(iii) Medical evaluation or assessment of the spaceflight passenger or participant;

(iv) Training for and operation by the passenger or participant of health and safety related hardware (e.g., seating, environmental control and life support, hygiene facilities, food preparation, exercise equipment, fire suppression, communications equipment, safety-related clothing or headgear) or emergency procedures;

(v) Viewing of the interior and exterior of the spacecraft or terrestrial mock-ups;

(vi) Observing ''spacecraft'' operations (e.g., pre-flight checks, landing, in-flight status);

(vii) Training in ''spacecraft'' or terrestrial mock-ups for connecting to or operating passenger or participant equipment used for purposes other than operating the ''spacecraft''; or

(viii) Donning, wearing or utilizing the passenger's or participant's flight suit, pressure suit or spacesuit, and personal equipment.

* * * * *

Thea D. Rozman Kendler,

Assistant Secretary for Export Administration.

[FR Doc. 2024–23932 Filed 10–17–24; 4:15 pm]

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DEPARTMENT OF COMMERCE

Bureau of Industry and Security

15 CFR Parts 734, 740, 744, 746, and 774

[Docket No. 241004–0264]

RIN 0694–AJ87

Export Administration Regulations: Revisions to Space-Related Export Controls

AGENCY: Bureau of Industry and Security, Department of Commerce.

ACTION: Interim final rule.

SUMMARY: In this interim final rule (IFR), the Bureau of Industry and Security (BIS) makes changes to controls for spacecraft and related items under the Export Administration Regulations (EAR). This IFR reduces license requirements on less sensitive items to reflect the close relations with certain countries to better facilitate space collaboration; and makes refinements and clarifications to existing controls. These changes will better enable a globally competitive U.S. space industrial base while continuing to protect U.S. national security and foreign policy interests.

DATES: This rule is effective October 23, 2024. Comments must be received by BIS no later than November 22, 2024.

ADDRESSES: Comments on this rule may be submitted to the Federal rulemaking portal at: *www.regulations.gov.* The *regulations.gov* ID for this rule is: BIS–2024–0031. Please refer to RIN 0694–AJ87 in all comments.

All filers using the portal should use the name of the person or entity submitting the comments as the name of their files, in accordance with the instructions below. Anyone submitting business confidential information should clearly identify the business confidential portion at the time of submission, file a statement justifying nondisclosure and referring to the specific legal authority claimed, and provide a non-confidential version of the submission.

For comments submitted electronically containing business confidential information, the file name of the business confidential version should begin with the characters ''BC.'' Any page containing business confidential information must be clearly marked ''BUSINESS CONFIDENTIAL'' on the top of that page. The corresponding non-confidential version of those comments must be clearly marked ''PUBLIC.'' The file name of the non-confidential version should begin with the character ''P.'' Any submissions with file names that do not begin with either a ''BC'' or a ''P'' will be assumed to be public and will be made publicly available through *https://www.regulations.gov.* Commenters submitting business confidential information are encouraged to scan a hard copy of the non-confidential version to create an image of the file, rather than submitting a digital copy with redactions applied, to avoid inadvertent redaction errors which could enable the public to read business confidential information.

FOR FURTHER INFORMATION CONTACT:

For technical questions, contact Joseph A. Cristofaro, Director, Sensors, Aerospace and Marine Division, Office of National Security Controls, Bureau of Industry and Security, U.S. Department of Commerce, at 202–482–2440 or by email: *Joseph.Cristofaro@bis.doc.gov.*

For general questions, contact Regulatory Policy Division, Office of Exporter Services, Bureau of Industry and Security, U.S. Department of Commerce at 202–482–2440 or by email: *RPD2@bis.doc.gov.*

SUPPLEMENTARY INFORMATION:

I. Background

A. National Space Council Direction To Review Space Export Controls

On December 20, 2023, the National Space Council convened to discuss U.S. leadership in space. As announced at the Council discussion, the Departments of State and Commerce (hereinafter, State and Commerce, respectively) were subsequently tasked to ''conduct a review of space export controls to enable a globally competitive U.S. industrial base while protecting our national security and foreign policy interests.'' (see The White House FACT SHEET: Strengthening U.S. International Space Partnerships released on December 20, 2023). In response to the tasking, and pursuant to its authorities under the Export Control Reform Act (ECRA) (codified, as amended, at 50 U.S.C. 4801–4852), this IFR is being published concurrently with a Commerce final rule, ''*Export Administration Regulations: Removal of License Requirements for Certain Spacecraft and Related Items for Australia, Canada, and the United Kingdom*'' (0694–AJ85). This final rule makes important changes to the EAR's controls on remote sensing and space-based logistics, assembly, and servicing spacecraft and related items to better rationalize the controls and facilitate collaboration with three close allies of the United States (*i.e.,* Australia, Canada, and the United Kingdom), as directed by the National Space Council tasking.

This IFR builds on the space-related export control revisions for Australia, Canada, and the United Kingdom final rule being published concurrently with this IFR by further reducing the export control requirements on certain space-related items when destined to U.S. allies and partners (including, but not limited to, Australia, Canada, and the United Kingdom).

BIS welcomes public comment on the changes made in this IFR. In addition to the changes made in this IFR, BIS also welcomes comments in response to this IFR for identifying any additional changes to the EAR's space-related export controls, which commenters believe may enable a globally competitive U.S. space industrial base while protecting U.S. national security and foreign policy interests.

This IFR is also being published concurrently with a Commerce proposed rule ''*Export Administration Regulations: Revisions to Space-Related Export Controls, Including Addition of License Exception Commercial Space Activities (CSA)*'' (RIN 0694–AH66) that builds on advanced notices of proposed rulemaking published on March 8, 2019, that are discussed in section I.B.

