not USML MT Column 1

**9A107**
USML MT applies to 9A107 specifically designed or modified for 9A104
MT applies to 9A107, not USML MT Column 1

**9A108**
USML MT applies to 9A108 specifically designed or modified for 9A104
MT applies to 9A108, not USML MT Column 1

**9A109**
USML MT applies to 9A109 specifically designed or modified for 9A104
MT applies to 9A109, not USML MT Column 1

**9A110**
USML MT applies to 9A110 fabricated or semi-fabricated so as to be also described on the USML
MT applies to 9A110, not USML MT Column 1

**9A111**
USML MT applies to 9A111 specifically designed or modified for 9A104
MT applies to 9A111, not USML MT Column 1

**9A115**
USML MT applies to 9A115 specifically designed or modified for 9A104
MT applies to 9A115, not USML MT Column 1

**9A116**
USML MT applies to 9A116 specifically designed or modified for 9A104

MT applies to 9A116, not USML MT Column 1

**9A117**
USML MT applies to 9A117 specifically designed or modified for 9A104
MT applies to 9A117, not USML MT Column 1

**9A118**
USML MT applies to 9A118 specifically designed or modified for 9A104
MT applies to 9A118, not USML MT Column 1

**9A119**
USML MT applies to 9A119 specifically designed or modified for 9A104
MT applies to 9A119, not USML MT Column 1

**9A121**
USML MT applies to 9A121 specifically designed or modified for 9A104
MT applies to 9A121, not USML MT Column 1

**9D001**
USML MT applies to 9D001 directly related to USML MT portions of 9A004-9A011, 9A101, 9A104-9A111, 9A115-9A119, 9A121
MT applies to 9D001 for MT portions of 9A006, 9A008, 9A011, 9A108, 9A111, 9A117, or 9A118, not USML MT Column 1
NS applies to 9D001 for 9A001-9A012, 9B001-9B010, 9E003, not USML, not MT NS Column 1

**9D003**
USML MT applies to 9D003 directly related to the use of FADEC for propulsion systems controlled by the USML MT portions of 9A006, 9A008, 9A009, 9A011, 9A101, 9A106, 9A108, 9A109, 9A111, 9A118
MT applies to 9D003 for the use of FADEC for propulsion systems controlled by the MT portions of 9A001, 9A006, 9A008, 9A009, 9A011, 9A101, 9A106, 9A108, 9A109, 9A111, 9A118 and for the MT portions of 9B001-9B004, 9B115, 9B116, not USML MT Column 1
NS applies to 9D003 for 9A001-9A003, 9A006, 9A008, 9A009, 9A011, not USML, not MT NS Column 1

**9D103**
USML MT applies to 9D103 also described in Category IV(i)
MT applies to 9D103, not USML MT Column 1

**9D104**

USML MT applies to 9D104 directly related to USML MT portions of 9A005-9A011, 9A101, 9A105-9A109, 9A111, 9A115-9A118
MT applies to 9D104, not USML — MT Column 1

**9D105**
USML MT applies to 9D105 directly related to USML MT portions of subsystems being coordinated also described in Category IV or Category VIII
MT applies to 9D105, not USML — MT Column 1

**9E001**
USML MT applies to 9E001 directly related to USML MT portions of 9A004-9A011, 9D001-9D003, 9D103-9D105
MT applies to 9E001 for MT portions of 9A001, 9A004-9A012, 9A101, 9A103, 9A105-9A111, 9A115-9A121, 9B001-9B004, 9B006, 9B007, 9B105, 9B106, 9B115-9B117, 9D001-9D004, 9D101, 9D103-9D105, not USML — MT Column 1
NS applies to 9E001 for 9A001.b, 9A004 to 9A012, 9B001 to 9B010, 9D001 to 9D004, not USML, not MT — NS Column 1

**9E101**
USML MT applies to 9E101 directly related to the "developmen t" of the USML MT portions of 9A101, 9A104-9A111, 9A115-9A119, 9A121, 9D101, 9D103-9D105
MT applies to 9E101 for the MT portions of 9A012, 9A101, 9A104-9A111, 9A115-9A119, 9A121, 9D101, 9D103-9D105, not USML — MT Column 1

**9E102**
USML MT applies to 9E102 directly related to the USML MT portions of 9A004-9A011, 9A101, 9A104-9A111, 9A115-9A119, 9A121, 9D101, 9D103-9D105
MT applies to 9E102 for the MT portions of 9A005-9A012, 9A101, 9A104-9A111, 9A115-9A119, 9A121, 9B105, 9B1106, 9B115-9B117, 9D101, 9D103-9D105, not USML — MT Column 1

July 23, 2011

**Recapitulation of Recommended Specially Designed Revisions for All CCL ECCNs**

(Prepared by Bill Root, waroot23@gmail.com; 301 987 6418)

The proposed definition for "specially designed" for non-components in the July 15 proposed rule for moving various USML items to the CCL is substantially the same as the existing definition of "required". The most significant recommendation in these voluminous comments on that rule is to use "required" also for components. This would involve revising the definition of "required" as follows:

> "Required" (General Technology Note) (Cat 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9) As applied to "technology" or "software" or commodity, refers to only that portion of "technology" or "software" or commodity which is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics, or functions. ...

The ten documents attached to these comments which recommend specific line in ~~line out~~ changes in the current texts of each of the ten CCL Categories from 0 to 9 assume adoption of this revision of the "required" definition. "Specially designed" would no longer appear in the CCL. Neither would numerous other similar expressions intended to serve the same purposes.

The USML does not now use the expression "specially designed." It is expected that proposed revised USML texts using "specially designed." will soon be published with a request for public comment. At that time, recommendations similar to these now being submitted for the CCL will be prepared.

There follows a statistical summary categorizing the 1,444 recommended changes in the CCL. The + sign refers to instances where "specially designed is coupled with another term, such as "specially designed or modified" or "specially designed or prepared..". "Other components" means items not referred to as "components" but which are stated to be contained in other items.

## Statistical Summary

| | Specially Designed | Specially Designed + | Other | Total |
|---|---|---|---|---|
| Controlled Item | | | | |
| Changed to "required" | 171 | 73 | 164 | 408 |
| Changed to rated | 19 | 16 | 382 | 417 |
| Changed to other | 8 | 58 | 30 | 96 |
| Deleted | 44 | 13 | 93 | 150 |
| "Components" | | | | |
| Changed to "required" | 95 | 1 | 24 | 120 |
| Changed to rated | | | | |
| Changed to other | | 4 | 1 | 5 |
| Deleted | 13 | | 1 | 14 |
| Other components | | | | |
| Changed to "required" | 10 | 2 | 34 | 46 |
| Changed to rated | | | 4 | 4 |
| Changed to other | 6 | 4 | 3 | 13 |
| Deleted | 3 | 1 | 52 | 56 |
| Decontrolled items | | | | |
| Changed to "required" | 1 | | 4 | 5 |
| Changed to rated | 30 | 14 | 50 | 94 |
| Changed to other | 4 | | 11 | 15 |
| Deleted | | | | |
| Totals | | | | |
| Changed to "required" | 277 | 76 | 226 | 579 |
| Changed to rated | 49 | 30 | 436 | 515 |
| Changed to other | 14 | 66 | 35 | 115* |
| Deleted | 64 | 14 | 157 | 235 |
| Grand Total | 404 | 186 | 854** | 1,444 |

| * Changed to | |
|---|---|
| as defined by NRC | 56 |
| as defined in USML | 45 |
| other | 14 |
| Total | 115 |

Consisting of changes from::

| | | |
|---|---|---|
| designed or modified or variations | | 67 |
| capable, usable, or variations | | 251 |
| designed or variations | 186 | |
| miscellaneous other terms | | 241 |
| absence of any such term | | 109 |
| Total | | 854 |

June 7, 2011

**Specially Designed Issues CCL Category 0**

In what follows, it is assumed that the Wassenaar definition of "required" is expanded to cover commodities and software as well as technology.

0A001 ... components ~~specially designed or prepared~~ as defined by NRC for ...

0A002 ... equipment ~~specially designed~~ as defined in the USML

0A018.a ... equipment ~~specially designed~~ "required" for ... and ~~specially designed parts and accessories~~ components "required" for such ... equipment

(CCL makes no distinction between components and parts. It would be less confusing to standardize on components. CCL does not define "accessories." The USML 121.8(c) definition of "accessories" as "not necessary" excludes them from "peculiarly responsible ... " Placing "required" before "for" instead of before "components" is clearer.)

b ... ~~specially designed~~ components ~~and parts~~ "required" for ...

0A918.a . .. searchlights ~~, designed for military use,~~ and ~~specially designed parts and accessories~~ components "required" therefor

(Neither the exporter nor the Government knows whether a searchlight was "designed for military use." If "power controlled" is inadequate to describe commodity of concern, another technical specification should be added.)

0A979 ... and ~~parts n.e.s.~~components "required" therefor

0A982 ... ~~parts and accessories n.e.s.~~ components "required" therefor

0A983 ~~Specially designed~~ implements ~~of~~ "required" for torture ...~~parts and accessories n.e.s.~~ components "required" therefor

0A984 ... except equipment ~~used exclusively~~ rated to treat ... and except arms ~~designed solely~~ rated for signal ...

(Neither the exporter nor the Government can know that an item is used exclusively or designed solely for a stated purpose. The manufacturer's rating should be adequate evidence of meeting criteria for exceptions from control.)

0A985 ... except equipment ~~used exclusively~~ rated to treat ... and except arms ~~designed solely~~ rated for signal ...

0B001 Plant ... and ~~specially designed or prepared~~ equipment and componentsas defined by

NRC

a Plant ~~specially designed~~ as defined by NRC for ...
b Equipment and components, ~~specially designed or prepared~~ as defined by NRC
c Equipment and components, ~~specially designed or prepared~~ as defined by NRC
d Equipment and components, ~~specially designed or prepared~~ as defined by NRC
e Equipment and components, ~~specially designed or prepared~~ as defined by NRC
f Equipment and components, ~~specially designed or prepared~~ as defined by NRC
g Equipment and components, ~~specially designed or prepared~~ as defined by NRC
h Equipment and components, ~~specially designed or prepared~~ as defined by NRC
i Equipment and components, ~~specially designed or prepared~~ as defined by NRC
j Equipment and components, ~~specially designed or prepared~~ as defined by NRC

0B002 ~~Specially designed or prepared~~ auxiliary systems, equipment and components as defined by NRC
e ...systems ~~specially designed~~ as defined by NRC
f ... mass spectrometer x/ion xources d~~specially designed or prepared~~ as defined by NRC...

0B003 Plant... and equipment ~~specially designed or prepared~~ as defined by NRC ...

0B004 Plant ... and ~~specially designed or prepared~~ equipment and components as defined by NRC

0B005 Plant ~~specially designed~~ for fabrication ... and ~~specially designed~~ equipment as defined by NRC

0B006 Plant for ... and ~~specially designed or prepared~~ equipment and components as defined by NRC
b ... ~~specially designed or prepared~~ as defined by NRC ... ~~are capable of withstanding~~ withstand ... ...
c ... ~~specially designed or prepared~~ as defined by NRC
d ... ~~specially designed or prepared~~ as defined by NRC
e ... ~~specially designed~~ as defined by NRC

0B986 Equipment ~~specially designed~~ "required" for

0D001 ... ~~specially designed or modified~~ as defined by NRC or as defined in the USML

0D999 ~~Specific software, as follows~~ Software "required" for the following:

0E001 "Technology" ~~according to the Nuclear Technology Note~~ as defined by NRC or as defined in the USML

0E018 “Technology” “required” for ...

0E918 “Technology” “required” for
...
0E982 “Technology” ~~exclusively~~ “required” for ...

0E984 “Technology” “required” for ...

## Rcapitulation for Category 0

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a. Change specially designed to "required" 0A018.a, 0A983, 0B986
   - c Change specially designed to as defined in the USML 0A002
   - Change specially designed to as defined by NRC 0B001.a, 0B002.e, 0B006.e
2. Limit controlled components referred to as components
   - a. Change specially designed parts and accessories to components "required" 0A018.a, 0A918.a
   - . Change specially designed to "required" 0A018.b
   - Change parts n.e.s. to components "required" therefor 0A979
   - Change parts and accessories to components "required" therefor 0A982, 0A983
3. Limit controlled contained items not using the word components
   - c Delete parts 0A018.b
   - Change specially designed to as defined by NRC (equipment for plant) 0B005

**B. Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - c Change specially designed or modified to as defined by NRC or as defined in the USML 0D001

**C. Specially designed or prepared**

1. Limit controlled item to its controlled parameters (excluding components)
   - c Change specially designed or prepared to as defined by NRC 0B001.a,b,c,d,e,f,g,h,i,j, 0B002, 0B002.f, 0B003, 0B006.b,c,d,
2. Limit controlled components referred to as components
   - c Change specially designed or prepared to as defined by NRC 0A001, 0B001, 0B004, 0B006
3. Limit controlled contained items not using the word components
   - c Change specially designed or prepared to as defined by NRC (equipment for plant) 0A001, 0B001, 0B004, 0B006

**E. Usable in or capable of**

1. Limit controlled item to the controlled parameters
   - c Delete capable 0B006.b

**F Designed**

1. Limit controlled item to the controlled parameters
   - c Delete designed for military use 0A918.a
4. Limit what is excepted from control
   - Change designed solely to rated 0A984, 0A985

**G Miscellaneous expressions**

1. Limit controlled item to its controlled parameters (excluding components)

a Change specific to “required” 0D999
Change exclusively to “required” 0E982

c Change according to Nuclear Technical Note to as defined by NRC or as defined in the USML.

4. Limit what is excepted from control

b Change used exclusively to rated 0A984, 0A985

**H Replace absence of any expression**

1. Limit controlled item to its controlled parameters (excluding components)

a Add “required” 0E018, 0E918, 0E984

2. Limit controlled components referred to as components

Add “required” 0A982

June 7, 2011

**Specially Designed Issues CCL Category 1**

**1A001** Related Controls: (1) Items ~~specially designed or modified~~ as defined on the USML for missiles or for items on the U.S. Munitions List are subject to the export licensing authority of the Department of State, ...

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

c.2. ~~Specially designed~~ "Required" for "aircraft," aerospace ~~or missile use~~.

**1A002** "Composite" structures or laminates ~~having~~ rated for any of the following ..

Related Controls: ....(3) ... structures ~~specially designed"~~ for missile applications (including ~~specially designed~~ subsystems and components) are controlled by 9A110

(9A110, rather than 1A002, determines text for 9A110.)

(4) "Composite" structures or laminates ~~specially designed or prepared for use in~~ as defined by NRC for separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Note 2: 1A002 does not control semi-finished items ~~specially designed~~ rated for ...

Note 3: 1A002.b.1 does not apply to ... ~~specially designed~~ rated for ...

Note 4: 1A002 does not apply to finished items ~~specially designed~~ rated for ...

**1A004** Protective and detection equipment and components, not ~~specially designed for military use~~ defined in the USML, as follows:

Related Controls: (1) ... (2) See ECCN 1D003 for "software"~~specially designed or modified to enable~~ for equipment to perform the functions of equipment controlled under section 1A004.c ... (3) See ECCN 1E002.g for control libraries (parametric technical data bases) ~~specially designed or modified to enable~~ for equipment to perform the functions of equipment controlled under section 1A004.c

(1D003 and 1E002.g, rather than 1A004 determine texts for those ECCNs.)

(4) Chemical and biological protective and detection equipment ~~specifically designed , developed, modified, configured, or adapted for military applications~~ as defined in the USML is subject to the export licensing jurisdiction of the Department of State ... category XIV(f) ... as is commercial equipment that incorporates components or parts controlled under that Category unless those components or parts are: ... and (3) ~~incapable of~~ not rated for 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.

a. ... ~~designed or modified~~ "required" ... and ~~specially designed~~ components "required" therefor: ...

b. ... ~~specially designed or modified~~ "required" ...

c. ... ~~specially designed or modified~~ "required" ... and ~~specially designed~~ components "required" therefor

d. ... ~~designed~~ "required" ...

**1A005** Body armor and ~~specially designed~~ components "required" therefor ...
Note 2. This entry does not control body armor ~~designed~~ rated to provide frontal protection only ...

**1A006** Equipment, ~~specially designed or modified~~ "required" for the disposal of improvised explosive devices, as follows:
Related Controls: Equipment ~~specially designed for military use~~ as defined in the USML for the disposal of improvised explosive devices is subject to the export licensing jurisdiction of the Department of State ...
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.
(The technical description of 'disruptors' appears to be an adequate definition.)

**1A007** Equipment and devices, ~~specially designed~~ "required", to initiate charges and devices containing energetic materials, by electrical means, as follows
Related Controls: High explosives and ~~related~~ equipment ~~specially designed for military use~~ as defined in the USML is subject to the export licensing jurisdiction of the Department of State ...

**1A008** Related Controls: (1) All of the following, as defined in the USML. are subject to the export licensing jurisdiction of the Department of State
~~a~~. High explosive and related equipment ~~specially designed for military use~~.
~~b~~ Explosive devices or charges in this entry that utilize USML controlled energetic materials ... ~~if thy have been specifically designed, developed, configured, adapted or modified for a military application~~.

**1A102** ... ~~designed~~ "required" ...~~capable of achieving~~ rated for a "range" equal to or greater than 300 km.

**1A202** Related Controls: ... (3) "composite" structures ~~specially designed or prepared for use in~~ for as defined by NRC for dseparating isotopes ...

**1A225** Platinized catalysts ~~specially designed or prepared~~ "required" for ... the production of heavy water.
Related Controls: ... (2) Equipment ~~specially designed or prepared~~ as defined by NRC for ...

**1A226** ~~Specialized~~ packings ~~which may be used in~~ "required" for separating heavy water from ordinary water ...
Related Controls: ... (2) Equipment ~~specially designed or prepared~~ as defined by NRC for ...

**1A227** Related Controls: ... (2) Equipment ~~specially designed or prepared~~ as defined by NRC for

...

**1A995** Protective and detection equipment and components not ~~specially designed for military use~~ defined in the USML and

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

**1A999** ~~Specific~~ processing equipment ...

**1B001** ... ~~specially designed~~ components ~~and accessories~~ "required" therefor

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

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

c ... ~~specially designed or modified~~ "required" ...

d ... ~~specially designed or adapted~~ "required" ...

**1B002** ... ~~specially designed~~ "required" to avoid contamination and ~~specially designed~~ "required" for ~~use in~~ one of the processes specified in 1C002.c.2

**1B003** ... ~~specially designed~~ "required" for the manufacture ...

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

(9B115 should be defined in that ECCN rather than in 1B003.)

c. ~~Specially designed~~ components "required" for ...

**1B018** a.2 ~~Specialized~~ components ~~(for example,~~ as follows: dehydration presses ...

a.4 ~~Specially designed parts and accessories~~ components "required" therefor

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

**1B101** Equipment, ... ~~usable~~ rated for ... ~~capable of achieving~~ rated for a "range" ... and their subsystems ... ; and ~~specially designed~~ components ~~and accessories~~ "required" ~~therefor~~

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:

**1B102** a. ... ~~usable~~ rated for ...

b ~~Specially designed~~ components "required" for "production equipment" ~~specified in~~ controlled by 1B002 or 1B102.a

Note 1B102 includes:

a. Plasma generators (high frequency arc-jet) ~~usable~~ rated for ...

b Electroburst equipment ~~usable~~ rated for ...

c. Equipment ~~usable~~ rated for ...

**1B115** ... ~~specially designed~~ components "required" therefor

**1B116** ~~Specially designed~~ nozzles "required" for ...

**1B117** .... ~~specially designed~~ components "required" therefor

**1B118** ... ~~specially designed~~ components "required" therefor

**1B119** ... ~~specially designed~~ components "required" therefor

**1B201** a.2 ~~Specially designed~~ "required" to fabricate ...
a.3 ~~Capable of~~ Rated for winding ...

**1B226** Electromagnetic isotope separators ~~designed for, or equipped with,~~ rated for ...
Related Controls: (1) Electromagnetic isotope separators ~~specially designed or prepared~~ as defined by NRC for ~~use in~~ separating uranium isotopes ...

**1B227** Related Controls: (1) Equipment ~~specially designed or prepared~~ as defined by NRC for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1B228** Related Controls: (1) Equipment ~~specially designed or prepared~~ as defined by NRC 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** Related Controls: (1) Equipment ~~specially designed or prepared~~ as defined by NRC for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1B230** Pumps ~~capable of~~ rated for ...
Related Controls: (1) Equipment ~~specially designed or prepared~~ as defined by NRC for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1B231** b.1 Hydrogen or helium refrigeration units ~~capable of~~ rated for cooling ...

**1B232** Related Controls: (1) Equipment ~~specially designed or prepared~~ as defined by NRC 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 for operation with ...

b. ~~Designed~~ Rated for a throughput of hydrogen gas ...

**1B233** Related Controls: ... (3) Facilities or plants ~~specially designed or prepared~~ as defined by NRC for the separation of lithium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

(The above assumes that the 1C233 text for Related Controls is moved to 1B233. NRC clearly controls 1B233.a and may also control 1B233.b.)

b,1 ... columns ~~specially designed~~ "required" for lithium amalgams

**1B999** d. ... ~~capable of~~ rated for continuous cooling ...

**1C001** Materials ~~specially designed~~ "required" for ~~use as~~ absorbers of ...

**1C002** Related Controls: ...(3) Aluminum alloys and titanium alloys in physical forms and finished products ~~specially designed or prepared~~ as defined by NRC for ~~use in~~ separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1C018** ... and ~~certain~~ chemicals as follows ...

j Pyrotechnic devices ~~when designed exclusively~~ rated for ...

**1C101** Materials for reduced observables ... ~~for applications usable in~~ "required" for rockets ... ... ~~capable of achieving~~ rated for a "range" equal to or greater than 300 km, and ~~their~~ subsystems "required" therefor

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.

**1C102** Resaturated pyrolized carbon-carbon materials ~~designed~~ "required" for ...

**1C107** b ... graphites, ~~usable~~ "required" for rocket nozzles and reentry vehicle nose tips.

c ... materials ... "required" for ~~use in~~ radomes ~~useable in~~ "required" for 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" ...

**1C116** Maraging steels (iron alloys ~~generally characterized by~~ with ...), ...

Related Contrtols: ... . (3) Maraging steel, in physical forms and finished products and ~~specially designed or prepared~~ as defined by NRC for ~~use in~~ separating uranium isotopes, is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1C117** 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
c.2 ~~Able~~ Rated to be machined to any of the following products ...

**1C118** ... ~~having~~ rated for all of the following characteristics ...
a. ~~Having~~ ...
a.1 ~~Containing~~ ...
a.2 ~~Having~~ ....
b ~~Having~~ ...

**1C202** Related Controls: ... (3) Aluminum alloys and titanium alloys, in physical forms and finished products and ~~specially designed or prepared~~ as defined by NRC for ~~use in~~ 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.
a.1 ~~"Capable of"~~ 'Rated for'...
b.1 ~~"Capable of"~~ 'Rated for'...

**1C216** Maraging steel ... ~~"capable of"~~ rated for ...
Related Controls: ... (3) Maraging steel, in physical form and finished products ~~specially designed or prepared~~ as defined by NRC for ~~use in~~ separating uranium isotopes, is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part110).

1C226 ECCN Controls: This entry does not control manufactures ~~specially designed as~~ rated for weights or gamma-ray collimators.:

**1C230** ECCN Controls:This entry does not control the following:
b. Oxide shapes in fabricated or semi-fabricated forms ~~specially designed~~ rated for electronic components ~~parts~~ or as substrates for electronic circuits.

**1C233** Related Controls: ... (2) Facilities or plants ~~specially designed or prepared~~ as defined by NRC 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 Related Controls: ... (2) Zirconoium metal and alloys in the form of tubes or assemblies of tubes~~, specially designed or prepared~~ for as defined by NRC ~~use in~~ a reactor, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1C240** Related Controls: ... (2) Nickel powder and porous nickel metal, ~~specially designed or~~

~~prepared~~ as defined by NRC for ~~use in~~ separating uranium isotopes, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

**1C992** a Shaped charges ~~specially designed~~ "required" for ...:
b Shaped charges ~~specially designed~~ "required" for ...:
k Pyrotechnic devices ~~when designed exclusively~~ rated for ...:

**1D001** "Software" ~~specially designed or modified~~ "required" ...

**1D002** "Software" "required" for the "development" of organic "matrix", metal "matrix", or carbon "matrix" laminates or "composites"

**1D003** "Software" ~~specially designed or modified to enable~~ "required" for equipment to perform the functions of equipment controlled under 1A004.c or 1A004.d

**1D018** "Software" ~~specially designed or modified~~ "required" for ...

**1D101** "Software" ~~specially designed or modified~~ "required" ...

**1D103** .. ~~specially designed~~ "required" for ... and acoustic signatures, ~~for applications usable in~~ "required" for "missiles" or ~~their~~ for subsystems "required" therefor

**1D201** ... ~~specially designed or modified~~ "required"

**1D390** "Software" "required" for process control ~~that is specifically configured~~ to control or initiate "production" of chemicals controlled by 1C350. ...

**1D993** "Software" ~~specially designed~~ "required" for

**1D999** ~~Specific~~ software, ...
a. ... ~~specially designed~~ "required"
b ... ~~specially designed~~ "required"

**1E001** Related Controls: ... (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)~~.
(1E001.g should describe its contents.)

**1E002** 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 technical databases) ~~specially designed or modified to enable~~ "required" for equipment to perform the functions of equipment controlled under 1A004.c or 1A004.d

**1E102** Related Controls: (1) This entry includes databases ~~specially designed~~ "required" for analysis of signature reduction.

**1E103** "Technical data" ...~~usable~~ "required" for ...

**1E104**"Technology" "required" for

**1E350** ... ~~designed or intended~~ "required"

**1E355**"Technology" "required" for

**1E994**"Technology" "required" for ...

**1E998**"Technology" "required" for ...

## Recapitulation for Category 1

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a. Change specially designed to "required" 1A001a, c.2, 1A004.a, 1A007, 1B001.a,b,1B002 2x, 1B003, 1B115, 1B116, 1B117, 1B201.a.2, 1B233.b.1, 1C101 Related Controls (1), 1C992.a, b, 1D103, 1D993, 1D999.a, b, 1E102
     Change specially designed or adapted to "required" 1B001.d
     Change specially designed for use in to "required" 1B002, 1C001
   - b Change specially designed as to rated for 1C226
     Change specially designed to rated 1C230
   - c. Delete specially designed 1A002 Related Controls (3) 2x, 1B003 Related Controls
     Change specially designed for military use to as defined in the USML 1A004, 1A006 Related Controls, 1A007 Related Controls, 1A008 Related Controls (1)a, 1A995
     Delete specially designed for the purpose of 1A006 Related Definition
2. Limit controlled components referred to as components
   - a. Change specially designed to "required" 1A004.a, c, 1A005, 1B001, 1B003.c, 1B018.a.4, b, 1B101, 1B102.b, 1B118, 1B119
3. Limit controlled contained items not using the word components
   - c. Delete accessories 1B001, 1B101
     Delete parts and accessories 1B018.a.4
4. Limit what is excepted from control
   - a. Change specially designed to rated 1A002 Notes 2, 3, 4

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters
   - a. Change specially designed or modified to "required" 1A004.b, c, 1A006,1D001, 1D018, 1D101, 1D201
     Change specially designed or modified to enable to "required" for 1D003, 1E002.g
   - c. Change specially designed or modified to as defined on the USML 1A001 Related Controls
     Delete specially designed or modified to enable 1A004 Related Controls (2), (3), 1E001 Related Controls (2)

**C. Specially designed or prepared**

1. Limit controlled item to the controlled parameters
   - a Change specially designed or prepared to "required" 1A225
   - c Delete specially designed or prepared for use in to as defined by NRC 1A002, 1A202 Related Controls
     Change specially designed or prepared to as define by NRC 1A225, 1A226, 1A227, 1B226, 1B227, 1B228, 1B229, 1B230, 1B232, 1B233, 1C116,

1C202, 1C233, 1C240 Related Controls

**D Designed or modified**

1. Limit controlled item to its controlled parameters
   a. Change designed or modified to "required" 1B101.c, d

**E. Usable in or capable of**

1. Limit controlled item to the controlled parameters
   a Change which may be used in to "required" for 1A226
   Change usable in to "required" for 1C101, 1C107.c, d
   Change usable to "required" 1C107.b, d.1, d.2, 1E103
   Change use in to "required" 1C107.c
   Change for applications usable in to "required" for 1D103
   b. Change incapable of to not rated for 1A004 Related Controls (4)
   Change capable of achieving to rated for 1A102, 1B101, 1C101, 1C107.c, d, 1C117
   Change capable of to rated for 1B018.b, 1B201.a.3, 1B230, 1B231.b.1, 1B232.a,b, 1B999.d, 1C202 Related Definition, 1C202.a.1, b.1, 1C216
   Change usable to rated 1B101, 1B102.a, 1B102 Note a, b, c
   Change when specially used to rated 1C101 Related Controls
   Change able to rated 1C117.c.2
   c Delete capable of 1B003 Related Controls
4. Limit what is excepted from control
   b Change when specially used to rated 1C101 Related Controls (2), 1C202 Related Controls

F. **Designed**

1. Limit controlled item to the controlled parameters
   a Change designed to "required" 1A004.d, 1A102, 1C102
   Change designed or intended to "required" 1E350
   b Change limited by function or design to rated 1A995.b
   . Change designed to rated 1B101.a, b, 1B228.a, b
   Change designed for or equipped with to rated for 1B226
   Change when designed exclusively to rated 1C018.j, 1C992.c
4 Limit what is excepted from control
   a. Change designed to rated 1A005 Note 2

G **Miscellaneous expressions**

1. Limit controlled item to the controlled parameters
   a Change specifically configured to "required" 1D390
   b Change having to rated for 1A002, 1C118
   c Change specifically designed, developed, modified, configured, or adapted for military applications to as defined in the USML 1A004 Related Controls (4), 1A008 Related Controls(1)b

Delete specific 1A995.b, 1A999, 1D999
Delete specialized 1B018.a.2
Delete special 1B101.d
Delete certain 1C018
Change generally characterized by to with 1C116
Delete having 1C118.a, a.2, b
Delete containing 1C118.a.1

**H Replace absence of any expression**

1. Limit controlled item to the controlled parameters
   a Add “required” 1D002, 1E002.a, b, c, d, e, f, 1E104, 1E355, 1E994, 1E998
3. Limit controlled contained items not using the word components
   a Add “required” (subsystems for “missiles”) 1C101, 1D103

June 7, 2011

**Specially Designed Issues CCL Category 2**

**2A226** Related Controls: .... (3) Valves ~~specially designed or prepared~~ as defined by NRC for ...

**2A290** Generators and other equipment ~~specially designed, prepared, or intended for use with~~ "required" for nuclear plants
Related Controls: ... (4) Certain nuclear equipment ~~specially designed or prepared for use in~~ as defined by NRC for nuclear plants ...
a. Generators ... ~~designed or intended for use in~~ "required" for a nuclear reactor;
b. Process control systems ~~intended for use with~~ "required" for ...

**2A291** Equipment, ... ~~related to~~ "required" for nuclear material handling and processing ...
Unit: Equipment in number; ~~parts and accessories~~ components in $ valuer
Related Controls: ...(4) Certain equipment ~~specially designed or prepared for use in~~ as defined by NRC for a nuclear reactor ... (5) Nuclear radiation detection and measurement devices ~~specially designed or modified for military purposes~~ as defined in the USML ...
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 ...
d Commodities~~, parts and accessories specially designed or prepared for use with~~ "required" for nuclear plants (e.g., ...)
~~e~~ Radiation detectors and monitors ~~specially designed~~ "required" for ...

**2A292** Piping, fittings and valves, not controlled by NRC item 8(a), ...
Related Controls: ...(4) Piping, fittings, and valves ~~specially designed or prepared~~ as defined by NRC for certain nuclear uses ...
a. Pressure tube, pipe, and fittings ... ~~suitable~~ rated for operation at ...