B. Past Activities To Review Spacecraft and Related Controls Under Departments of State and Commerce Export Control Authorities

On March 8, 2019, Commerce and State published two advanced notices of proposed rulemaking (ANPRMs) (84 FR 8485 and 84 FR 8486, respectively) seeking input on potential revisions to export controls related to satellites and spacecraft under State's International Traffic in Arms Regulations (ITAR) (22 CFR parts 120–130) and the EAR. In public comments received in response to those ANPRMs and during subsequent export control outreach events and interagency meetings to review space and related items export controls, industry and interagency representatives proposed several amendments to the EAR to support more robust international partnerships, improve the consistency and clarity of the EAR, and ensure that whenever possible U.S. policies are not putting U.S. industries at a comparative disadvantage. Building on the 2019 ANPRMs, in December 2023, as part of the activities of the National Space Council described under section I.A of this IFR, State and Commerce were tasked with conducting a review of space export controls to enable a globally competitive U.S. industrial base while protecting national security and foreign policy interests. Based on an initial interagency review, and pursuant to its authorities under ECRA, Commerce adopted the regulatory response described in section III of this IFR.

In response to the Commerce ANPRM, BIS received 19 public comments. The 19 comments submitted in response to the Commerce ANPRM consisted of comments from 12 major companies in the space industry, four trade associations with large representation from the space industry, two universities well known for their research activities in space-related issues, and one individual. BIS has reviewed these comments and used them to help inform interagency review of export controls on space and related items. In today's IFR, BIS summarizes and responds to comments received in response to the Commerce ANPRM either with regulatory changes or in clarifications made in the preamble of this IFR to address certain comments that do not require regulatory changes.

BIS also notes that a large number of the comments received in response to the Commerce ANPRM, which were also submitted to State in response to the State ANPRM, requested that additional defense articles be moved from the U.S Munitions List (USML) to the Commerce Control List (CCL). BIS considered those ITAR specific comments as part of the interagency review process that included State but does not further act upon them here because State has the statutory authority as delegated by the President to the Secretary of State to designate those items as defense articles and defense services for purposes of the ITAR.

BIS reviewed all relevant comments submitted in response to the Commerce ANPRM and responds to them directly, as appropriate, in the discussion of the regulatory changes in section III of this IFR.

II. Overview of This Interim Final Rule

This IFR makes changes to the controls for spacecraft and related items under the EAR. ECRA (codified, as amended, at 50 U.S.C. 4801–4852) provides the legal basis for BIS's principal authorities and serves as the authority under which BIS issues this rule. Section 1753(a) of ECRA (50 U.S.C. 4812) authorizes the regulation of ''(1) the export, reexport, and in-country transfer of items subject to the jurisdiction of the United States, whether by United States persons or by foreign persons.'' The changes being made in this IFR are needed for the regulation of exports, reexports, and transfers (in-country) of spacecraft and related items subject to U.S. jurisdiction. The two sets of changes today's IFR makes are described in section III as follows:

A. Reducing license requirements on less sensitive items to reflect the close relations with certain countries and to better facilitate space collaboration with those countries while continuing to protect U.S. national security and foreign policy interests; and

B. Making refinements and clarifications to existing controls to make the controls easier to understand (e.g., clarifying certain ECCNs or the applicability of a license exception).

III. Changes to the EAR

A. Reducing License Requirements on Less Sensitive Items To Reflect the United States' Close Relations With Certain Countries and To Better Facilitate Space Collaboration While Continuing To Protect U.S. National Security and Foreign Policy Interests

1. Changing Reasons for Control From NS1 and RS1 to NS2 and RS2

In Export Control Classification Number (ECCN) 9A515, this IFR revises the License Requirements section under the NS1 and RS1 Control entries to exclude 9A515.x from the scope of the license requirements. This IFR, as a conforming change, also adds an NS2 and RS2 Control for ECCN 9A515.x. The .x paragraphs in ECCNs serve as a catch-all control for ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for use in or with certain items, typically by referencing categories of items. These .x catch-all controls play an important role in the 9x515 control structure. However, given the less sensitive nature of many of the 9A515.x commodities, in particular when exported and reexported to U.S. allies and partners, and the importance of the items to the U.S. industrial base, BIS has determined it is warranted to take these steps to better rationalize the 9A515.x license requirements. These changes in the license requirements for 9A515.x commodities will better facilitate exports and reexports to U.S. allies, partners, and other destinations of less export control concern by reducing the 9A515.x reasons for control from NS1 and RS1 to NS2 and RS2. As described further below, any 9A515.x items BIS determines continue to warrant the higher NS1 and RS1 controls will be added to a separate 9A515 ''items'' paragraph (*i.e.,* new 9A515.w or otherwise enumerated under 9A515) which this IFR adds and reserves as a placeholder to control commodities that warrant higher-level NS1 and RS1 controls. This change is pursuant to the Export Control Reform Act (ECRA) of 2018 at 50 U.S.C. 4811(2)(C), which directs that export controls should be used to strengthen the defense industrial base.

Any ''parts,'' ''components,'' ''accessories,'' and ''attachments'' that are determined subsequently to warrant NS1 and RS1 controls would be enumerated under a new items paragraph under 9A515.w or otherwise enumerated under 9A515 to ensure U.S. national security and foreign policy interests are protected. Because the NS1 and RS1 controls apply to the entire 9A515 entry, except as specified in the exclusions in the NS1 and RS1 controls paragraphs, no additional changes to the NS1 and RS1 controls paragraph under ECCN 9A515 are needed to make this change.

The changes described here are also described in greater detail under section III.B.1.a through .e of this IFR where all the changes made to the ECCNs included in this IFR (*i.e.,* 9A004, 9A515, 9A604, 9D515, and 9E515) are described.

2. Adding Additional .y Items to 9A515 and to 9A004

In addition to the changes described above in section III.A.1, this IFR

addresses a subset of .x items that warrant being added to .y paragraphs under ECCN 9A515. The paragraph (b)(1) release under the ''specially designed'' definition in § 772.1 and the special commodity classification (CCATS) process under § 748.3(e) contemplate that, either through the advisory opinion process or through U.S. Government review, additional items may be identified as warranting a downgrade in their ''specially designed'' control status to reflect the less sensitive nature of these items. Many comments in response to the ANPRM had identified various suggestions for certain 9A515.x commodities that warranted being removed from .x and added to 9A515.y, as well as recommending the same commodities, in many cases, as warranting also being identified under 9A004.y.