**2A293** Pumps ~~designed~~ rated to move molten metals by electromagnetic forces.

**2A983** Explosives or detonator detection equipment ... and ~~parts and~~ components~~, n.e.s.~~ "required" therefor

**2A984** Concealed object detection equipment ... and ~~parts and~~ components, "required" therefor

**2A991** a.1 ~~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** Portable electric generators and ~~specially designed parts~~ components "required" therefor

**2A999** ~~Specific~~ processing equipment ...

**2B001** Machine tools ..., ~~which, according to the manufacturer's technical specifications, can be equipped with~~ rated for electronic devices for "numerical control"; and ~~specially designed~~ components "required therefor, as follows

Note 1: 2B001 does not control ~~special purpose~~ machine tools ~~limited to~~ rated for the manufacture of gears. ...

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

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

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

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

a.1 ~~Limited to~~ Rated for cylindrical grinding; and

a.2 ~~Limited to~~ Rated for a maximum workpiece capacity ...

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

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

**2B003** "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** Hot "isostatic presses" ... and ~~specially designed~~ components ~~and accessories~~ "required" therefor

Unit: ...~~and accessories~~ ...

Related Controls: ... (3) For ~~specially designed~~ dies, molds and tooling, see ...

**2B005** Equipment ~~specially designed~~ "required" for the disposition ... and ~~specially designed~~ automated handling, positioning, manipulation and control components "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~~ for densification of carbon-carbon composites are controlled by ~~2B104~~ 2B105.

((Wording in 2B105, rather than 2B005, determines control status of such furnaces.)

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

g ... ~~capable of~~ rated for ...

**2B006**

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~~ rated for no feedback techniques, ..
Note: Machine tools, which ~~can be used~~ are rated also as measuring machines, are controlled if ...

**2B007**
a. ~~Capable~~ Rated in real time ~~of~~ for full three-dimensional image processing ...
b~~Specially designed~~ "Required" to comply ...

booths.
c ~~Specially designed or~~ rated as radiation-hardened ...
d~~Specially designed~~ Rated to operate ...

**2B008**
c "Compound rotary tables" and "tilting spindles", ~~capable of~~ rated for upgrading, ~~according to the manufacturer's specifications,~~ machine tools to or above the levels controlled by 2B001 to 2B009

**2B009**
~~manufacturer's technical specification, can~~ rated to be equipped with"numerical control" units or a computer control ...
NP applies ... spin -forming machines ~~capable of~~ rated for flow forming function ...

**2B018**
GBS: ... 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 ...
Unit: Equipment in number; ~~parts and accessories~~ components in $ value
Items ~~Specialized~~ machinery, equipment, gear, and ~~specially designed parts and accessories~~ components "required" therefor ... ~~specially designed~~ "required" for .
d... ~~capable of~~ rated for **...**
n... implements ~~or accessories~~ ~~of the kinds exclusively designed for use in~~ "required" for the manufacture of ...

**2B104**
~~Designed to achieve and maintain~~ a controlled thermal environment ...

**2B105**
densification of carbon-carbon composites. ...

**2B109**
a.1 ~~According to the manufacturer's technical specifications, can be equipped with~~ Rated for "numerical control" units ... ...
~~b~~~~Specially designed~~ components "required" for ...

**2B116**

aerial vehicles ~~capable of achieving~~ rated for a "range" equal to or greater than 300 km, and their subsystems~~,~~ and components "required" therefor...

components.)

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

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

**2B117**

**2B119**

a.1 Not ~~capable of~~ rated for ...

a.2 ~~Capable of~~ Rated for

a.3 ~~Capable of~~ Rated for

a.4 ~~Capable of~~ Rated for

Note: 2B119.a. does not control balancing machines ~~designed or modified~~ rated for

...

Indicator heads ~~designed or modified for use with~~ rated for

**2B120**

b~~Designed 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 ... ...

**2B121**

Note: 2B121 does not control rotary tables ~~designed or modified~~ rated for ...

**2B122**

~~modified~~ sliprings or integrated non-contact devices "required" for such centrifuges and ~~capable of~~ rated for ...

**2B201**

rated to ...

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

aMachine tools for turning~~, that have~~ rated:for

machining only ..

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

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

**2B204**

Dies, molds, and controls, ~~specially designed~~ "required" for "isostatic presses"

controlled by 2B204.a..

**2B206**

ECCN Controls: (1) Machine tools ~~that can be used as~~ rated for measuring ~~machines~~

**2B207**

a.

b

**2B209**

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

a.2 ~~According to the manufacturer's technical specifications, can~~ Rated to ...

b.

**2B225**

Related Controls: ...(3) Remote manipulators ~~specially designed or prepared for use in~~ as defined by NRC for fuel reprocessing ...

a.

b. ~~A capability of~~ "Required" for bridging ...

**2B226**

semiconductor wafers.

a.1 ~~Capable of~~ Rated for operation above ...

a.3 ~~Designed~~ 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.

**2B227**

Consumable electrode ~~capabilities~~ between ...

a.2 ~~Capable of~~ Rated for operating with ...

b.2 ~~Capable of~~ Rated for operating ...

c. Computer control and monitoring systems ~~specially configured~~ "required" for ...

**2B229**

Centrifugal balancing machines ~~designed~~ rated for ... and

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

a.3 ~~Capable of~~ balancing speed ...

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

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

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

**2B230**

**2B231**

for
c

**2B232** Multistage light gas guns ... ~~capable of~~ rated for accelerating projectiles ...

**2B290**
a.

**2B350**
~~Specially designed for use in~~ rated for ... and (2) ~~inappropriate, by the nature of its design,~~ not "required" for
b
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 ...
e Distillation or absorption columns ...and liquid distributors, vapor distributors or liquid collectors ~~designed~~ "required" for such distillation or absorption columns, ...
g Valves ... and casings (valve bodies) or preformed casing liners ~~designed~~ "required" for such valves ...
i Multiple-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 ...
j Incinerators ~~designed~~ "required" to destroy "chemical warfare agents", chemical weapons precursors controlled by 1C350, or ~~chemical munitions having specially designed~~ waste supply systems~~,~~ "required" for chemical munitions or ~~special~~ handling facilities "required" therefor, ~~and~~ rated for an average combustion chamber temperature ...

**2B351**
therefor
Related Controls: ... Also see ECCN 1A004, which controls chemical detection systems

and ~~specially designed~~ components ~~that are specially designed or modified~~ for detection or identification of chemical warfare agents~~, but not specially designed for military use~~

(1A004, rather than 2B351, should determine 1A004 wording.)

a ~~Designed~~ 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/$m^3$

b ~~Designed~~ Rated for the detection of cholinesterase-inhibiting activity.

**2B352**

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" ...

**2B991**

... ~~specially designed~~ "required" ...

b,2 ~~Capable of~~ Rated for

b,3 ~~Capable of~~ Rated for

c. ... ~~, according to the manufacturer's technical specifications, can be equipped with~~ rated for ...

c.1 Two or more axes ~~that can be~~ coordinated simultaneously ...

d. ... ~~, according to the manufacturer's technical 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 ...

**2B992**

**2B993**

**2B997**

**2B998**

c ~~Specially 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 ...

**2B999**

Electroplating equipment ~~designed~~ "required" for ...

j Pumps ~~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.~~

**2D001**

NP applies to ~~specially designed or modified~~ "software" for ... and to ~~specially designed~~ "software" for ...

equated with "required," there would be no need to distinguish between NP software for 2B001 and NP software for 2B004, 2B007, or 2B009.)

**2D002**

~~enabling such devices or systems to function as a~~ "requjired" for "numerical control" unit, ~~capable of~~ rated for coordinating simultaneously more than 4 axes for "contouring control"
Note 1: 2D002 does not control "software" ~~specially designed or modified~~ rated for ...

**2D018**

controlled by 2B018

**2D101**

NP applies to "software" ~~specially designed~~ for the "use" of ...

**2D201**
**2D202**
**2D290**
**2D351**

detecting components "required" therefor...

**2D983**
**2D984** "Software" "required" for ...
**2D991**
**2D992**

"Software""required" to provide

a.2 ~~Capable of~~ Rated for generating or modifying ... ...

rescheduling ...

**2D994**

**2E003**

~~designed or modified~~ for densification ...

(2E003 should not determine wording for other ECCNs.)

a. "Technology" "required" for ...

b. "Technology" for the design of tools, dies or fixtures ~~specially designed~~ "required" for any

of the following

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 ... is not controlled ...

**2E018**

**2E994**

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)

a. Change specially designed to "required" 2A291.b,c,e. 2B001.f, 2B005, 2B006.b.1.d, 2B007. 2B007.b, 2B018 items, 2B109, 2B116.b, 2B207a,.b, 2B226.b, 2B350.j, 2B352.h.3, 2B352 Technical Note 3, 2B991.b, 2B999.k, 2D201, 2D991, 2D994. 2E003.b

b.

rated 2A991.a.2, b.1

c. Delete specially designed 2A291.e, 2B007.c

Delete specially designed for military use 2B351 Related Controls

2. Limit controlled components referred to as components

a Change specially designed parts to components "required" therefor 2A994

. Change specially designed to "required" 2B001, 2B003, 2B004, 2B005, 2B109.b, 2B992

Change specially designed parts and accessories to components "required" 2B018 items

c. Delete specially designed components 2B109.b, 2B351 Related Controls

3. Limit controlled contained items not using the word component

a Change specially designed to "required" (assemblies for machine tools) 2B008

c Delete parts 2A983, 2A984

Delete parts and accessories 2B018 Unit

Delete accessories 2B018.n

4 Limit what is excepted from control

b. Change specially designed to rated (except clause) 2B001.a Note, 2B005 Related Controls, 2B007.b Note, 2B201.c Note c, 2B207 ECCN Controls, 2E003 Note 17

Change specially designed for use in to rated for (except clause) 2B350 (1)

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters

a.

2D202, 2D290, 2D983

c.

2A291 Related Controls (5)

Delete specially designed or modified 2B351 Related Controls, 2D001 NP applies

4. Limit what is excepted from control

a.

**C. Specially designed or prepared**

1. Limit controlled item to the controlled parameters

a Change specially designed or prepared to as defined by NRC 2A291 Related Controls (4), 2A292 Related Controls, 2B225 Related Controls, 2B231 Related Controls

Change specially designed, prepared, or intended for use with to as defined by

NRC 2A290
Change specially designed or prepared for use with to as defined by NRC for 2A291.d

**D Designed or modified**

1. Limit controlled item to its controlled parameters

a. Change designed or modified to "required" 2B105, 2B117

b. Change designed or modified for use with to rated for 2B119.b

Change designed or modified to rated 2B120.b

c. Delete designed or modified 2B005 Related Controls (3), 2E003 Related Controls

4. Limit what is excepted from control

a. Change designed or modified to rated (except clause) 2B119.a Note, 2B120 Note, 2B121 Note

**E. Usable in or capable of**

1. Limit controlled item to the controlled parameters

a Change intended for use with to "required" for 2A290.b

Change intended for use with to "required" for 2A291.a

Change usable to "required" 2B116

Change can be used to "required" 2B225

Change a capability of to "required" 2B225.a,b

Change for use in to "required" for 2B350.b

Change capable of use to "required" 2B352

b.

2B116.a, 2B119.a.2, a.3, a.4, 2B120, 2B120.c.1.a, 2B121, 2B122 2x. 2B209, 2B226.a.1, 2B227.a.2, b.2, 2B231.c, 2B232, 2B290.a, 2B352.b,c, d.1, g, 2B991.b.2,3, 2B993, 2B997, 2D002, 2D992.a.2

Change suitable to rated 2A292.a

Change manufactured for use at to rated for 2A991.a.1

Change can be used to rated 2B006 Note, 2B206 ECCN Controls

Change capable to rated 2B007.a

Change capable of upgrading, according to the manufacturer's specifications to rated 2B008.c

Change will be used only by to rated 2B018 GBS

Change capable of achieving to rated for 2B116, 2B230

Change that have to rated for 2B201.a

c. Delete capability 2B006.b.1.d, 2B229.a.2, b.2

Delete capable of 2B229.a.3, b.3, 2D002

Delete usable 2B351.a

. Delete that can be 2B991.c.1, d.1,2

Delete for use in 2D001 NP applies

3. Limit controlled contained items not using the word components

a.

"required" (printed circuit boards for "numerical control" units, machine tools, or feedback devices) 2B998.c

4. Limit what is excepted from control

a Change capable of to rated for (except clause) 2B119.a.1

F. **Designed**

1. Limit controlled item to the controlled parameters

a Change designed or intended for use in to "required" for 2A290.a

Change exclusively designed for use in to "required" 2B018.n

Change designed to "required" 2B209.b, 2B350.j, 2B999.i

b. Change designed to rated 2A293, 2B007.d, 2B226, 2B226.a.3, 2B229.a, 2B229.b, 2B351.a,b (Total 8)

c. Delete designed to achieve and maintain 2B104.b

Delete designed for industrial services and for use 2B999.j

3. Limit controlled contained items not using the word components

a. Change designed to "required" (impellers, blades, or shafts for agitators) 2B350.b

Change designed to "required" (tubes, plates, coils or blocks (cores) for heat exchangers or condensers) 2B350.d

Change designed to "required" (liquid distributors, vapor distributors or liquid collectors for distillation or absorption columns) 2B350.e

Change designed to "required" (casings (valve bodies) or preformed casing liners for valves 2B350.g

Change designed to "required" (casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles for multiple-seal and seal-less pumps) 2B350.i

4 Limit what is excepted from control

a. Change designed specifically as to rated for 2B001.a Note b

Change designed to use to rated for 2B006.b.1 Note

Change inappropriate, by the nature of its design to not "required" 2B350 License Requirement Note (2)

G **Miscellaneous expressions**

1. Limit controlled item to the controlled parameters

a Change related to to "required" for 2A291

Change dedicated to "required: 2D351

b Change according to the manufacturer's technical specifications can be equipped with to rated for 2B001, 2B009, 2B109.a.1, 2B991.c,d (Total 5)

Change according to the manufacturer's technical specifications can to rated

2B201, 2B209.a.2
Change manufacturer's specified to rated 2B350.i 2x
c Delete specific 2A999

2. <u>Limit controlled components referred to as components</u>
a Change dedicated to "required" (components) 2B351, 2D351
3. <u>Limit controlled contained items not using the word components</u>
a Change special to "required" (handling facilities for incinerators or waste supply systems) 2B350.j
4. <u>Limit what is excepted from control</u>
b Change special purpose limited to to rated for (except clause) 2B001 Notes 1, 2

Change limited to rated (except clause 2B201.a Note
Change which only provides to rated to provide (except clause) 2D992.a Note

H **Replace absence of any expression**
1. <u>Limit controlled item to the controlled parameters</u>
a Add "required" 2A226 Related Controls, 2A293 Related Controls, 2A999 Related Controls, 2B228 Related Controls, 2B229 Related Controls, 2B999 Related Controls, 2D002, 2D018, 2D984, 2D992.a, 2D101 NP applies, 2E003.a, b.1, c,d,e, 2E018
b Add rated 2B350.j
2. <u>Limit controlled components referred to as components</u>
a Add "required" 2A983, 2A984, 2A994,, 2B116
3. <u>Limit controlled contained items not using the word components</u>
a Add "required" (for subsystems) 2B116

June 7, 2011

**Specially Designed Issues CCL Category 3**

**3A001** Electronic components and ~~specially designed~~ components "required" therefor...
MT applies to 3A001.a.1.a ~~when usable in~~ "required " for "missiles"; and to 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.
Related Controls: ... (2) The following commodities are also under the export licensing authority of the Department of State ...(c) ~~All specifically designed or modified systems or subsystems, components, parts, accessories, attachments, and associated equipment~~ items controlled by Category XV(e) of the USML.....
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 ...
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 ...
Note 1: 3A001.b.4 does not control broadcast 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 ...
d Electronic devices and circuits containing components, manufactured from "superconductive" materials ~~specially designed~~ rated for ...
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 solenoids ~~specially designed~~ rated to ...
Note: 3A001.e.3 does not control "superconductive" electromagnets or solenoids ~~specially designed~~ rated for ...
Note 2: 3A001.g does not control ... equipment ~~designed~~ rated for ...
Note 3: 3A001.h does not apply to ... equipment ~~designed~~ rated for ...

**3A002** General purpose electronic equipment ~~and accessories, therefor~~ ...
a ... 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 ... recorders ~~specially designed~~ rated for ...

f.2 ~~Being capable of~~ Rated for ...

**3A003 ...** systems ... ~~using specially designed~~ with spray nozzles ~~that are designed~~ rated to ... and ~~specially designed~~ components "required" therefor

3A101 a. Analog-to-digital converters, ~~usable in~~ "required" for ..."missiles", ~~designed to meet military specifications~~ rated for ...

b Accelerators ~~capable of~~ rated for ...

Note: 3A101.b does not ~~include~~ control equipment ~~specially designed~~ rated for ...

3A201 Related Controls: ... (3) ... ~~specially designed or prepared~~ as defined by NRC for

b.1 ~~Capable of~~ Rated for ...

Note: 3A201.b does not control magnets ~~specially designed~~ rated for ...

Note: 3A201.c does not control accelerators that are ~~component parts~~ components of devices ~~designed~~ rated for ... nor those ~~designed~~ rated for medical purposes.

3A225 Related Controls: ... (2) ... ~~specially designed or prepared for use in~~ as defined by NRC for

... a. A multiphase output ~~capable of~~ rated for providing power ...

b ~~Capable of~~ Rated for operating ...

3A226 Related Controls: ... (3) ... ~~specially designed or prepared for use in~~ as defined by NRC for

... a ~~Capable of~~ Rated for ...

**3A227** Related Controls: ... (3) ... ~~specially designed or prepared for use in~~ as defined by NRC for ...

a ~~Capable of~~ Rated for ...

**3A229** a Explosive detonator firing sets ~~designed~~ rated to ...

b.1 ~~Designed~~ Rated for ...

b.3 ~~Capable of~~ Rated for ...

b.8 ~~Specified for use~~ Rated to operate ... or ~~specified as suitable~~ rated for ...

**3A231** Unit: Number~~; parts and accessories in $ value~~

Items

a ~~Designed~~ Rated for operation ...

**3A232** Related Controls: ... (3) High explosives and related equipment ~~for military use~~ controlled by USML Category V(a) are subject to the export licensing authority of the U.S. Department of State ...

b ~~Arrangements using~~ single or multiple detonators ~~designed~~ "required" to ...

**3A233** Mass spectrometers ... ~~capable of~~ rated for ... and ion sources "required" therefor. ...
Related Controls: ... (2) Mass spectrometers ~~specially designed or prepared~~ as defined by NRC for

f Mass spectrometers equipped with a microfluorination ion source ~~designed~~ rated for ...

**3A292** ... and ~~speciaally designed~~ components "required" therefor ...

d ... ~~capable of~~ rated for storing ...

Note: ~~Specially designed~~ components controlled by this item are the following, when "required" for ...

**3A980** Voice print identification and analysis equipment and ~~parts, n.e.s.~~ components "required" therefor

**3A981** Polygraphs ... and ~~specially designed parts and accessories, n.e.s.~~ components "required" therefor

**3A991** 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 ...

**3A992** c Equipment, ..., ~~designed~~ rated to convert digital video magnetic tape recorders ~~for use as~~ to digital instrumentation data recorders

**3A999** Related Controls:... frequency ~~changes capable of~~ changers rated for operating ...

a Frequency changers ~~capable of~~ rated for operating ...

c All flash x-ray machines, and components of pulsed power systems ~~designed thereof~~ rated therefor, ...

**3B001** ... and ~~specially designed~~ components ~~and accessories~~ "required" therefor.

a Equipment ~~designed~~ rated for epitaxial growth, as follows;

a.1 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 ...

b.3 Direct write ~~capability~~
c.1.a ~~Designed or optimized~~ Rated to produce critical dimensions ...
c.1.b ~~Designed~~ Rated for generating less than ...
c.2 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~~ rated 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 ...

i Imprint lithography templates ~~designed~~ rated for integrated circuits controlled by 3A001

**3B002** Test equipment ~~specially designed~~ "required" for testing finished or unfinished semiconductor devices as follows ... and ~~specially designed~~ components ~~and accessories~~ "required" therefor

**3B991** ... and ~~specially designed~~ components ~~and accessories~~ "required" therefor
Unit: ... ~~and accessories~~ ...
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 ...

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 ~~capability~~

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 based 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** Equipment ~~specially designed~~ "required" for the inspection or testing ... and ~~specially designed~~ components ~~and accessories~~ "required" therefor

a Equipment ~~specially designed~~ "required" for the inspection ... ~~and specially designed components therefor controlled by 3A001 or 3A991~~

(Components controlled in other ECCNs do not needed to be controlled by 3B992.)

b Equipment ~~specially designed~~ "required" for the inspection ...

Note: 3B991.b ...controls equipment ~~used or modified for use in~~ "required" for ... .

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 ~~Specially designed~~ "stored program controlled" measuring and analysis

equipment~~, as follows~~ "required" for the following:

b.2.a ~~Specially designed for the~~ measurement of oxygen or carbon content ...

("Required" in b.2 does not need to be repeated in b.2.a.)

b.2.c ~~Specially designed for~~ flatness measurement ...

("Required" in b.2 does not need to be repeated in b.2.c.)

b.3.b ~~Capable of~~ Rated for testing devices having ... ...

b.3.c ~~Capable of~~ Rated for testing at ...

b.4.a ... equipment ~~specially designed~~ "required" ...and ... dice, ~~capable of~~ rated for ...

b.4.b ... equipment ~~specially designed~~ "required" ... and "electronic assemblies" thereof, ~~capable of~~ rated for ...

b.4.b.2 ... ~~capable of~~ rated for testing packages...

Note: 3B992.b does not control test equipment ~~specially designed~~ rated for ...:

b.4.c Equipment ~~specially designed~~ "required" ...

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 ...

**3C002** a Positive resists ~~designed~~ "required" for semiconductor lithography ~~specially adjusted (optimized) for use~~ at wavelengths below 245 nm.

b ... resists ~~designed for use with~~ "required" for electron beams or ion beams, with

c ... resists ~~designed for use with~~ "required" for X-rays, with ...

d ... resists ~~optimized~~ "required" for surface imaging ...

e ... resists ~~designed or optimized for use with~~ "required" for imprint lithography

**3C992** Positive resists ~~designed~~ "required" for semiconductor lithography ~~specially adjusted (optimized) for use~~ at wavelengths between 370 and 245 nm.

**3D001** "Software" ~~specially designed~~ "required" for ...

Related Controls:"Software"~~specially designed~~ also described in the USML ...

**3D002** "Software" ~~specially designed~~ "required" ...

**3D003** 'Physics-based' simulation "software" ~~specially designed~~ "required" for ...

**3D004** "Software" ~~specially designed~~ "required" for ...

**3D101** “Software” ~~specially designed or modified~~ “required” for ...

**3D980** “Software” ~~specially designed~~ “required” for ...
**3D991** “Software” ~~specially designed~~ “required” for the “development”, “preoduction”, or “use” of ... or “software” ~~specially designed~~ “required” for the “use” of ...

**3E001** TSR: Yes except N/A for ... “technology” ~~specially designed~~ “required” for ...

**3E002** CIV: ... License Exception CIV does not apply to ECCN 3E002 technology also ~~required~~ “required” for ...
a. A ‘vector processor unit’ ~~designed~~ rated to perform ...
b ~~Designed~~ Rated to perform
c ~~Designed~~ Rated to perform
...
**3E003** Other “technology” “required” for ...

**3E980** “Technology” ~~specially designed~~ “required” for ...

**3E991** “Technology”“required” for ...

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" 3A001.c, 3B001.a.2, c.2, d.2, f.3, 3B002, 3B991.a, b, b Note, b.1.b, b.1.g, b.1.k.1, b.1.k.2, b.1.l, b.2.b.2, b.2.c, b.2.c Note, b.3.a.1, b.3.c, 3B992, 3B992.a, b, b.1 Note, b.2, b.4.a, b.4.b, b.4.c, b.5 Note, b.6, 3D001, 3D002, 3D003, 3D004, 3D980, 3D991 2x, 3E001 TSR, 3E980.
     Change being specially designed and optimized to "required" 3B001.b.2
     Change specially designed and capable of to "required" 3B991.b.1.f
   - b. Change specially designed to rated 3A001.d, e.3., 3A991.k, l, 3B991.b.1.h.1 Note 1, b.1.h.2 Note 2
   - c Delete specially designed 3B992.b.2.a, b.2.c, 3D001 Related Controls
2. Limit controlled components referred to as components
   - a. Change specially designed to "required" 3A001, 3A001.c, 3A003, 3A292, 3A292 Note, 3B001, 3B002, 3B991, 3B992
     Change specially designed parts and accessories, n.e.s. to components "required" therefor 3A981
   - c Delete specially designed 3B991.a, 3B992.a
     Change parts, n.e.s. to components "required" therefor 3A980
3. Limit controlled contained items not using the word components
   - a. Change specially designed to "required" (test tape for recorders) 3A002.a
   - c Delete specially designed (nozzles of cooling systems) 3A003
     Delete accessories 3A002, 3B001, 3B002, 3B991, 3B991 Unit, 3B992
     Delete parts and accessories 3A231 Unit
4. Limit what is excepted from control
   - b Change specially designed to rated 3A001.b.2 Note 3, e.3 Note, 3A002.a.1 Note, a.2 Note,.3A101.b Note, 3A201.b Note, 3B992.b Note
   - c. Delete specially designed 3B991.b.1 Note
     Change component parts to components (accelerators in medical devices) 3A201.c Note

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or modified to "required" 3B991.b.1.j, 3D101
2. Limit controlled components referred to as components
   - c. Delete specifically designed or modified 3A001 Related Controls
3. Limit controlled contained items not using the word components
   - c. Delete specifically designed or modified 3A001 Related Controls

**C. Specially designed or prepared**

- a Change specially designed or prepared to "required" 3A201 Related Controls, 3A233 Related Controls
  Change specially designed or prepared for use in to "required" for 3A225

Related Controls, 3A226 Related Controls, 3A227 Related Controls

**D Designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - c Delete "designed or modified" for military use 3A001 MT applies

**E. Usable in or capable of**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change when usable in to "required" for 3A001 MT applies
     Change used or modified for use in to "required" 3B991.b.1 Note, 3B992.b Note
   - b Change capable of to rated for 3A002.f.2, 3A101.b**,** 3A201.b.1, 3A225.a, b, 3A226.a, 3A227.a, 3A229.b.3. 3A233, 3A292.d, 3A999 Related Controls, 3A999.a, 3B001.a.1, f.1.b, f.3.b.2, 3B991.b.1.c.1, b.1.c.2.b, b.1.c.2.c, b.1.d.1, b.1.d.2, b.1.g.4, b.2.d.1, b.2.d.2, b.2.f, b.2.g, b.2.h, b.4, 3B992.b.3.b, b.3.c, b.4.a, b.4.b, b.4.b.2, b.7.a, b.7.b
     Change specified for use to rated to operate 3A229.b.8
   - c Delete for military use 3A232 Related Controls
     Delete arrangements using 3A232.b
     Delete for use as 3A992**.**c
     Delete capability 3B001.b.3, 3B991.b.1.g.1, 3B992.b.5.a
     Change capabilities to characteristics 3B991.b.1.i
     Change used or modified for use in to "required" 3B991.b.1 Note
     Delete specially adjusted (optimized) for use 3C002.a, 3C992
3. Limit controlled contained items not using the word compone8nts
   - a. Change usable in to "required" for (analog-to-digital converters in "missiles") 3A101.a

**F. Designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a. Change designed to "required" 3A232,b,3B001.b, 3C002.a, 3C992
     Change designed for use with to "required" for 3C002.b, c
     Change designed or optimized for use with to "required" 3C002.e
   - b Change designed to rated 3A001.a.2, a.6, b.1.c, b.7, b.10, e.1.a Technical Note 3, e.1.b Technical Note 4, 3A003, 3A229.a, b.1, 3A231.a , 3A233.f, 3A992.c, 3B001.a, c.1.b, c.2.b, e.2, g, k, 3B992.b.4.c.2, b.4.c.3, b.5, b.7, 3E002.a, b, c
     Change designed to meet military specifications to rated 3A101.a
     Change designed or optimized to rated 3B001.c.1.a, c.2.a
     Change designed according to the manufacturer's specifications or optimized for use in to rated 3B001.d.1
     Change their design is based on to rated 3B991.b.2.a.2.a
     Change design does not to not rated 3B991.b.2.a.2.b
   - c Delete designed 3A001.a.1.
2. Limit controlled components referred to as components

b Change designed thereof to rated therefor 3A999.c

4. Limit what is excepted from control

b Change designed to rated 3A001.g Note 2, h Note 3, 3A201.c Note 2x, 3B001.e Note, 3B001.h Note

c Delete designed 3A001.b.1 Note 1, b.1 Note 2(b), b.2 Note 1, b.4 Note 1, b.8 Note

**G Miscellaneous expressions**

1. Limit controlled item to its controlled parameters (excluding components)

a Change optimized to "required" 3C002.d
Change required to "required" 3E002 CIV

b Change optimized to rated 3B991.b.1.g.3

4. Limit what is excepted from control

b Change limited to to rated for 3A001.c Note
Change specified as suitable to rated 3A229.b.8

c Delete general purpose 3B991.b.2.e Note, 3B992.b.1 Note

H **Replace absence of any expression**

1. Limit controlled item to its controlled parameters (excluding components)

a Add "required" 3E003, 3E991

3. Limit controlled contained items not using the word components

a Add "required" (ion sources for mass spectrometers) 3A233

June 6, 2011

**Specially Designed Issues CCL Category 4**

**4A001** ...and "electronic assemblies" and ~~specially designed~~ components "required" therefor.
Related Equipment .... Equipment ~~designed or rated~~ "required" for
Items
a. ~~Specially designed~~ Rated
a.1 ~~Rated for~~ operation at an ambient temperature ...
Note: 4A001.a.1 does not apply to computers ~~specially designed~~ rated for ...

**4A003 ...** ~~specially designed~~ components "required" therefor
GBS: ... ~~specially designed~~ components "required" therefor, ...
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:
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 1. 4A003.c ... does not apply to "electronic assemblies" ~~inherently limited by nature of their design for use as~~ "required" for related equipment controlled by 4A003.e
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** ... ~~specially designed~~ related equipment, "electronic assemblies" and components "required" therefor

**4A101 ...** ~~designed or modified for use in~~ "required" for "missiles"...
b ~~Designed~~ Rated as ruggedized or 'radiation hardened'.

**4A102** "Hybrid computers" ~~specially designed~~ "required" for ...

**4A994** ... and ~~specially designed~~ components "required" therefor

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

Note 1:N.B. 1: ... 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:...

c.1 ~~Designed to be capable of~~ Rated for aggregation ...

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 ...

**4D001** a "Software" ~~specially designed or modified~~ "required" for ...

b "Software" .... ~~specially designed or modified~~ "required" for ...

b.2 "Electronic assemblies" ~~specially designed or modified~~ "required" for:

**4D002** "Software" ~~specially designed or modified~~ "required" to support "technology" ...

TSR: Yes, except N/A for "software" ~~specifically designed or modified~~ "required" to support "technology" for computers requiring a license.

**4D980** "Software" ~~specially designed~~ "required" for ...

**4D993** ... that are ~~specially designed~~ "required" for real time processing equipment ...

a ... ~~and designed or modified~~ "required" for ...

c Operating system "software" ~~specially designed~~ "required" for ...

**4D994** "Spftware" ... ~~specially designed or modified~~ "required" for ...

**4E001** b "Technology" ... ~~specially designed or modified~~ "required" for ...

b.2 "Electronic assemblies" ~~specially designed or modified~~ "required" for ...

**4E980** "Technology" "required" for ... 4A980

**4E992** "Technology" ... "required" for ...

**4E993** "Technology""required" for the "development" or "production" of equipment ~~designed~~ "required" for "multi-data-stream processing"

.

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" 4A003 GBS, 4A003.g, 4A102,4D980, 4D993, 4D993.c
   - b Change specially designed to rated 4A001.a
   - c Delete rated 4A001.a.1
2. Limit controlled components referred to as components
   - a Change specially designed to "required" 4A001, 4A003, 4A004, 4A994
3. Limit controlled contained items not using the word components
   - a Change specially designed to "required" (related equipment and "electronic assemblies" for computers) 4A004
   - c Delete parts and accessories 4A994 Unit
4. Limit what is excepted from control
   - b Change specially designed to rated 4A001 Note, 4A003.c Note 2.