BIS's Technical Advisory Committees (TACs), as well as other agencies involved in space-related activities (*e.g.,* the National Aeronautics and Space Administration (NASA)) assisted BIS in identifying the ''specially designed'' commodities to be added to ECCNs 9A515.y, and 9A004.y. Consistent with the § 748.3(e) process, Commerce, the Department of Defense (Defense), and State concurred with the addition of these commodities to .y, as well as with the moving of certain commodities from 9A515.x to other item paragraphs under ECCNs 9A515 and 9A004. Note that in certain cases the NS1 and RS1 license requirements may be retained, such as for commodities that may be subsequently moved from 9A515.x to new ''items'' paragraph 9A515.w, which this IFR reserves for future use.

The changes described here are described in greater detail under sections III.B.1.a through .e of this IFR, where a description of all the changes made to the ECCNs (*i.e.,* 9A004, 9A515, 9A604, 9D515, and 9E515) is included.

3. Adding ECCNs 9D515 and 9E515 to the Exclusion From License Requirements When the Release Is for a ''Standards-Related Activity''

In § 734.10 (Patents and standards-related activity), this IFR adds paragraph (b)(1)(iv) to add references to ''software'' that is classified under ECCN 9D515 (other than 9D515.d or .e); and ''technology'' classified under ECCN 9E515.a, .b, or .f (limited to technology for 9A515.a.4) when the release is for a ''standards-related activity.'' See §§ 734.10 and 772.1 of the EAR. These software and technology, which include space-based servicing, assembly, and logistics are crucial in the furtherance of commercial spacecraft flight safety (specifically for in-space servicing, assembly, or logistics). Barriers to U.S. participation in the development of these standards would be detrimental and counterproductive to U.S. commercial spacecraft development and national security interests. Lack of U.S. participation in the development of standards in this area would cede the development of international standards to foreign actors that may not only disregard U.S. commercial and national security interests, but actively work to destabilize them. Therefore, this IFR adds specific portions of ECCNs 9D515 and 9E515 to this EAR provision, while maintaining existing controls on more sensitive software and technology related to radiation-hardened integrated circuits and remote sensing, consistent with U.S. national security and foreign policy interests.

B. Making Refinements and Clarifications to Existing Controls

1. Clarifications to Spacecraft and Related Items on the CCL

a. ECCN 9A004

i. *Reducing license requirement from NS1 to NS2.* This IFR revises the License Requirements section for ECCN 9A004 to reduce the license requirement from NS1 to NS2 for 9A004.v and .x, as well as for new 9A004.s, which this IFR also adds to 9A004.

ii. *Addition of RS license requirement for 9A004.y.* This IFR adds a new RS license requirement to 9A004.y to impose a license requirement for exports and reexports to China, Russia, or Venezuela (15 CFR 742.6(a)(7)). This IFR adds this RS license requirement for consistency with other ''600 series'' and 9x515 ECCNs that include a .y ''items'' paragraph. The addition of the RS license requirement to 9A004.y is a conforming change with the license requirements that apply for other .y items in other ''600 series'' and 9x515 ECCNs to ensure that such .y items this IFR adds to 9A004.y may not be exported or reexported to China, Russia, or Venezuela without a BIS authorization.

iii. *Clarification to relationship between ECCN 9A004, 9A515, and USML. Category IV.* Paragraphs a. through f. of ECCN 9A004 apply to certain space launch vehicles, spacecraft, spacecraft buses, spacecraft payloads, on-board systems or equipment, and terrestrial equipment. They are listed in ECCN 9A004.a through .f in order to harmonize ECCN 9A004 with the Wassenaar Arrangement Dual-Use List, even though the controls for these items are found under ECCN 9A515. This IFR makes revisions to the License Requirement Note in ECCNs 9A004 and 9A515 to make this relationship clearer and to direct exporters, reexporters, and transferors to see USML Category IV for 9A004.a. The License Requirement Note in ECCN 9A004 prior to this IFR already specified that 9A004.b through .f, and .h are controlled under ECCN 9A515. This IFR further clarifies the relationship between ECCN 9A004 and 9A515 by specifying that the commodities described under 9A004.g. h, .r, .s, and .u through .y are controlled under ECCN 9A004. This IFR also revises the License Requirement Note to ECCN 9A515 to add the same text as this IFR adds to the License Requirement Note to 9A004 as a new License Requirement Note (2) to ECCN 9A515 and redesignates the previous License Requirement prior to this rule as new License Requirement Note (1). This IFR describes this change to ECCN 9A515 here instead of the III.B.1.b. below where the other changes to 9A515 are described because this revised License Requirement Note has applicability to both 9A004 and 9A515.

Two commenters in response to the Commerce ANPRM requested BIS provide additional clarification for the relationship between ECCN 9A004 and 9A515, including clarifying the intent of the License Requirement Note in these two respective ECCNs to better assist exporters, reexporters, and transferors classifying commodities under these two ECCNs, as well as USML Category IV. This IFR revises the License Requirement Note to 9A004 and 9A515 in response to these comments. BIS welcomes comments on these changes in this IFR.

iv. *Removal of N.B. in 9A004.* In the ''items'' paragraph in the List of Items Controlled section of ECCN 9A004, this IFR removes the *nota bene* (N.B.) following ''items'' paragraph .e.3 because the USML and CCL Orders of Review already provide sufficient guidance on the scope of jurisdiction of the two control lists and the text of the *nota bene* should be more precise when referencing jurisdiction. In order to avoid confusion, this IFR removes this *nota bene* and this IFR directs exporters, reexporters, and transferors to review the USML Order of Review and CCL Order of Review, which provide precise guidance on determining export control jurisdiction and classification of an item.

v. *Addition of 9A004.r to clarify control on in-space habitats.* This IFR adds ECCN 9A004.r to clarify that existing 9A004 controls in-space habitats, other than the International Space Station (ISS). This IFR also adds a Note 4 to 9A004.r to provide

additional guidance on what is considered an in-space habitat by specifying that in-space habitats are considered the commercial equivalent of a space station because it is used for persons conducting experiments or space tourism activities.

vi. *Addition of 9A004.s to clarify controls on certain ''parts,'' ''components,'' ''accessories,'' and ''attachments.''* This IFR adds ECCN 9A004.s to clarify that existing 9A004 controls ''parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for in-space habitats in 9A004.r and that are *not* described on the USML; described in ECCN 7A004 or 7A104; described in an ECCN containing ''space-qualified'' as a control criterion (refer to 9A515.x.4); or described in 9A001, 9A002, 9A003, or 9A991. This IFR as a conforming change for the addition of 9A515.s reserves 9A004.t.

vii. *Addition of .y paragraphs under y.1 through y.63.* This IFR adds .y paragraphs y.1 through y.63 to identify items that would otherwise be within the scope of ECCN 9A004.s or .x but that have been identified in an interagency-cleared commodity classification (CCATS) pursuant to § 748.3(e) as warranting control in 9A004.y by Commerce, State, and Defense or that have otherwise been determined by Commerce, State, and Defense as warranting control in 9A004.y. This IFR removes the reference to 9A004.v because these ''specially designed'' ''parts,'' ''components,'' ''accessories,'' and ''attachments'' warrant a higher-level control than a .y entry.

viii. *Addition of Note 5 to 9A004 to further specify control for items operating on other celestial bodies.* This IFR as a conforming change to the addition of Note 6 to 9A515 described under section III.B.b.1.viii below adds a new Note 5 to 9A004 to specify that an item, such as a rover, operating on any celestial body other than Earth is treated as if it is on Earth for classification purposes on the CCL.

b. ECCN 9A515

i. *Reducing license requirement from NS1/RS1 to NS2/RS2 for 9A515.x.* This IFR revises the License Requirements for ECCN 9A515 to reduce the license requirement from NS1 and RS1 to NS2 and RS2 for 9A515.x. This IFR revises the NS2 and RS2 license requirement in the License Requirements section to impose a license requirement on 9A515.x.

ii. *Adding new 9A004.r for in-space habitats to the exclusion from 9A515.a.* This IFR, as a conforming change for the addition of 9A004.r described under section III.B.1.a.v, revises 9A515.a introductory text to add 9A004.r to the exclusion from 9A515.a. This exclusion is needed because anything described by new ECCN 9A004.r would have otherwise met the control parameter under 9A515.a.4 or 9A515.a.5, so this IFR adds this exclusion to 9A515, so these in-space habitats, other than the International Space Station, which is already controlled under 9A004.w, will be controlled under 9A004.r.

iii. *Revisions to 9A515.b for consistency with the Wassenaar Arrangement Control text under WA–9A4 and to provide greater clarity on the types of equipment classified under this entry.* This IFR adds new introductory text for 9A515.b to specify this entry controls equipment for telemetry, tracking, and control, as specified under new ''items'' paragraphs 9A515.b.1 (Ground control systems and training simulators ''specially designed'' for telemetry, tracking, and control of the ''spacecraft'' controlled in paragraphs 9A004.u or 9A515.a), b.2 (Terrestrial equipment ''specially designed'' for ''spacecraft'' for any of the following data processing functions: under b.2.a.1 or b.2.a.2), or b.3 (simulators ''specially designed'' for 'verification of operational procedures' of ''spacecraft''). This IFR adds this greater specificity for consistency with the WA–9A4 control list entry and to better assist persons classifying items under 9A515.b. To further assist persons classifying items under 9A515.b, this IFR adds a new Technical Note that specifies that for the purposes of 9A515.b.3, 'verification of operational procedures' is any of the following: (1) command sequence confirmation; (2) operational training; (3) operational rehearsals; or (4) operational analysis.

iv. *Revision to Note 1 to 9A515.d. and .e to simplify the cross reference to the USML and other ECCN reference.* This IFR redesignates Note 1 to 9A515.d as Note 2 to 9A515.d and .e. This IFR also simplifies the text of this note to limit the scope to be a cross reference to Category XI and ECCN 3A611.f and remove the rest of the text. BIS welcomes comments from the public on the revisions to this note to adopt this more generic cross reference.

v. *Addition of 9A515.w to impose NS1 and RS1 license requirements on ''parts,'' ''components,'' ''accessories,'' and ''attachments'' that would have otherwise been classified under 9A515.x but warrant a more restrictive NS1 and RS1 license requirement.* The reduction in the license requirement from NS1 and RS1 to the less restrictive NS2 and RS2 is an important part of this IFR for better rationalizing the spacecraft and related items controls, but in order to reduce the license requirement on 9A515.x, a new ''items'' paragraph needs to be added to identify certain ''parts,'' ''components,'' ''accessories,'' or ''attachments'' that still warrant the more restrictive NS1 and RS1 license requirement. Similar to the 9A515.y paragraphs, the ''parts,'' ''components,'' ''accessories,'' and ''attachments'' classified under new 9A515.w will need to meet the description specified under 9A515.w, which for purposes of this IFR is limited to a reserved paragraph under 9A515.w.1, which BIS intends to populate in the future as interagency decisions are made for certain ''parts,'' ''components,'' ''accessories,'' or ''attachments'' that warrant the more restrictive NS1 and RS1 license requirement under 9A515.w. As the interagency decides that certain ''parts,'' ''components,'' ''accessories,'' or ''attachments'' that are not already classified under another CCL entry following the CCL Order of Review warrant a lower-level control, those items may be downshifted to the lower-level 9A515.y controls. Conversely, when the interagency determines that a higher-level control is warranted, items may be upshifted to higher-level 9A515.w controls. For both the 9A515.y and .w paragraphs, the item in question would need to meet the description of the respective .y or .w paragraph and be ''specially designed'' in order to be classified under one of those ''items'' paragraphs.

vi. *Addition of new Note 5 to 9A515.b and .x and redesignation of existing Note to 9A515.x as Note 4 to 9A515.x.* This IFR adds a new Note 5 to 9A515.b and .x to clarify the scope of controls over baseband units (BBU). This new Note 5 clarifies that for purposes of 9A515.b and .x, a BBU means a device that interprets the original frequency range of a transmission signal. The new Note 5 further clarifies that these devices are not controlled under 9A515.b or .x when they do not perform telemetry, tracking, and control (TT&C). This new Note 5 would assist persons classifying items under ECCN 9A515.b or .x to more easily determine whether a particular BBU is classified under one of these two ''items'' paragraphs. To conform with Office of the Federal Register drafting requirements, this IFR also redesignates the existing Note to 9A515.x as Note 4 to 9A515.x, so the Notes will be in numerical order within the ECCN.