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or modified to "required" 4D001.a, b, b.2, 4D002, 4D002 TSR, 4D994, 4E001.b, b.2
   - b Change specially designed or modified to be capable of to rated 4A003.c

**D Designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed or modified for use in to "required" 4A101
   - c Delete designed or modified 4A003.b
4. Limit what is excepted from control
   - c Delete designed or modified 4A003.a Note

**F. Designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed to "required" 4E993
     Change inherently limited by nature of their design for use as to "required" for 4A003.c Note 1
   - b Change designed to rated 4A101.b

**G Miscellaneous expressions**

1. Limit controlled item to its controlled parameters (excluding components)
   - c Delete functions limited to those required 4A994 Note 1 NB 1

**H Replace absence of any expression**

1. Limit controlled item to its controlled parameters (excluding components)
   Add "required" 4E992, 4E993

June 7, 2011

## Specially Designed Issues: CCL Category 5

**Category 5 - "Telecommunications" and "Information Security"**
**Part 1 "Telecommunications"**
Note 1: ... ~~specially designed~~ "required" for
N.B. For "lasers" ~~specially designed~~ "required" for ...
Note 2: ... ~~specially designed~~ "required" components ...

**5A001** ... ~~and accessories~~

Unit: ... ~~and accessories~~ ...

a.1 ~~Specially designed~~ "Required" to withstand ...

a.2 ~~Specially hardened~~ "Required" to withstand ...

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~~ rated 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~~ "required" 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 ...

**5A101** ... ~~designed or modified~~ "required" for ... ~~capable of~~ rated for

Note: 5A101 does not control:

1, Telecontrol equipment ~~specially designed~~ rated ~~to be used~~ for

2. Equipment ~~designed or modified~~ rated for.

3. Ground-based equipment ~~designed or modified~~ rated for

4. Equipment ~~designed~~ rated for

Note: Item 5A101 does not include items not ~~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 (e.g., telemetry circuit cards ~~limited by design to~~ rated for reception only and ~~designed for use in~~ rated for personal computers~~)~~.

**5A980** Devices ~~primarily useful~~ "required" for the surreptitious interception of wire, oral, or electronic communications; and ~~parts and accessories~~ components "required" therefor

**5A991** 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 jurisdictional Note. The phrase "for civil use" suggests the former. However, "in any satellite system" suggests the latter (see existing Related Controls text). If the latter, then "required", rather than rated, and deletion of for civil use is suggested.)

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~~ rated for "network access controllers" or to "network access controllers" themselves.

c.6 ~~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

**5B001** Telecommunication test, inspection and production equipment, components ~~and accessories,~~ as follows (See List of Items Controlled).

Unit: ... ~~and accessories~~

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.

**5C991** ... ~~optimized~~ "required" for ...

**5D001** 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 ...
d.1 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** "Software" ~~specially designed or modified~~ "required" for ...

**5D980** a. "Software" ~~primarily useful~~ "required" for the surreptitious interception of ...
b. "Software" ~~primarily useful~~ "required" for the "development" ...

**5D991** "Software"~~specially designed or modified~~ "required" for ...
~~a.~~ "Software"... ~~specially designed~~ "required" for "dynamic adaptive routing".

**5E001** 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 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~~ rated for operation 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 ...

**5E980** "Technology" ~~primarily useful~~ "required" for

**5E991** a.1 "Technology" "required" for the processing and application of coatings to optical fiber ~~specially designed to make it suitable~~ for underwater use;
a.2 "Technology" "required" for ...

**Part 2 - "Information Security"**

Note 4: ... a.2 ... ~~parts and~~ components ...

**5A002** 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 designed 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 ...

(f) Cordless telephone equipment not ~~capable of~~ rated for ... ~~according to the manufacturer's specifications~~;

(g) ... devices ~~for civil use~~ ...

(i) ... ~~capability is limited to~~ function is rated for ... ~~according to the manufacturer's specifications~~..

a ... and components therefor ~~specially designed~~ "required" for ...

a.1 ~~Designed or modified to use~~ "cryptography" ... and ~~having~~ rated for any of the following:

a.2 ~~Designed or modified~~ Rated to ...

a.4 ~~Specially designed or modified~~ Rated to ...

a.5 ~~Designed or modified~~ Rated to ...

a.6 ~~Designed or modified~~ Rated to ... and ~~having~~ rated to have any of the following

a.8 Communications cable systems ~~designed or modified using~~ rated for ...

a.9 ~~Designed or modified~~ Rated to ...

b ... ~~designed or modified~~ "required" ...

**5A992** b ... and components "required" therefor.

**5B002** a. Equipment ~~specially designed~~ "required" for ...

b. Measuring equipment ~~specially designed~~ "required" to ..

**5D002** Related Definitions: 5D002.a controls "software" ~~designed or modified to use~~ "required" for ...

a "Software" ~~specially designed or modified~~ "required" for ...

b "Software" ~~specially designed or modified~~ "required" to ...

d "Software" ~~designed or modified to enable an item to achieve or exceed the controlled performance levels for functionality specified by~~ "required" for ...

**5D992** Related Controls: This entry does not control "software" ~~designed or modified~~ rated to ...

a. "Software" ~~specially designed or modified~~ "required" for ...

## Recapitulation

**A._ Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" Category 5 Part 1 Note 1, Note 1 NB, 5A001.a.1, g, 5B001.a, b, 5D991.a
     Change specially designed to be used on board to "required" for 5E001.b.1
     Change specially designed to make it suitable to "required" 5E991.a.1
   - b Change specially designed to rated 5A001.a.3, 5A991.a, 5E001.e
2. Limit controlled components referred to as components
   - a Change specially designed to "required" Category 5 Part 1 Note 2, 5A001.b, e, f, 5A991.c, 5B001.a, b, 5E001.e, 5A002.a, b, 5B002.a, b
3. Limit controlled contained items not using the word components
   - c Delete accessories 5A001 Unit,.b, c, c.2, 5A991.c, 5B001, 5B001 Unit, a, b
     Delete parts and accessories 5A980
     Delete parts Category 5 Part 2 Note 4.a.2
4. Limit what is excepted from control
   - b Change specially designed to rated 5A001.b.3.b Note, b.5 Note, 5A991.b.1 Note, b.7 Note,5B001.b.2.d Note
     Change specially designed to be used to rated 5A101 Note 1
     Change specially designed and limited to rated 5A002 Note (a)(1)1, (d)

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or modified to "required" 5A001.f, 5D001.a, b, c, d, 5D101, 5D991, 5D002.a, b, 5D992.a
   - b Change specially designed or modified to rated 5A002.a.4
4. Limit what is excepted from control
   - b Change specially designed or modified to rated 5D001.d.2.b Note
     Change specially designed or modified and limited to rated 5A002 Note (a)(2)

**D Designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed or modified to use to "required" 5D002 Related Definition
     Change designed or modified to enable an item to achieve or exceed the controlled performance levels for functionality specified by to "required" for 5D002.d
   - b Change designed or modified to rated 5A002.a.2, a.5, a.6, a.9
     Change designed or modified for use to rated for 5A002.a.1
     Change designed or modified using to rated for 5A002.a.8
     Change capabilities and modified to rated 5E001.b.3
4. Limit what is excepted from control
   - a Change designed or modified to "required" 5A001.h, 5A101, 5A101 Note

b Change designed or modified to rated 5A001.a.2 and a.3 Note, 5A101 Note 2, Note 3, 5E001.c.4.b Note, 5D992 Related Controls

**E. Usable in or capable of**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specified by the manufacturer as being capable of to "required" 5A001.c.1
   - b Change capability to rated 5A001.b.2.b, 5A101
     Change with the capability of to rated 5E001.b.2
4. Limit what is excepted from control
   - b Change capable of to rated for 5A101 Note
     Change restricted to using to rated 5A991.c.3 Note
     Change capable of according to the manufacturer's specifications to rated for 5A002 Note (f)
     Change capability is limited according to the manufacturer's specifications to rated for 5A002 Note (i)
   - c Delete capability 5A002 Not (a)(1)3
     Delete civil use 5A002 Note (e), (g)

**F. Designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - b Change designed to rated 5A001.c.2, 5A991.b.1, c.1, c.6, f, 5B001.b.1, 5D001.d.1
     Change designed for use at to rated for 5A991.h
4. Limit what is excepted from control
   - b Change designed to rated 5A101 Note 4
     Change limited by design to to rated for 5A101 Note
     Change designed for use in to rated for 5A101 Note

.

**G Miscellaneous expressions**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change primarily useful to "required" 5A980, 5D980.a, b, 5E980
     Change optimized to "required" 5C001
   - b change specially to rated to 5A001.a.2
     Change having to rated to have 5A002.a.6

**H Replace absence of any expression**

2. Limit controlled components referred to as components
   - a Add "required" 5A991.c.1, g, h, 5A992.b
     Add "required" components 5A980
3. Limit controlled contained items not using the word components
   - a Add "required" (assemblies) 5A991.c.1, h, 5E001.b.2, b.3, b.4, 5E991.a.2

**June 7**, 2011

**Specially Designed Issues CCL Category 6**

**6A001** LVS: $3,000; N/A for ...a.2.c ~~and specially designed for real-time application with towed acoustic hydrophone arrays~~ ... a.2.f ~~and having processsing equipment specially designed for real-time application with bottom or bay cable systems.~~

(These characteristics appear in a.2.c and a.2.f.)

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 for measuring ...

b.2 Pingers ~~specially designed~~ rated for ...

a.1.a.1 ... ~~designed~~ rated for

a.1.a.1.a ~~Designed~~ Rated to

a.1.a.1.b ~~Designed~~ Rated to

a.1.a.2 ... ~~designed~~ rated for

a.1.a.2.a ~~Designed or modified~~ Rated to

a.1.a.3 ... ~~designed~~ rated for

a.1.b.5 ~~Designed~~ Rated to

a.1.b.6 ~~Designed~~ Rated to

a.1.c ... operating individually or in a ~~designed~~ combination

(A combination is recognizable without the word "designed.")

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 Regulations (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:

Note ... and ~~specially designed~~ components "required" therefor

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 for any of the following:

c Diver deterrent acoustic systems ~~specially designed or modified~~ "required" to disrupt divers ...

**6A002** MT applies ... ~~specially designed or modified~~ "required" to protect ...and ~~usable~~ "required" for "missiles"

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~~ as defined in the USML;

a.2 ... and ~~specially designed~~ components "required" therefor, as follows:
a.2.b ~~Specially designed~~ components~~, as follows~~ "required" for the following:
b ... ~~designed~~ rated for
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:
d.3 Optical sensing fibers ~~specially fabricated~~ rated either compositionally or structurally, or ~~modified~~ by coating, to

Note: 6A002.d.3 does not apply to ... ~~specially designed~~ rated for ...

**6A003** Related Controls: ....(3) See ECCN 8A002.d and .e for cameras ~~specially designed or modified~~ for underwater use.

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 ...

Note: 6A003.b does not control television or video cameras ~~specially designed~~ rated for television broadcasting.

Note 2: 6A003.b.4 does not control imaging cameras ... ~~designed~~ rated for any of the following:

d ~~Equipment specially designed for~~ laboratory ~~use~~; or

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 ... and having all of the following: ...

1.b. ~~A specially designed~~ An authorized maintenance test facility

**6A004** Related Controls: (1) For optical mirrors or 'aspheric optical elements' ~~specially designed~~ for lithography equipment, see ECCN 3B001.

(3B001, rather than 6A004, should define this equipment.)

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** Related Controls:... (4) See ECCN 3B001.f.3 for excimer "lasers" ~~specially designed~~ for lithography equipment. (5) "Lasers" ~~specially designed or prepared for use in~~ as defined by NRC for 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 "super-high power laser" applications,~~ and "lasers" ~~specifically designed, modified, or configured for military application~~ as defined in the USML 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.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** "Magnetometers" ..., and ~~specially designed~~ components "required" therefor, as follows

Related Controls: ... This entry does not control ... ~~specially designed~~ rated for ...

a.1.a SQUID systems ~~designed~~ "required" for stationary operation, without ~~specially designed~~ subsystems ~~designed~~ 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** a. Gravity meters ~~designed or modified~~ “rated” for ...ground use ...
b Gravity meters ~~designed~~ rated for mobile platforms ...

**6A008** 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, which are described in 6A103 and 6A108.)

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~~ rated to be transmitted only one way from the radar site to one or more ~~civil~~ ASTC centers.

j.3 ~~Designed~~ Rated for ...

Note 1: LIDAR equipment ~~specially designed~~ for surveying is only specified by 6A008.j.3

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** Radiation hardened detectors ... ~~specially designed or modified~~ “required” for protecting against nuclear effects... and ~~usable~~ “required” for “missiles,” ~~designed or~~ rated to withstand radiation levels ...

**6A103** Radomes ~~designed~~ rated to ... ~~usable in~~ “required” for protecting “missiles” against nuclear effects ... and ~~usable~~ “required” for “missiles”.

**6A107** Gravity meters (gravimeters) ~~and specially designed components for gravity meters and gravity gradiometers~~, as follows (see List of Items Controlled, and components “required” therefor

a Gravity meters (gravimeters)... ~~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 “required” for gravity meters controlled in 6A007.b or 6A107.a and gravity gradiometers controlled in 6A007.c.

**6A108** Related Controls:(1) This entry does not control ... provided that they do not incorporate any of the following ... 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 ...

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 aerial vehicles ~~capable of achieving~~ rated for a "range" ...

b.2 Range instrumentation radars ... ~~with~~ rated for all of the following ~~capabilities~~:

**6A203** 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.)

a ... 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.b.3~~

(Strike thru text in b.4.d is redundant, repeating text from b.4.)

c ~~Radiation-hardened~~ TV cameras, or lenses "required" therefor, ~~specially designed or~~ rated as radiation hardened to withstand a total radiation dose ...

**6A205** Related Controls: ... (4) "Lasers" ~~specially designed or prepared~~ as defined by NRC for ~~use in~~ isotope separation are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

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** Velocity interferometers rated for measuring .....

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

**6A226** Unit: Equipment in number~~; parts and accessories in $ value~~

a Manganin gauges rated for pressures ...

b Quartz pressure transducers rated for pressures ...

**6A991** ... acoustic equipment ... ~~capable of~~ rated for ... and ~~specially designed~~ components

"required" therefor, n.e.s.

**6A992** 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.2 ~~Specially designed~~ microchannel plates ~~having~~ rated for ...

**6A994** Unit: Equipment in number; ~~parts and accessories in $ value~~

**6A995** Unit: Equipment in number~~; parts and accessories in $ value~~
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** "Magnetometers" ... sensors, and ~~specially designed~~ components "required" therefor ...
a. ... ~~having~~ rated for ...
b.1 ~~Designed~~ Rated for
b.2 ~~Designed~~ Rated for
b.3 ~~Having~~ Rated for ...
b.3.b ~~Designed~~ Rated for
b.3.c ~~Designed~~ Rated for
b.3.d ~~Having~~ Rated for ...

**6A997** Gravity meters (gravimeters) rated for ground use ...
a ~~Having~~ Rated for ...

**6A998** Radar ... and ~~specially designed~~ components "required" therefor.
a Airborne radar equipment~~, n.e.s., and specially designed components therefor~~.
b ... (LIDAR) equipment ~~specially designed~~ "required" for surveying or for meteorological observation

**6B004** a Equipment rated for measuring ...
b Equipment ... ~~having~~ rated for ... ~~specially designed~~ "required" for ...

**6B007** Equipment rated to produce, align and calibrate land-based gravity meters with a static accuracy of ...

**6B008** Pulse radar cross-section measurement systems ~~having~~ rated for transmit pulse widths of

100 ns or less, and ~~specially designed~~ components "required" therefor

**6B108** Systems, ... ~~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 "required" therefor

**6B995** ~~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.

**6C992** Optical sensing fibers ... ~~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** Unit: ~~Equipment in number; parts and accessories in $ value~~ Kilograms
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** "Software" ~~specially designed~~ "required" for ...
TSR: Yes, except for the following:
(2) "Software" ~~specially designed~~ for ...
(3) ... "software" ~~specially designed~~ for ...
(Repeating what is in the 6D002 item heading is redundant.)
Related Controls: "Software" ~~specially designed~~ defined in the USML for ... is subject to the export licensing authority of the Department of State ...