A commenter on the Commerce ANPRM requested that BIS add a Note to 9A515.b and 9A515.x, clarifying that BBUs that do not perform TT&C are not controlled under ECCN 9A515. This

commenter states that BBUs that do not fully perform TT&C are in some cases being viewed as 9A515.b or .x TT&C ground system equipment or ''components'' when they perform merely physical layer-type operations with no knowledge of spacecraft content. This commenter further states that there is a wide array of non-sensitive devices that can demodulate a telemetry carrier and modulate a command one. This commenter states that BBUs with similar limited functionality should not be controlled by 9A515.b or .x. This IFR adds new Note 5 to 9A515.b and .x to clarify the scope of controls over baseband units (BBU) in response to this comment. BIS welcomes comments on this change.

vii. *Addition of .y paragraphs under y.7 through y.74.* This IFR adds .y paragraphs y.7 through y.74, along with making some clarifications to the existing 9A515.y.1 through y.6 descriptions, to identify items that would otherwise be within the scope of ECCN 9A515.x but that have been identified in an interagency-cleared commodity classification (CCATS) pursuant to § 748.3(e) as warranting control in 9A515.y or that have otherwise been determined by Commerce, State, and Defense as warranting control in 9A004.y. The revisions to existing 9A515.y.4 through .6 include removing the term space grade from 9A515.y.4 through 9A515.y.6 to add other control criteria, which will maintain the same scope of controls, but do it in a way that uses more objective and more commonly used criteria for spacecraft and related items.

viii. *Clarification for how to classify a .y commodity.* Two commenters in response to the Commerce ANPRM requested confirmation for whether persons classifying items under a .y paragraph would need to have access to an interagency-cleared commodity classification (CCATS) that resulted in a commodity being added to a .y entry on the CCL. No EAR changes are required to address these comments because the existing EAR provisions already address the questions being asked by these two commenters. This IFR notes here that an exporter, reexporter, or transferor classifying a commodity under a .y entry on the CCL does not need access to any related CCATS in order to classify an item under a .y entry. To be classified under a .y entry on the CCL, the commodity in question would need to meet two criteria: (1) the commodity meets the described control parameter description in a .y paragraph (*e.g.,* 9A515.y); and (2) the item in question is ''specially designed'' for a referenced item or category in the respective .y paragraph.

For example, this IFR adds new 9A515.y.7, which will control public address (PA) systems. The first part of the classification analysis would be to determine if the commodity is a public address (PA) system. The second part of the analysis would determine whether that PA system was ''specially designed'' for defense articles described in USML Category XV or items controlled by 9A515.

If in response to a CCATS submission requesting a release from ''specially designed'' for purposes of 9A515.x, Commerce, State, and Defense concur that such a commodity may be released from ''specially designed,'' and that the person that submitted the CCATS, along with any other exporter, reexporter, or transferor that person shared the CCATS determination with, may rely on that interagency CCATS determination and the paragraph (b)(1) release from ''specially designed.'' In these types of scenarios, BIS would subsequently revise the respective .y paragraph, such as 9A515.y in this example to add a description of the commodity that was designated as being a 9A515.y commodity, provided it was also ''specially designed'' for purposes of that respective .y paragraph. BIS welcomes comments on this clarification in response to these comments submitted in response to the IFR.

ix. *Addition of Note 6 to 9A515 to further specify control for items operating on other celestial bodies.* This IFR adds new Note 6 to 9A515 to specify that an item, such as a rover, operating on any celestial body other than Earth is treated as if it is on Earth for classification purposes on the CCL. This will clarify the control status for rovers and similar types of items that may be used on other celestial bodies, but otherwise generally have no special attributes that would warrant treating them differently from an export control perspective because the object can operate on Earth as well as other celestial bodies.

c. ECCN 9A604

i. *Removal of ECCN 9A604.a and .b to clarify the jurisdictional control status of certain thermal batteries.* This IFR removes ECCN 9A604.a and .b, which prior to this IFR included control parameters for certain thermal batteries. However, the USML also included control parameters for the same types of thermal batteries, which has resulted in questions from the public on the correct export control jurisdiction for these types of thermal batteries. The USML Order of Review and CCL Order of Review address such a scenario when there is an actual or a perceived overlap between the control parameters included on the two respective control lists by specifying that the USML takes precedence over the CCL. To remove any potential ambiguity regarding the jurisdictional status of such thermal batteries, this IFR removes and reserves 9A604.a and .b. This IFR adds in ECCN 9A604 a new Related Controls paragraph (3) to specify that thermal batteries for USML Category IV items are subject to the ITAR and include a parenthetical cross reference to see 22 CFR 121.1, USML Category XIII for such thermal batteries.

Two commenters in response to the Commerce ANPRM stated that the same thermal batteries for USML Category IV items are described on both the USML and the CCL. These two commenters requested that State and Commerce consider removing these specific types of thermal batteries from the USML Category XIII(h)(3) entry, as they are sufficiently controlled under ECCN 9A604.a, and the double entry introduces opportunities for misunderstanding within industry. BIS agrees that the CCL parameters for thermal batteries in ECCN 9A604 overlap with the control parameters in Category XIII(h)(3). The CCL Order of Review addresses this scenario with the USML control taking jurisdictional precedence over the CCL control for these thermal batteries. This IFR removes and reserves ECCN 9A604.a and .b to address this overlap.

ii. *Clarification to 9A604.x to add a cross reference to 9A604.y.* This IFR revises 9A604.x to add a reference to 9A604.y to exclude commodities described in 9A604.y from the scope of 9A604.x. In order to be classified under 9A604.y, the item in question would need to meet the description under the respective 9A604.y ''items'' paragraph and the definition of ''specially designed.'' Items that meet both of those criteria are not classified under 9A604.x.

iii. *Addition of 9A604.y.1 paragraph under y.*

This IFR adds .y paragraph y.1 (''Parts'' and minor ''components'' for landing leg assemblies) to identify specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in this entry, ECCN 9A604, or for a defense article in USML Category IV and not elsewhere specified on the USML or on the CCL, and other commodities, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed''

therefor. To comply with Office of Federal Register (OFR) drafting requirements, this IFR also reserves paragraph y.2.

This IFR, as a conforming change to the addition of 9A604.y, revises the License Requirements section under 9A604, to add an RS control for 9A604.y that applies to China, Russia, or Venezuela (see 15 CFR 742.6(a)(7)). This IFR also adds this RS license requirement for consistency with other ''600 series'' and 9x515 ECCNs that include a .y ''items'' paragraph. The addition of the RS license requirement to 9A604.y is a conforming change with the license requirements that apply for other .y items in other ''600 series'' and 9x515 ECCNs to ensure that such .y items this IFR adds to 9A604.y may not be exported or reexported to China, Russia, or Venezuela without a BIS authorization. BIS welcomes comments identifying any major ''components'' for landing leg assemblies or certain landing leg assemblies that may warrant consideration for adding to 9A604.y.1.

d. ECCN 9D515

i. *Excluding the new 9D515.x from the NS1 and RS1 license requirement and adding a license requirement for NS2 and RS2 to 9D515.x.* This IFR revises the License Requirements for ECCN 9D515 to add an exclusion for the new 9D515.x from the license requirement for NS1 and RS1 in the License Requirements section. This IFR, as a conforming change, also revises the NS2 and RS2 license requirement in the License Requirements section to impose a license requirement on 9D515.x.

ii. *Addition of 9D515.x.* This IFR adds a new 9D515.x to control ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.x. A ''software'' control for 9A515.x was intended for 9D515.x, but prior to this IFR was not included. Other ''items'' paragraphs of 9D515 may have already controlled such ''software,'' but to make it more explicit and easier for persons classifying the ''software'' under this ECCN, this IFR adds this new 9D515.x. As a conforming change for the addition of new 9D515.x, this IFR reserves ''items'' paragraphs f. through w. under 9D515.

e. *ECCN 9E515*

i. *Excluding the new 9E515.x from the NS1 and RS1 license requirement and adding a license requirement for NS2 and RS2 to 9E515.x.* This IFR revises the License Requirements for ECCN 9E515 to add an exclusion for new 9E515.x from the license requirement for NS1 and RS1. This IFR also revises the license NS2 and RS2 license requirement in the License Requirements section to impose a license requirement on 9E515.x to ensure an appropriate control will be in place to protect U.S. national security and foreign policy interests for this technology.

ii. *Addition of 9E515.x.* This IFR adds a new 9E515.x to control ''technology'' ''required'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.x. As a conforming change for the addition of new 9E515.x, this IFR reserves ''items'' paragraphs g. through .w under 9E515.

iii. *Request to narrow the scope of ''technology'' controlled under 9E515.* A commenter in response to the Commerce ANPRM requested that BIS limit the control on repair technology under ECCN 9E515 to things like ''investigations into'' anomalies and exclude specific operations in response to those anomalies. This IFR notes here that these types of classification questions are addressed by reviewing the definition of ''required,'' which refines the scope of the control to what ''technology'' is intended to be controlled under a particular technology entry. BIS does not believe any regulatory changes are needed to address this comment, but BIS welcomes comments on this clarification that reviewing the definition of ''required'' sufficiently addresses this comment.

2. Specifying the BIS Determination That Space Act Agreements (SAA) to Which the National Aeronautics Space Agency (NASA) is a Party Meet the Criteria Under License Exception GOV Under § 740.11(b)(2)(ii) and (b)(2)(iii)(B) and (C)

In § 740.11 (Governments, international organizations, international inspections under the Chemical Weapons Convention, and the International Space Station (GOV)), this IFR revises the paragraph (b)(1) (Scope) by adding a new sentence at the end of that paragraph to specify that for purposes of paragraphs (b)(2)(ii) and (b)(2)(iii)(B) and (C) of that section, BIS has determined that an SAA to which NASA is a party meets the criteria of these three paragraphs for being 'authorized by law and subject to control by the President by other means.'

3. Clarification on Shipments to Launch Platforms Located in International Waters

In § 744.7 (Restrictions on certain exports to and for the use of certain foreign vessels or aircraft) this IFR adds a new Note 1 to paragraph (a) to clarify that a shipment or transmission of items to a launch platform or facility in international waters is treated as an ''export'' or ''reexport'' to the country or countries the platform or facility is owned by, controlled by, or being operated on behalf of.

Public comments in response to the Commerce ANPRM noted that launches from platforms in international waters are now possible and will likely increase in the future, as well as other space-related launch activities in international waters. The comments asked for BIS to clarify how shipments to international waters would be treated, in particular for countries of concern, such as those destinations identified in Country Groups D:1, D:4, or D:5. This IFR addresses this issue by adding new Note 1 to paragraph (a), which imposes a license requirement under § 744.7 based on the underlying CCL-based license requirement that does require a license for all 9x515, 9A004, and 9A604 items when exported or reexported to a Country Group D:1, D:4, or D:5 country, as well as to most other destinations. BIS welcomes comments from the public on the scope of this Note to paragraph (a).

One commenter in response to the Commerce ANPRM requested additional guidance be provided for how launch, landing and related activities that occur in the ocean are addressed under the EAR. This commenter noted that the EAR does not clearly identify where in the ocean the United States begins and ends, making it difficult to determine what constitutes an ''export'' when spacecraft and related items subject to the EAR are moved into the ocean for launching or landing a rocket or spacecraft. In addition, if a U.S. person owns and remains in possession and control of such items when taking them from U.S. soil into the ocean, the current regulations still appear to require a license, even if there is no foreign person involvement. This IFR notes here that the definition of ''United States'' in § 772.1 of the EAR defines what is considered the ''United States'' for purposes of the EAR, along with the definition of ''export'' in § 734.13 (Export). To address ''exports'' to international waters, this IFR makes revisions to § 744.7, which are responsive to this comment requesting additional clarification for how such

''exports'' are controlled under the EAR. BIS notes here that the clarification addresses this issue primarily as it relates to spacecraft and related items. BIS welcomes comments on this change, including whether commenters believe any additional clarifications should be made to the EAR to address these ''exports,'' as well as ''reexports,'' to international waters scenarios.