**6D002** "Software" ~~specially designed~~ "required" for the "use" ...
TSR:Yes, except ... (2) "Software" ~~specially designed~~ for ...
(Repeating what is in the 6D002 item heading is redundant.)
Related Controls: "Software" ~~specially designed~~ defined in the USML for ~~the "use" of~~ ... is subject to the export licensing authority of the Department of State ... See 6D991 for "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.

**6D003** 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 ...

N.B. For diver determination "software" or "source code" ~~specially designed or modified for military use~~ defined in the USML, see the U.S. Munitions List

c "Software" ~~designed or modified~~ "required" for cameras ... ~~and designed or modified~~ "required" to ...

f.1 ... ~~specially designed~~ "required"

f.2 ... ~~specially designed~~ "required"

f.3 ... ~~specially designed~~ "required" ...

g ... ~~specially designed~~ "required"

... h.1 ... ~~designed~~ rated ... and ~~capable of~~ rated for ...

h.2 "Software" "required" ...

h.2.a ... ~~specially designed~~ "required"

**6D102** "Software" ~~specially designed or modified~~ "required" for ...

**6D103** "Software" ~~that processes~~ rated to process post-flight, recorded data~~, enabling~~ rated for ... ~~specially designed or modified~~ "required" for "missiles"

**6D991** "Software" ~~specially designed~~ "required" for ...

**6D992** "Software" ~~specially designed~~ "required" for ...

**6D993** Unit ~~Equipment in number; parts and accessories in~~ $ value

a Air Traffic Control (ATC) "software" ...~~, and capable of~~ "required" for ...

**6D994** "Software" ~~designed or modified~~ "required" for ... ~~designed or modified~~ rated to ...

**6E001** TSR: Yes, except ...

(3) "Technology" for "software" ~~specially designed~~ for ... controlled by 6D001 or 6D002

(4)(b) Equipment controlled by 6A001.a.2.c or 6A001.a.2.f when ~~specially designed for real-time applications~~; or

(4)(c) "Software" controlled by 6D001 ~~and specially designed~~ for ...

**6E002** TSR: Yes, except ...

(3)(b) Equipment controlled by 6A001.a.2.c or 6A001.a.2.f when ~~specially designed for real-time applications~~; or

~~(3)(c) "Software" controlled by 6D001 and specially 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.)

**6E003** d.2 Optical fabrication "technology" ~~using~~ "required" for ...

e Lasers. Technology" "required" for the "development", "production", or "use" of

~~specially designed~~ diagnostic instruments or targets in test facilities "required" 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** 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~~ "required" for "missiles". (2) This entry only controls "technology" for items in 6A002.a.1, a.3, and .e that are ~~specially designed or modified~~ "required" to protect "missiles" against nuclear effects (e.g., Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), and ~~usable~~ "required" for "misssiles".

**6E991** "Technology""required" for ...

**6E992** "Technology""required" for ...

**6E993** a Optical fabrication technologies "required" for ...

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:

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" 6A001.a.1.c Note, a.2.a Note, a.2.c, a.2.f, 6A003.a, a.6.a, 6A005.d.1 Note, 6A006.a.1.b, 6A008.g, 6A203.c, 6A998.b, 6B004.b, 6B108, 6C994.b, 6D001, 6D002, 6D003.a.1, a.3, a.5, f.1, f.2, f.3, g, h.2.a, 6D001, 6D002, 6D991, 6D992, 6E003.e
     Change specially designed for use with to "required" 6A005.e.2, f.4.
   - b Change specially designed having to rated for 6A992.a.2
   - c Delete specially designed 6A001 LVS 2x, 6A004 Related Controls, 6A005 Related Controls (4), 6A008.j.3 Note 1, 6D001 TSR (2), (3), 6D002 TSR (2), 6D002 Related Controls 2x, 6E001 TSR (3), (4)(b), (4)(c), 6E002 TSR (3)(b), (3)(c)
     Change specially designed to defined on the USML 6D001 Related Controls, 6D002 Related Controls
2. Limit controlled components referred to as components
   - a Change specially designed to "required" 6A001.a, a.1, a.1.d, a.2, a.2 Note, 6A002.a.2, a.2.b, 6A004.a.1, 6A006, 6A008, 6A107, 6A107.b, 6A203.a, 6A991, 6A992.a, 6A998, 6B008, 6B995
   - c Delete specially designed 6A996, 6A998.a
3. Limit controlled contained items not using the word components
   - c Delete specially designed (subsystems for SQUID systems) 6A006.a.1.a
     Delete parts and accessories 6A203 Unit, 6A225 Unit, 6A226 Unit, 6A992 Unit, 6A994 Unit, 6A995 Unit, 6B995 Unit, 6C992 Unit, 6C994 Unit, 6D993 Unit
     Delete specially designed (tubes and devices for cameras) 6A203.b.4.d
     Delete accessories 6B995
4. Limit what is excepted from control
   - a Change specially designed to "required" 6A108 Related Controls (1)(d)
   - b Change specially designed to rated 6A001.a.1 Note b.2, 6A002.c Note, d.3 Note, 6A003.b Note, b.4.b Note 3.c, 6A006 Related Controls, 6A008.i Note b, j Note b.2
   - c Delete specially designed 6A003.b.4 Note 2.d, b.4.b Note 3.c.1.b

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or modified to "required" 6A001.a.1.e, 6A002, 6A102, 6B995, 6D102, 6D103, 6E101 Related Definition (2)
   - c Delete specially designed or modified for military use 6A001.a.1.e NB
     Change specially designed or modified or configured to as defined on the USML 6A002 Related Controls
     Delete specially designed or modified 6A003 Related Controls (3), 6A108 Related Controls (2)
     Change specially designed or modified to as defined on the USML 6D003.a.5 NB

**C. Specially designed or prepared**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or prepared to as defined by NRC 6A005 Related Controls (5)
     Change specially designed or prepared for use in to as defined by NRC 6A205 Related Controls (4)

**D Designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed or modified for use in to "required" for 6A108.a
     Change designed or modified to "required" 6D003.c 2x, 6D994
   - b Change designed or modified to rated 6A001.a.1.a.2.a, 6A007.a, 6A107.a, 6D994
     Change modified structurally to have to rated for 6C992.g

**E. Usable in or capable of**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change usable to "required" 6A002, 6A102, 6A103, 6A107.a
     Change usable in to "required" for 6A103, 6A108.b, 6E101 Related Definition (1)
     Change capable of to "required" for 6A004.a.1, 6D993.a
     Change using to "required" 6E003.d.2
     Change usable to "required" 6E101 Related Definition (2)
   - b Change capable of to rated for 6A001.a.1.d Note b, a.2.e.2.b**,** 6A003.a.1, a.2**,** 6A004.d.3.d.1, 6A008.c, d, f, 6A203.b.1, b.3, 6A991, 6D003.h.1
     Change capable of achieving to rated for 6A108.b, 6B108
     Change capabilities to rated for 6A108.b.2
     Change enabling to rated for 6D103
   - c Change capable of to as defined in the USML 6A005 Related Controls (6)
     Delete usable in 6A008 MT applies
     Delete usable 6B108

3. Limit controlled contained items not using the word components
   - a Change used with to "required" (tubes and devices for cameras) 6A203.b.4

**F. Designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed to "required" 6A006.a.1.a
   - b Change designed to rated 6A001.a.1.a.1, a.1.a.1.a, a.1.a.1.b, a.1.a.2, a.1.a.3, a.1.b.5, a.1.b.6, a.2.a.5, a.2.a.6, a.2.b.2, a.2.d.2, a.2.e.2.a, b.1.a, 6A002.b, b.2.b.2, 6A007.b, 6A008.j.3, 6A103, 6A205.e, 6A996.b.1, b.2, b.3.b, b.3.c, 6D003.h.1, 6E101 Related Definition (1), 6E993.a.2
     Change designed of manufactured with the intent to rated 6A004.e.2 Technical Note
   - c Delete designed 6A001.a.1.c, 6A008 MT applies, 6A102

Change limited by design to rated for 6A005.b.6.b.1.d, f.1

3. Limit controlled contained items not using the word components
   c Delete designed (subsystems for SQUID systems) 6A006.a.1.a
4. Limit what is excepted from control
   b Change designed to rated 6A003.a.1 Note, b.4 Note 2, b.4.b Note 3.b.4.b 2x**,** 6A008.l.4 Note

**G Miscellaneous expressions**

1. Limit controlled item to its controlled parameters (excluding components)
   b Change being specified to rated 6A002.b.2
   Change having to rated for 6A205.a, b, d, f, 6A992.a.1, 6A995.a, b.1, b.2, c, d, e, f, 6A996.a, b.3, b.3.d, 6A997.a, 6B004.b, 6B008, 6C992, 6E993.d
   Change with to rated for 6C994
   Change containing ingredients with to rated 6C994
   c Change specifically designed,, modified, or configured for military application to as defined in the USML 6A005 Related Controls (6)
   Delete having 6A205.b.2
2. Limit controlled components referred to as components
   a Change special support to “required” 6A002.d
   Change specially fabricated to “required” 6A002.d.3
4. Limit what is excepted from control
   b Change limited to to rated for 6A001.a.1 Note a, b Note
   Change configured so that ... can to rated to 6A008.i Note b.2

**H Replace absence of any expression**

1. Limit controlled item to its controlled parameters (excluding components)
   a Add “required” 6E991, 6E992, 6E993.a, b, c
   b Add rated 6A225, 6A226.a, b, 6A997, 6B004.a, 6B007, 6D003.a.2, a.4, 6D103
2. Limit controlled components referred to as components
   c Add components 6A992 Unit, 6B995 Unit
3. Limit controlled contained items not using the word components
   a Add “required” (tubes for cameras) 6A203.b.2
   Add “required” (subsystems for systems) 6B108

June 7, 2011

**Specially Designed Issues CCL Category 7**

**7A001** 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)

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~~ rated to function at linear acceleration levels ...
Note: 7A001.a.1 and 7A001.a.2 do not apply to accelerometers ~~limited to~~ rated for
b ... ~~specified~~ rated to ...

**7A002** Gyros ... and ~~specially designed~~ components "required" therefor:
a ~~Specified~~ Rated ... and ~~having~~ rated for ...
a.1 ... and ~~having~~ rated for ...
a.2 ... and ~~having~~ rated for
b. ~~Specified~~ Rated to function at linear acceleration levels exceeding 100 g

**7A003** 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~~ as defined in the USML are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. (See 22 CFR part 121.)

a. ... ~~designed~~ rated for ...and ~~having~~ rated for any of the following ~~and specially designed components therefor~~

(Components are covered by the heading.)

a.2 ~~Specified to function at~~ linear acceleration levels exceeding 10 g

(Rated for in .a modifies a.2.)

b. ... and ~~having~~ rated for
c. ... and ~~having~~ rated for any of the following, ~~and specially designed components therefor~~

(Components are covered by the heading.)

c.1 ~~Designed~~ ...
c.2 ~~Designed~~

(Rated for in .c modifies c.1 and c.2.) ...

d ... ~~and specially designed components therefor~~

(Components are covered by the heading.)

Note 1:The parameters of 7A003.a and 7A003.b are applicable ~~with~~ if rated for any of the

following ...

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~~ rated for ~~civil~~ surveying purposes.

**7A004** ... ~~with~~ rated for an azimuth accuracy ...

**7A005** ... and ~~specially designed~~ components "required" therefor.....

**7A006** Airborne altimeters ~~operating at~~ rated for frequencies ... and ~~having~~ rated for ...

**7A008** 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** ... 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.

a. Linear accelerometers ~~designed for use in~~ "required" 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:~~

(Components are covered by the heading.)

b Accelerometers ~~of any type, designed~~ "required" 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.

Note ro paragraph (b): This paragraph (b) does not include accelerometers ~~that are designed~~ rated to measure vibration or shock.

**7A102** Gyros, and ~~specially designed~~ components "required" therefor.

a. ~~All types of~~ gyros~~, usable in~~ "required" for rockets, missiles, or unmanned aerial vehicles ~~capable of achieving~~ rated for a "range" ...

b Gyros ~~of any type, designed~~ for ~~use in~~ "required" for inertial navigation systems or ~~in~~ guidance systems ~~of all types, specified to function at~~ rated for acceleration levels greater than 100 g.

**7A103** ... and ~~specially designed~~ components "required" therefor

Related Controls: ... (2) Inertial navigation systems and inertial equipment, and ~~specially designed~~ components therefor ~~specifically designed, modified or configured for military use~~ as defined in the USML are subject to the export licensing authority of the U.S. Department of State ...

Note 1. 7A103.a does not control equipment containing accelerometers ~~specially designed and developed as~~ rated for ...

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 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 and ~~capable of providing~~ for a navigational accuracy of 200m Circular Error Probable (CEP) or less

**7A104**... and ~~specially designed~~ components "required" therefor.

Related Controls: This entry controls ~~specially designed~~ components "required" for ...

**7A105** ... and ~~specially designed~~ components "required" therefor.

1 ~~Designed or modified for use in~~ "required" for "missiles"; or

2 ~~Designed or modified~~ "required" for ...

a ~~Capable of~~ rated for providing navigation information at speeds ...

b Employing decryption~~, designed or modified~~ "required" ...

c Being ~~specially designed~~ "required" ...

**7A106** Altimeters ... ~~designed or modified~~ "required" for ...

7A107 ... and ~~specially designed~~ components "required" therefor.

b ~~Capable of~~ Rated for ...

c ~~Designed or modified~~ Rated ...

**7A115** Passive sensors ..., ~~designed or modified~~ "required" ...

**7A116** Flight control systems ... ~~designed or modified~~ "required" ...

**7A117**"Guidance sets" ~~capable of achieving~~ rated for ...

**7A994** ... ~~parts~~ and components~~, n.e.s.~~ "required" therefor

**7B001** ... equipment~~, specially designed~~ "required"

**7B002** Equipment ~~specially designed~~ "required"

**7B003** Equipment ~~specially designed~~ "required" ...

**7B101** ... ~~designed or modified~~ "required" ...

**7B102** ...~~designed or modified~~ "required" ...

**7B103** ~~Specially designed~~ "production facilities" "required" for ...

**7D001**"Software" ~~specially designed or modified~~ "required" for ...
RS applies to "software" for inertial ... equipment, and ~~specially designed~~ components "required" therefor ...
Related Controls: ... (3) "Software" for inertial navigation systems and inertial equipment, and ~~specially designed~~ components therefor as defined in the USML, not for use on civil aircraft are subject to the export licensing authority of the U.S. Department of State ...

**7D002** "Source code" "required" for ...

**7D003** 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**"Software" ~~specially designed or modified~~ "required" for ...
Related Controls:(1) The software ~~related to~~ "required" for 7A003.b ... or 7B103 as defined in the USML are subject to the export licensing authority of the U.S. Department of State ... (2) "Software" as defined in the USML for inertial navigation systems and inertial equipment, and ~~specially designed~~ components therefor, ... is subject to the export licensing authority of the U.S. Department of State, ...

**7D102** Related Controls: The "software" ~~related to~~ "required" for 7A003.b or 7A103.b as defined in the USML are subject to the export licensing authority of the U.S. Department of State ...
a Integration "software"required" for ... 7A103,b.
b Integration "software" ~~specially designed~~ "required" for ... 7A003 or 7A103.a.

**7D103**"Software" ~~specially designed~~ "required" for modelling or simulation ...

**7D994**"Software.,~~n.e,s.~~, "required" for ...

**7E001** RS applies to ... and ~~specially designed~~ components "required" therefor ...
Related Controls: ... (2) The "technology" ~~related to~~ "required" for 7A003.b ... or 7D103 as defined in the USML are subject to the export licensing authority of the U.S. Department of State ...

**7E002** RS applies to ... and ~~specially designed~~ components "required" therefor ...
Related Controls: ...(2) The "technology" ~~related to~~ "required" for 7A003.b ... or 7B103 as defined in the USML are subject to the export licensing authority of the U.S. Department of State ...

**7E003** Related Controls: ... This entry does not control maintenance "technology" ~~directly associated with~~ rated for ...