4. Addition of License Exception GOV Paragraph (e) Eligibility for ECCN 9A004 When Needed in Russia on Short Notice for Launch to the International Space Station (ISS)

This IFR revises § 746.8(c)(2)(ii) of the Russian and Belarus sanctions that specifies that License Exception GOV under § 740.11(b) may overcome the license requirements in paragraphs (a)(1), (2), and (4) through (7) of § 746.8. This IFR adds a sentence to the end of this paragraph to specify that License Exception GOV under § 740.11(e) may overcome the license requirements in paragraphs (a)(1) and (2) of § 746.8 for ECCN 9A004. This IFR adds this additional license exception eligibility by taking into account the current exclusion in the RS control in 9A004 that excludes these 9A004.y commodities from the RS license requirement for Russia when the commodities are for use in, with, or for the International Space Station (ISS), including launch to the ISS, as well as this IFR adding more commodities to ECCN 9A004.y. When these ECCN 9A004 commodities are needed to be exported or reexported to or transferred within Russia on short notice for launch to the ISS and the export, reexport, or transfer (in-country) is not otherwise restricted under the general restrictions under § 740.2 and meets all of the applicable requirements of § 740.11(e), authorizing these exports, reexports, and transfers (in-country) are consistent with U.S. national security and foreign policy interests.

Savings Clause

For the changes being made in this interim final rule, shipments of items removed from eligibility for a License Exception or export, reexport, or transfer (in-country) without a license (NLR) as a result of this regulatory action that were *en route* aboard a carrier to a port of export, reexport, or transfer (in-country), on [INSERT DATE OF PUBLICATION IN THE **Federal Register**], pursuant to actual orders for export, reexport, or transfer (in-country) to or within a foreign destination, may proceed to that destination under the previous eligibility for a License Exception or export, reexport, or transfer (in-country) without a license (NLR), provided the export, reexport, or transfer (in-country) is completed no later than on November 22, 2024.

Export Control Reform Act of 2018

On August 13, 2018, the President signed into law the John S. McCain National Defense Authorization Act for Fiscal Year 2019, which included the Export Control Reform Act of 2018 (ECRA) (codified, as amended, at 50 U.S.C. 4801–4852). ECRA provides the legal basis for BIS's principal authorities and serves as the authority under which BIS issues this rule. In particular, and as noted elsewhere, Section 1753 of ECRA (50 U.S.C. 4812) authorizes the regulation of exports, reexports, and transfers (in-country) of items subject to U.S. jurisdiction. Further, Section 1754(a)(1)–(16) of ECRA (50 U.S.C. 4813(a)(1)–(16)) authorizes, *inter alia:* (1) the establishment of a list of controlled items; (2) the prohibition of unauthorized exports, reexports, and transfers (in-country); (3) the requirement of licenses or other authorizations for exports, reexports, and transfers (in-country) of controlled items; (4) the apprising of the public of changes in policy, regulations, and procedures; and (5) any other action necessary to carry out ECRA that is not otherwise prohibited by law. Pursuant to Section 1762(a) of ECRA (50 U.S.C. 4821(a)), these changes can be imposed in a final rule without prior notice and comment.

Rulemaking Requirements

1. Executive Orders 12866, 13563, and 14094 direct agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects and distributive impacts and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits and of reducing costs, harmonizing rules, and promoting flexibility. This proposed rule has been designated a ''significant regulatory action'' under Executive Order 12866.

2. Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) (PRA), unless that collection of information displays a currently valid Office of Management and Budget (OMB) Control Number. This rule involves the following OMB-approved collections of information subject to the PRA:

- 0694–0088, ''Multi-Purpose Application,'' which carries a burden hour estimate of 29.4 minutes for a manual or electronic submission;
- 0694–0096, ''Five Year Records Retention Period,'' which carries a burden hour estimate of less than 1 minute;
- 0694–0122, ''Licensing Responsibilities and Enforcement;'' and
- 0607–0152, ''Automated Export System (AES) Program,'' which carries a burden hour estimate of 3 minutes per electronic submission.

This rule changes the respondent burden for control number 0694–0088 by reducing the estimated number of submissions by 400, which is expected to reduce the current approved estimates, which will result in a reduction of 196 burden hours saved and cost savings to the public of $7,448 under this collection. The respondent burden under controls numbers 0694–0096 and 0607–0152 are not anticipated to change as a result of this interim final rule. Current information regarding all three collections of information—including all background materials—can be found at: *https://www.reginfo.gov/public/do/PRAMain* by using the search function to enter either the title of the collection or the OMB Control Number.

3. This rule does not contain policies with federalism implications as that term is defined in Executive Order 13132.

4. Pursuant to section 1762 of ECRA (50 U.S.C. 4821), this action is exempt from the Administrative Procedure Act (APA) (5 U.S.C. 553) requirements for notice of proposed rulemaking, opportunity for public participation, and delay in effective date. While section 1762 of ECRA provides sufficient authority for such an exemption, this action is also independently exempt from these APA requirements because it involves a military or foreign affairs function of the United States (5 U.S.C. 553(a)(1)).

5. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule by 5 U.S.C. 553, or by any other law, the analytical requirements of the Regulatory Flexibility Act, 5 U.S.C. 601, *et seq.,* are not applicable. Accordingly, no regulatory flexibility analysis is required, and none has been prepared.

List of Subjects

15 CFR Part 734

Administrative practice and procedure, Exports, Inventions and patents, Research,

Science and technology.

15 CFR Part 740

Administrative practice and procedure, Exports, Reporting and recordkeeping requirements.

15 CFR Part 744

Exports, Reporting and recordkeeping requirements, Terrorism.

15 CFR Parts 746 and 774

Exports, Reporting and recordkeeping requirements.

For the reasons stated in the preamble, parts 734, 740, 744, 746, and 774 of the Export Administration Regulations (15 CFR parts 730 through 774) are amended as follows:

PART 734—SCOPE OF THE EXPORT ADMINISTRATION REGULATIONS

■ 1. The authority citation for part 734 continues to read as follows:

Authority: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* E.O. 12938, 59 FR 59099, 3 CFR, 1994 Comp., p. 950; E.O. 13020, 61 FR 54079, 3 CFR, 1996 Comp., p. 219; E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783; E.O. 13637, 78 FR 16129, 3 CFR, 2014 Comp., p. 223; Notice of November 1, 2023, 88 FR 75475.

■ 2. Section 734.10 is amended by:

■ a. By removing the word ''and'' at the end of paragraph (b)(1)(iii) and adding in its place the word ''or''; and

■ b. Adding paragraph (b)(1)(iv) to read as follows:

§ 734.10 Patents and standards-related activity.