**7E004** a. "Technology" "required" for ...
- 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...
- 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** RS applies to ...~~specially designed~~ components "required" therefor ...
Related Controls: The "technology" ~~related to~~ "required" for 7A003.b ... or 7D103 as defined in the USML are subject to the export licensing authority of the U.S. Department of State ...

**7E102** "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** ~~Design~~ "Technology" "required" for the integration of ... data into a ... system ~~designed or modified~~ "required" for "missiles" for ...

**7E994** "Technology" "required" ...
Related Controls: Technology ~~specific to~~ for ... QRS11 sensors as defined in the USML remains subject to the licensing jurisdiction of the Department of State ...

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" 7A105.2.c, 7B001, 7B002, 7B003, 7B103, 7D001 RS applies, 7D003.e, 7D102.b, 7D103, 7E001, 7E002, 7E101 RS applies
   - b Change specially designed to rated 7E004.a.5, a.6
   - c Delete specially designed and developed 7A001 Related Controls
     Change specially designed and specifically designed, modified or configured for military use to as defined in the USML 7A003 Related Controls, 7A103 Related Controls
     Change specially designed to as defined in the USML 7D001 Related Controls, 7D101 Related Controls
2. Limit controlled components referred to as components
   - a Change specially designed to "required" 7A001, 7A002, 7A003, 7A005, 7A008, 7A101, 7A102, 7A103, 7A104, 7A104 Related Controls, 7A105, 7A107, 7A994
   - c Delete specially designed 7A003.a, c, d, 7A101.a
3. Limit controlled contained items not using the word components
   - c Delete parts 7A994
4. Limit what is excepted from control
   - b Change specially designed to rated 7A003 Note 3, 7A103.a Note 1
     Change specially designed and developed as to rated for 7A101 Related Controls, 7A103.a Note 1

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or modified to "required" 7D001, 7D003.a, 7D101

**D Designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed or modified for use in to "required" for 7A103.b, c, 7A105.1
     Change designed or modified to "required" 7A105.2, 2.b, 7A106, 7A115.d, 7A116, 7B101, 7B102, 7E104
   - b Change designed or modified to rated 7A107.c

**E. Usable in or capable of**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change usable in to "required" 7A101.a, 7A102.a
   - b Change capable of achieving to rated 7A102.a, 7A103.b, c, 7A117
     Change capable of to rated for 7A105.2.a, 7A107.b
     Change using to rated 7E004.c.3
   - c Delete capability 7A003 Note 1.b

**F. Designed**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   - a Change designed for use in to “required” 7A101.a, b, 7A102.b
     Change design to “required” 7E104
   - b Change designed for use in to rated for 7A001.a.3
     Change designed to rated 7A003.a, 7E004.a.7
   - c Delete designed 7A003.c.1, c.2
     Delete design 7E102,a, b, c
4. <u>Limit what is excepted from control</u>
   - b Change designed to rated 7A101.b Note

**G Miscellaneous expressions**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   - a Change related to “required” 7D101 Related Controls
   - b Change specified to rated 7A001.a.1, a.2, a.3, b, 7A002.a, b
     Change having to rated 7A001.a.1`, a.2, 7A002.a, a.1, a.2, 7A003.a, b, c, 7A006, 7A008, 7A101.a
     Change with to if rated for 7A003 Note 1
     Change with to rated 7A004
     Change operating at to rated for 7A006, 7E004.a.1
     Change specified to function at to rated for 7A101.b, 7A102.b
     Change directly associated with to rated for 7E003 Related Controls
   - c Delete specified to function at 7A003.a
     Change specific to as defined in the USML 7E994 Related Controls

**H Replace absence of any expression**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   - a Add “required” 7D002, 7D003.b, c, d, 7D102.a, 7D994, 7E004.a, 7E102, 7E994
   - c Add as defined in the USML7D101 Related Controls, 7D102 Related Controls, 7E001 Related Controls, 7E002 Related Controls, 7E101 Related Controls

June 7, 2011

**Specially Designed Issues CCL Category 8**

**8A001** 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

(Rated in ,b substitutes for designed or having in b.2,3.)

c Unmanned, tethered submersible vehicles ~~designed~~ rated to operate at depths exceeding 1,000 m and ~~having~~ for any of the following

c.1 ~~Designed for~~ self-propelled maneuver using propulsion motors

(Rated in .c substitutes for designed in c.1.)

d Unmanned, untethered submersible vehicles ~~having~~ rated for any of the following

d.1 ~~Designed for~~ deciding a course

(Rated in .d substitutes for designed in d.1.) ...

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 ...

(Rated in .e substitutes for capable of in e.1.)

f Surface-effect vehicles (fully skirted ~~variety~~) ~~having~~ rated for all of the following:

f.1 Maximum ~~design~~ speed ...

(Rated in .f substitutes for design in f.1.)

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

(Rated in .i substitutes for design in i.1,2.)

**8A002** a Systems, equipment, and components ~~specially designed or modified~~ "required" for submersible vehicles and ~~designed~~ rated to operate ..., as follows:

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:

b.1 ~~Enabling a vehicle to~~ move within 10 m ...

(Rated in .b substitutes for enabling in b.1.)

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:

e.3 Automatic compensation control ~~specially designed to permit~~ for an underwater camera housing ~~to be usable~~ at depths exceeding 1,000 m

(Rated in .e subsitutes for specially designed and usable in e.3.)

f. Electronic imaging systems, ~~specially designed or modified~~ “required” for underwater use, ~~capable of~~ rated for ...

Note: 8A002.f does not control digital cameras ~~specially designed~~ rated for ...

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 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

(Rated in .h substitutes for ability and using in h.2.)

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

(Rated in .i substitutes for using and having in i.2.)

j Air independent power systems ~~specially designed~~ rated for underwater use, as 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~~ with 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...

(Rated in j.1 substitutes for specially designed, special, having in j.1.a-d.)

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;

(Rated in j.2 substitutes for specially designed or special in j.2.a-d.)

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~~ 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

(Rated in j.3 substitutes for specially designed, special, and having in j.3.a,b.).

... 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

(Rated in j.4 substitutes for specially designed in j.4.a,b.)l

k Skirts, seals and fingers, ~~having~~ rated for any of the following

k.1 ~~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~~)...

k.2 ~~Designed for~~ cushion pressures of ... and ~~specially designed~~ for surface effect vehicles (rigid sidewalls) ...

(Rated in .k substitutes for designed, operating, and specially designed in k.1,2.)

l Lift fans rated at more than 400 kW and ~~specially designed~~ “required” 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

o.1 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;

o.2 Water-screw propeller, power generation systems or transmission systems, ~~designed~~ rated for ~~use on~~ vessels, as follows:

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;

o.3 Noise reduction systems ~~designed~~ rated for ~~use on~~ vessels of 1,000 tonnes displacement or more, as follows

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" for ...

Technical Note: ... ~~capable of~~ rated for actively reducing equipment vibration ...

p Pumpjet propulsion systems ~~having~~ rated for ..

p.2 ~~Using~~ divergent nozzle and flow conditioning vane techniques ....

(Rated in .p substitutes for using in p.2.)

r Diver deterrent acoustic systems ~~specially deisgned or modified~~ "required" to ...

**8A018** a ~~Closed and semi-closed circuit (rebreathing) apparatus, specially designed for military use, and specially designed components therefor for use in the conversion of open-circuit apparatus to military use~~ RESERVED

(See USML Category XIII(c).)

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 Submarine and torpedo nets; and ~~specially designed~~ components "required" therefor

**8A918** 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** Vessels ... and ~~specially designed parts~~ components "required" therefor

a.1 Television systems ... ~~having~~ rated for a limiting resolution ... and ~~specially designed or modified~~ for remote operation with a submersible vehicle; or

a.2 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 or remote focussing ~~specially designed~~ 'required"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 Vessels, n.e.s., including inflatable boats , ~~and specially designed components therefor, n.e.s.~~;

(Components are covered by item heading.)

g Marine engines ... and submarine engines, n.e.s., ~~and specially designed parts therefor, n.e.s.~~;

(Components are covered by item heading.)

h ~~Other~~ self-contained underwater breathing apparatus (scuba gear) and ~~related~~ equipment "required" therefor, n.e.s.;

k Air compressors and filtration systems ~~specially designed~~ rated for filling air cylinders

**8B001** Water tunnels ~~having~~ rated for a background noise ... and ~~designed~~ for measuring acoustic fields ...

**8C001** 'Syntactic foam' ~~designed~~ rated for underwater use and ~~having~~ for all of the following ...

a ~~Designed for~~ marine depths exceeding 1,000 m ...

(Rated in heading substitutes for designed in .a.)

**8D001** "Software" ~~specially designed or modified~~ "required" for ...

TSR: Yes, except ... "software" ~~specially designed~~ "required" for ...

**8D002** ~~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

**8D992** "Software" ~~specially designed or modified~~ "required" for ...

**8E002** 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

**8E992** "Technology" "required" for ..

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" 8A002.l, m, o.1, o.3.a, o.3.b, 8A018.b.1, b.2, 8A992.b, 8D001 TSR
   - b Change specially designed to rated 8A002.g.2, h. 8A992.k, 8D002, 8E002.a
     Change specially designed for military purposes to rated for 8A018.b.3
   - c Delete specially designed 8A002.e.3, j.1.a, j.1.c, j.1.d.1, j.1.d.2, j.1.d.3, j.2.a, j.2.c, j.2.d, j.3.a, j.3.b.1, j.3.b.2, j.3.b.3, j.4.a, j.4.b, k.1, k.2
     Delete specially designed to use 8A002,j.1.b, j.2.b
     Delete specially designed for military use 8A018.a
2. Limit controlled components referred to as components
   - a. Change specially designed to "required" 8A018.b.1, b.2, b.3, b.4
   - c Delete specially designed 8A018.a, 8A992.f, g
3. Limit controlled contained items not using the word components
   - a Change specially designed parts to "required" components 8A992
   - c Delete parts, accessories and attachments 8A918.b
4. Limit what is excepted from control
   - b Change specially designed to rated 8A002.f Note

**B Specially designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed or modified to "required" 8A002.a, f, n, r, 8D001, 8D002, 8D992
   - b Change specially designed or modified to rated 8A002.d.1.a, d.1.c, d.2, e, I, 8A992.a.1, b, c

**D Designed or modified**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change designed or modified to "required" 8A002.b

**E. Usable in or capable of**

1. Limit controlled item to its controlled parameters (excluding components)
   - b Change capable of to rated for 8A002.f, g, g.1, o.1.e
   - c Delete capable of 8A001.e.1
     Delete enabling 8A002.b.1
     Delete usable 8A002.e.3
     Delete ability 8A002.h.2
     Delete using 8A002.h.2, i.2, p.2

F. **Designed**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   - b Change designed to rated 8A001.a, c, g, h, 8A002.a, o.2, o.3, 8A918.a, 8B001, 8C001
   - c Delete designed 8A001.b.1, b.2, b.3.a, c.1, d.1, 8A002.k.1, k.2, 8C001.a
     Delete design 8A001f.1, i.1, i.2

**G Miscellaneous expressions**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   - b Change having to rated for 8A001.b, d, f, I, 8A002.b, d.1.a, d.1.b, d.1.c, e, h, j.1, j.2, j.4, k, p, 8A992.a.1, a.2, 8B001, 8C001
     Change with and having to rated 8A001.e
     Change with to rated for 8A002.j.3, o.2.b, o.2.c
     Change employing to rated 8A002.o.1.c
   - c Delete having 8A001,b,1, b,3**,** 8A002i.2, j.3.b
     Delete special 8A002.j.1.c, j.2.c, j.4.a
     Change having to with 8A002.j.1.d
     Delete operating 8A002.h.1
3. <u>Limit controlled contained items not using the word components</u>
   - a Change related to “required” (equipment for devices) 8A992.h

H **Replace absence of any expression**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   - a Add “required” 8E002.a, b, 8E992
2. <u>Limit controlled components referred to as components</u>
   - a Add “required” 8A918.b

June 7, 2011

**Specially Designed Issues CCL Category 9**

**9A001** b ~~Designed~~ Rated to power an aircraft ~~designed~~ rated to cruise at Mach 1 or higher, for more than 30 minutes.

**9A002** 'Marine gas turbine engines' ... and ~~specially designed~~ assemblies and components "required" therefor.

**9A003** ~~Specially designed~~ "Required" assemblies and components ...

**9A004** Related Controls: ...(4) All other "spacecraft" not controlled under 9A004 and their payloads, and ~~specifically designed or modified~~ components, parts, accessories, attachments and associated equipment, including ground support equipment, as defined in the USML are subject to the export licensing authority of the Department of State unless otherwise transferred to the Department of Commerce ... (5) ... All ~~specially designed or modified~~ components~~, parts, accessories, attachments, and associated equipment~~ "required" for "spacecraft" that have been determined by the Department of State through the commodity jurisdiction process to be under the licensing jurisdiction of the Department of Commerce and that are not controlled by any other ECCN on the Commerce Control List will be assigned a classification under this ECCN 9A004. (6) Technical data ~~required~~ as defined in the USML for ... the international space station (to include ~~specifically designed~~ parts and components) remains under the jurisdiction of the Department of State.

a ... Hardware ~~specific to~~ "required" for the international space station ...

**9A006** Systems and components ~~specially designed~~ "required" for liquid rocket propulsion systems.

**9A008** Components ~~specially designed~~ "required" for solid rocket propulsion systems.

**9A010** ~~Specially designed~~ components, systems and structures "required" .for launch vehicles, launch vehicle propulsion systems orn "spacecraft" ...

**9A011** ... and ~~specially designed~~ components "required" therfor.

**9A012** MT applies to ... ~~capable of~~ rated for ...

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

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, ... ~~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** Unit: Equipment in number; ~~parts and accessories~~ components in $ value

Related Controls:(a) Parachute systems ~~designed~~ for ...(c) ~~military~~ ground armed or armored vehicles and parts and components ~~specific thereto~~ described in 22 CFR part 121 Category VII; and all-wheel drive vehicles ~~capable of~~ for off-road 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 ...

a.3 ~~Specially designed component parts~~ Components "required" therefor.

b Ground transport vehicles (including trailers) and ~~parts and~~ components "required" therefor ~~designed or modified~~ rated for non-combat military use and unarmed all-wheel drive vehicles capable of off-road use which have been manufactured or fitted with materials ~~to provide~~ rated for ballistic protection to level III (National Institute of Justice standard 0208.02, September 1985) or better (see 770.2(h) - Interpretation 8)

770.2(h) *Interpretation 8 Ground vehicles.*

(1) ...vehicles ~~, parts,~~ and components "required" therefor ~~specially designed or modified~~ rated for non-combat military use. ... vehicles ~~designed or modified~~ rated for transporting ... vehicles ~~capable of~~ rated for off-road use ... and not havng ~~special~~ reinforcements rated for mountings for weapons

(2) ~~Modification~~ Rating of a ground vehicle for non-combat military use entails structural, electrical or mechanical ~~change~~ characteristics involving one or more ~~specially designed~~ "required" military components ~~Such components include, but are not limited to~~ with military applications, such as:

(i) ... tire casings.. ~~designed~~ rated to be ...

~~(iv) Special reinforcements for mountings for weapons.~~

(770.2(h)(2)(iv) is subject to DOS jurisdiction, per the last sentence of 770.2(h)(4).)

(3) ... vehicles ... and ~~parts and~~ components "required" therefor ~~specially designed or modified~~ rated for non-combat military use ... vehicles ~~capable of~~ rated for off-road use ...9A018.b does not cover civil automobiles, or trucks ~~designed or modified~~ rated for transporting money ... . vehicle ~~designed~~ rated for the transportation of passengers ... vehicle ~~capable of~~ rated for off-road use ...

(4) ... components ~~specific thereto~~ as described in 22 CFR part 121 ... vehicles ~~capable of~~ for off-road use ... or fitted with ~~special~~ reinforcements for mounting arms or other ~~specialized~~ military equipment described in 22 CFR part 121.

c. Pressure refuelers, pressure refueling equipment, equipment ~~specially designed to facilitate~~ "required" for operations in confined areas; and ground equipment ~~developed specially~~ rated for military "aircraft" and

~~specially designed parts and accessories, n.e.s.~~ components "required" therefor;

d Pressurized breathing equipment ~~specially designed~~ "required" for ...

f. ... and components ~~and accessories specially designed~~."required" ...

**9A101** Related Controls: 9A101.b ... does not control other engines ~~designed or modified~~ as defined in the USML for use in "missiles" .....

b Engines ~~designed or modified~~ as defmed in the USML for use in "missiles", regardless of thrust or specific fuel consumption.

**9A103** Liquid propellant tanks ~~specially designed~~ rated for the propellants... or other liquid propellants ~~used in~~ "required" for "missiles."

**9A104** Sounding rockets, ~~capable of~~ rated for a range of at least 300 km

**9A106** Systems or components ..., ~~usable in~~ "required" for "missiles" ...

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

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** Solid propellant rocket engines, ~~usable in~~ "required" for rockets ~~with a range capability~~ rated for a "range" of 300 km or greater...

**9A108** Solid rocket propellant components ...~~usable in~~ "required" for rockets ~~with a range capability~~ rated for a "range" of 300 km or greater ...

**9A109** Hybrid rocket motors, ~~usable in~~ "required" for rockets ~~with a range capability~~ rated for a "range" of 300 km or greater ... and ~~specially designed~~ components "required" therefor.

**9A110** Composite structures, laminates and manufactures thereof... ~~specially designed~~ "required" for ~~use in~~ "missiles" or ...

Related Controls: ... (2) "composite" structures, laminates, and manufactures thereof, ~~specially designed~~ as defined in the USML for use in missile systems are under the licensing authority of the Directorate of Defense Trade Controls, U.S. Department of State, except those ~~specially designed~~ "required" for non-military unmanned air vehicles

controlled by 9A012.

**9A111** Pulse jet engines ~~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.

**9A115** Apparatus, devices, and vehicles ~~designed or modified~~ "required" for ... ~~capable of achieving~~ rated for a "range" equal to or greater than 300 km.

**9A116** Reentry vehicles, ~~usable in~~ "required" for "missiles", and equipment ~~designed or modified~~ "required" therefor

**9A117** Staging mechanisms, separation mechanisms, and interstages "required" therefor,~~, usable in~~ "required" for "missiles"..

**9A118** Devices to regulate combustion of engines ~~usable in~~ "required" for engines ~~which are usable~~ "required" for in rockets ~~with~~ rated for a range ~~capability~~ ...

**9A119** Individual rocket stages, ~~usable in~~ "required" for rockets ~~with~~ rated for a range capability

**9A120** Unit: Equipment in number~~; parts and accessories in $ value~~
Related Controls: ... and components "required" therefor~~, specially designed or modified~~ "required" for ...

a ~~Having~~ Rated for any of the following:
a,1 ~~An~~ autonomous flight control and navigation ~~capability~~; or
a.2 ~~Capability of~~ controlled flight out of the direct vision range ...
b. ~~Having~~ Rated for any of the following:...
b.2 ~~Designed or modified to~~ incorporate ...

**9A980** ...~~; and parts and accessories, n.e.s.,~~ components "required" therefor

**9A990** Diesel engines, n.e.s., and tractors and ~~specially designed parts~~ components "required" therefor, n.e.s.

b ... ~~and parts and accessories~~, n.e.s.
c ... ~~and specially designed parts~~.

**9A991** and ~~parts and~~ components, ~~n.e.s~~
Related Controls: ... Technology ~~specific to~~ as defined in the USML for the development and production of QRS11 sensors remains subject to the licensing jurisdiction of the Department of State.

a Military "aircraft", demilitarized (not ~~specifically equipped or modified for military operation~~ defined on the USML), as follows:...
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" ...

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.

**9B001** Equipment, tooling and fixtures, ~~specially designed~~ "required" for manufacturing gas turbine blades, vanes, to tip shroud castings, as follows

Related Controls: (1) For ~~specially designed~~ production equipment ~~of~~ "required" for systems, subsystems and components controlled by ... ~~usable in "missiles"~~ see 9B115 (9B115 does not include the words usable in "missiles".)

**9B002** a ~~Specially designed~~ "Required" for ...

**9B003** 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.

**9B005** On-line (real time) control systems ...~~specially designed for use with~~ "required " for ...

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** Acoustic vibration test equipment ~~capable of~~ rated for ... and ~~specially designed~~ quartz heaters "required" therefor

**9B007** Equipment ~~specially designed~~ "required for" ...

**9B008** Transducers ~~specially designed~~ "required" for ...

**9B009** Tooling ~~specially designed~~ "required" for ...

**9B010** Equipment ~~specially designed~~ "required" for ...

**9B105** Wind tunnels rated for speeds of Mach 0.9 or more ~~usable~~ "required" for rockets, missiles, or unmanned aerial vehicles ~~capable of achieving~~ rated for a "range" equal to or greater than 300 km and ~~their~~ subsystems "required: therefor.

**9B106** Environmental chambers ~~usable~~ "required" for rockets, missiles, or unmanned aerial vehicles ~~capable of achieving~~ rated for a "range" equal to or greater than 300 km and ~~their~~ subsystems."~~"required" therefor"~~ as follows

**9B115** ~~Specially designed~~ "production equipment" "required" for ...

**9B116** ~~Specially designed~~ "production facilities" "required" for ...

**9B117** Test benches and test stands "required" for solid or liquid propellant rockets, motors or rocket engines

b. ~~Capable of~~ Rated for simultaneously measuring ...

**9B990** Vibration and test equipment, and ~~specially designed parts and~~ components~~, n.e.s~~. "required" therefor

**9B991** ~~Specially designed~~ equipment, tooling or fixtures, ... "requjired" for manufacturing or measuring gas turbine blades, vanes, or tip shroud castings.

**9C110** Resin impregnated fiber prepregs and metal coated fiber preforms "required" therefor

**9D001** "Software" ~~specially designed or modified~~ "required" for ...
Related Controls: (1) "Software" ~~"required"~~ as defined in the USML for the "development" of items controlled by 9A004 is subject to the export licensing authority of the U.S. Department of State ... (2) "Software" ~~"required"~~ as defined in the USML 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....

**9D002** "Software" ~~specially designed or modified~~ "required" for the "production" of ...
Related Controls: (1) "Software" ~~"required"~~ as defined in the USML for the "production" of items controlled by 9A004 is subject to the export licensing authority of the U.S. Department of State ... (2) "Software" ~~"required"~~ as defined in the USML 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. ...

**9D003** "Software" ~~specially designed or modified~~ "required" for the "use" of ... (FADEC) for MT applies to "software" ~~required~~ for the "use" of FADEC for gas turbine engines controlled by ...
Related Controls:... (2) "Software" ~~"required"~~ as defined in the USML 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....

**9D004** a. ... ~~requjired~~ "required" ...
b. ... ~~specially designed~~ "required" ... ~~capable of~~ rated for ...
c. ... ~~specially designed~~ "required" ...
d. ... ~~requjired~~ "required" ...
e. ... ~~specially designed~~ "required" ...
f. ... ~~specially designed~~ "required" ...
g.1. ... ~~specially designed~~ "required" ...

**9D018** "Software" "required" for ...

**9D101** "Software" ~~specially designed or modified~~ "required" for ...
**9D103** "Software" ~~specially designed~~ "required" for ...

**9D104** "Software" ~~specially designed or modified~~ "required" for ...
Related Controls: "Software" as defined in the USML for commodities controlled by ... are subject to the export licensing authority of the U.S. Department of State ....

**9D105** "Software" that coordinates the function of more than one subsystem ~~specially designed or modified~~ "required" for "use" in "missiles"

**9D990** "Software",.~~n.e.s.,~~ "required" for the "development" or "production" of 9A990 or 9B990.

**9D991**"Software" "required" for the "development" or "production" of ...

**9E001** Related Controls: ... (2) The "technology"~~required~~ as defined in the USML for the "development" of equipment controlled by 9A004, is subject to the export licensing authority of the U.S. Department of State ... (3) "Technology, ~~required~~ as defined in the USML for the "development" of equipment or "software" subject to the export licensing authority of the U.S. Department of State ... is also subject to the same licensing jurisdiction. ...

**9E002** Related Controls: ... (3) The "technology" ~~required~~ as defined in the USML for the "production" of equipment controlled by 9A004, is subject to the export licensing authority of the U.S. Department of State ... (4) "Technology, ~~required~~ as defined in the USML for the "production" of equipment or "software" subject to the export licensing authority of the U.S. Department of State, ... is also subject to the same licensing jurisdiction. ...

**9E003** 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,~~ as defined in the USML is subject to the licensing authority of the U.S. Department of State. ...
e. "Technology" "required" for ...

**9E018** "Technology" "required" for ...

**9E101** Related Controls: "Technology" ... ~~specially designed~~ as defined in the USML for ~~use in~~ missile systems and subsystems ... are subject to the export licensing authority of the U.S. Department of State ...

**9E102** Related Controls: ... (2) "Technology" ... ~~specially designed~~ as defined in the USML for ~~use in~~ missile systems ... are subject to the export licensing authority of the U. S. Department of State ...

**9E990** “Technology”, ~~n.e.s.~~ “required” for the “development”, “production”, or “use” of equipment controlled by 9A990 or 9B990

**9E991** “Technology”, ~~n.e.s.~~ “required” for the “development”, “production”, or “use” of equipment controlled by 9A991 or 9B991

**9E993** Other “required” “technology”...

## Recapitulation

**A. Specially designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specially designed to "required" 9A012.b,1, b,2, b,3, 9A018.d, 770.2(h)(2), 9B001, 9B001 Related Controls, 9B002, 9B003, 9B007, 9B008, 9B009, 9B010, 9B115, 9B116, 9B991, 9D103, 9D004.b, c,.e,.r,.g.1
     Change specially designed to facilitate to "required" for 9A018.c
     Change specially designed for use with to "required" for 9B005
   - b Change specially designed to rated 9A103
2. Limit controlled components referred to as components
   - a Change specially designed to "required"9A002, 9A003, 9A006, 9A008, 9A011, 9A018.f, 9A106.d, 9A109, 9A111, 9B003, 9B990
     Change specially designed component parts to components "required" therefor 9A018.a.3
3. Limit controlled contained items not using the word components
   - a Change specially designed to "required" (assemblies for engines) 9A002, 9A003
     Change specially designed to "required" (systems for propulsion systems) 9A006
     Change specially designed to "required" (systems and structures for launch vehicles, launch vehicle propulsion systems, and "spacecraft") 9A110
     Change specially designed parts and accessories to components "required" therefore 9A018.c
     Change specially designed for use in to "required" for (structures and laminates for missiles) 9A110
     Change specially designed to "required" (structures and laminates for missiles) 9A110 Related Controls
     Change specially designed to "required" (quartz heaters for acoustic vibration test equipment) 9B006
   - c Delete parts, accessories, attachments, and associated equipment 9A004 Related Controls (5)
     Change parts and accessories to components 9A012 Unit, 9A018 Unit
     Delete parts 9A018.b, 770.2(h)(1), (3), 9A991, 9B990
     Delete accessories 9A018.f, 9B003
     Delete parts and accessories 9A106 Unit, 9A120 Unit, 9A990.b
     Change specially designed to as defined in the USML 9A110 Related Controls, 9E101 Related Controls, 9E102 Related Controls
     Change parts and accessories to components "required" therefor 9A9890
     Change specially designed parts to components "required" 9A990, 9A991.c
     Delete specially designed parts 9A990.c
4. Limit what is excepted from control
   - b Change specially designed to rated 9B005.a Note

**B Specially designed or modified**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   a Change specially designed or modified to "required" 9A012.b.4, 9D001, 9D002, 9D003, 9D101, 9D104, 9D105
   b Change specially designed or modified to rated 770.2(h)(1), (3)
   c Change specially designed or modified to as defined on the USML 9A004 Related Controls (4)
2. <u>Limit controlled components referred to as components</u>
   a Change specially designed or modified to "required" 9A004 Related Controls (5)
3. <u>Limit controlled contained items not using the word components</u>
   a Change specially designed or modified to "required" (controls for spraying systems) 9A120

**D Designed or modified**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   a Change designed or modified to "required" 9A115
   b Change designed or modified to rated 9A018.b, 770.2(h)(1), (3), 9A1106.d
   Change modification change to rating characteristics 770.2(h)(2)
   c Change designed or modified to as defined in the USML 9A101 Related Controls,
   Delete designed or modified 9A120.b.2
3. <u>Limit controlled contained items not using the word components</u>
   a Change designed or modified to "required" (valves for missiles) 9A106.e
   Change designed or modified to "required" (equipment for reentry vehicles) 9A116
   b Change designed or modified to rated (valves for missiles) 9A106.e

**E. Usable in or capable of**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   a Change usable in to "required" for 9A107, 9A108, 9A109, 9A111
   Change usable to "required" 9B105, 9B106
   b Change capable of to rated for 9A012 MT applies, 770.2(h)(1), (3) 2x, 9A104, 9A111, 9B005.c, 9B006, 9B117.b, 9D004.b
   Change capability to rated for 9A012.a.1, a.2, b.2, 9A107, 9A108, 9A109
   Change used in to rated for 9A103
   Change capable of achieving to rated for 9A115, 9B105, 9B106
   c Delete capable of 770.2(h)(4)
   Delete capability 9A120.a.1, a.2
   Delete usable 9B001 Related Controls
2. <u>Limit controlled components referred to as components</u>
   a Change usable in to "required" 9A106
3. <u>Limit controlled contained items not using the word components</u>
   a Change usable in to "required" for (systems for missiles) 9A106
   Change usable in to "required" for (reentry vehicles for missiles) 9A116
   Change usable in to "required" for (staging mechanixms for missiles) 9A117
   Change usable in to "required" for (devices to regulate combustion for engines)

9A118
Change usable to “required” for (engines for rockets) 9A118
Change usable to “required” (rocket stages for rockets) 9A119

**F. Designed**

1. Limit controlled item to its controlled parameters (excluding components)
   - b Change designed to rated 9A001 2x, 770.2(h)(2)(i), (3), 9B003, 9B005.a
   - c Delete designed for use in 9A018 Related Controls (a)
3. Limit controlled contained items not using the word components
   - b Change designed to rated (valves for propellant control systems) 9A106.d Note a

**G Miscellaneous expressions**

1. Limit controlled item to its controlled parameters (excluding components)
   - a Change specific to “required” 9A004.a
     Change required to “required” 9D004.a, d
   - b Change to provide to rated 9A018.b
     Change developed specially to rated 9A018.c
   - b Change special to rated 770.2(h)(1)
     Change with to rated for 9A118, 9A119
     Change having to rated for 9A120.a, b
   - c Change required to as defined on the USML 9A004 Related Controls (6), 9E001 Related Controls (2), (3), 9E002 Relatec Controls (3), (4)
     Change specifically designed to as defined in the USML 9A004 Related Controls (6)
     Delete special 770.2(h)(2)(iv)
     Delete specialized 770.2(h)(4)
     Delete specific thereto 9A018 Related Controls (c)
     Change specific to to aas defined in the USML for 9A991 Related Controls
     Change specifically equipped or modified for military operation to as defined in the USML 9A991.a
     Change “required” to as defined in the USML 9D001 Related Controls (1), (2), 9D002 Related Controls(1), (2), 9D003 Related Controls
     Delete required 9D003 MT applies
     Change specifically designed, modified, or equipped for military uses or purposes, or developed principally with U.S. Department of Defense funding to as defined in the USML 9E003 Related Controls
2. Limit controlled components referred to as components
   - c Delete specific 770.2(h)(4)
3. Limit controlled contained items not using the word components
   - b Change with to rated (pumps for propellant control systems) 9A106.d Note b
4. Limit what is excepted from control
   - b. Change destined for usse in to rated for 9A991.c Note

**H Replace absence of any expression**

1. <u>Limit controlled item to its controlled parameters (excluding components)</u>
   a Add “required” 9B117, 9Do18, 9D990, 9D991, 9E003.e, 9E018, 9E990, 9E991
   b Add rated 9B105
   c Add as defined in the USML 9D104 Related Controls
2. <u>Limit controlled components referred to as components</u>
   a Add “required” 9A018.b, 770.2(h)(1), (3), 9A120
3. <u>Limit controlled contained items not using the word components</u>
   a Add “required” (interstages for staging mechanisms) 9A117
   Add “required” (subsystems for wind tunnels) 9B105
   Add “required” (subsystems for environmental chambers) 9B106
   Add “required” (preforms for prepregs) 9C110