* * * * *

(b) * * *

(1) * * *

(iv) ''Software'' that is classified under ECCN 9D515 (other than 9D515.d or .e); and ''technology'' classified under ECCN 9E515.a, .b, or .f (limited to technology for 9A515.a.4), when the release is for a ''standards-related activity;'' and

* * * * *

PART 740—LICENSE EXCEPTIONS

■ 3. The authority citation for part 740 continues to read as follows:

Authority: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 22 U.S.C. 7201 *et seq.;* E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

■ 4. Section 740.11 is amended by adding a new sentence at end of paragraph (b)(1) to read as follows:

§ 740.11 Governments, international organizations, international inspections under the Chemical Weapons Convention, and the International Space Station (GOV).

* * * * *

(b) * * *

(1) * * * For purposes of paragraphs (b)(2)(ii), (b)(2)(iii)(B) and (C) of this section, BIS has determined that a Space Act Agreement (SAA) to which the National Aeronautics Space Agency (NASA) is a party meets the criteria of these paragraphs for being authorized by law and subject to control by the President by other means.

* * * * *

PART 744—CONTROL POLICY: END–USER AND END–USE BASED

■ 5. The authority citation for part 744 is revised to read as follows:

Authority: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 22 U.S.C. 3201 *et seq.;* 42 U.S.C. 2139a; 22 U.S.C. 7201 *et seq.;* 22 U.S.C. 7210; E.O. 12058, 43 FR 20947, 3 CFR, 1978 Comp., p. 179; E.O. 12851, 58 FR 33181, 3 CFR, 1993 Comp., p. 608; E.O. 12938, 59 FR 59099, 3 CFR, 1994 Comp., p. 950; E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228; E.O. 13099, 63 FR 45167, 3 CFR, 1998 Comp., p. 208; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783; E.O. 13224, 66 FR 49079, 3 CFR, 2001 Comp., p. 786; Notice of November 8, 2022, 87 FR 68015, 3 CFR, 2022 Comp., p. 563; Notice of September 18, 2024, 89 FR 77011 (September 20, 2024).

■ 6. Section 744.7 is amended by adding Note 1 to paragraph (a) to read as follows:

§ 744.7 Restrictions on certain exports to and for the use of certain foreign vessels or aircraft.

(a) * * *

Note 1 to paragraph (a): A shipment or transmission of items to a launch platform or facility in international waters is an ''export'' or ''reexport'' to the country or countries the platform or facility is owned by, controlled by, or being operated on behalf of.

* * * * *

PART 746—EMBARGOES AND OTHER SPECIAL CONTROLS

■ 7. The authority citation for 15 CFR part 746 continues to read as follows:

Authority: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 22 U.S.C. 287c; Sec 1503, Pub. L. 108–11, 117 Stat. 559; 22 U.S.C. 2151 note; 22 U.S.C. 6004; 22 U.S.C. 7201 *et seq.;* 22 U.S.C. 7210; E.O. 12854, 58 FR 36587, 3 CFR, 1993 Comp., p. 614; E.O. 12918, 59 FR 28205, 3 CFR, 1994 Comp., p. 899; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783; E.O. 13338, 69 FR 26751, 3 CFR, 2004 Comp., p 168; Presidential Determination 2003–23, 68 FR 26459, 3 CFR, 2004 Comp., p. 320; Presidential Determination 2007–7, 72 FR 1899, 3 CFR, 2006 Comp., p. 325; Notice of May 8, 2024, 89 FR 40355 (May 9, 2024).

■ 8. Section 746.8 is amended by revising paragraph (c)(2)(ii) to read as follows:

§ 746.8 Sanctions against Russia and Belarus.

(c) * * *

(2) * * *

(ii) License Exception GOV (§ 740.11(b) of the EAR) may overcome the license requirements in paragraphs (a)(1), (2), and (4) through (7) of this section. License Exception GOV under (§ 740.11(e) of the EAR) may overcome the license requirements in paragraphs (a)(1) and (2) of this section for ECCN 9A004.

* * * * *

PART 774—THE COMMERCE CONTROL LIST

■ 9. The authority citation for part 774 continues to read as follows:

Authority: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 10 U.S.C. 8720; 10 U.S.C. 8730(e); 22 U.S.C. 287c, 22 U.S.C. 3201 *et seq.;* 22 U.S.C. 6004; 42 U.S.C. 2139a; 15 U.S.C. 1824; 50 U.S.C. 4305; 22 U.S.C. 7201 *et seq.;* 22 U.S.C. 7210; E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

■ 10. Supplement no. 1 to part 774 is amended by revising ECCNs 9A004, 9A515, 9A604, 9D515, 9E515, to read as follows:

Supplement No. 1 to Part 774—The Commerce Control List

* * * * *

9A004 Space launch vehicles and ''spacecraft,'' ''spacecraft buses,'' ''spacecraft payloads,'' ''spacecraft'' on-board systems or equipment, terrestrial equipment, and air-launch platforms, and ''sub-orbital craft,'' as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT

Control(s)	*Country chart (see Supp. No. 1 to part 738)*
NS applies to 9A004 .g, .r, .u, and .w.	NS Column 1.
NS applies to 9A004.s, .v, and .x.	NS Column 2.
RS applies to 9A004.y ...	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to 9A004.g, .s, .u, .v, .w, .x, and .y.	AT Column 1.

License Requirement Note: *ECCN 9A004.a through .f apply to certain space launch vehicles, spacecraft, spacecraft buses, spacecraft payloads, on-board systems or equipment, and terrestrial equipment. They are described in ECCN 9A004.a through .f in order to harmonize 9A004 with the Wassenaar Arrangement Dual-Use List, even though the controls for these items are found under ECCN 9A515 and direct exporters, reexporters, and transferors to see USML Category IV for 9A004.a. See UMSL Category IV for 9A004.a. See ECCN 9A515 for 9A004.b through .f, and .h. See this ECCN 9A004 for .g, .h, .r, and .u through .y.*

List Based License Exceptions (See Part 740 for a Description of All License Exceptions)

LVS: N/A
GBS: N/A

List of Items Controlled

Related Controls: (1) See also 9A104, 9A515, and 9B515. (2) See ECCNs 9E001 (''development'') and 9E002 (''production'') for technology for items controlled by this entry. (3) See USML Categories IV for the space launch vehicles and XV for other spacecraft that are ''subject to the ITAR.''
Related Definition: N/A
Items:

a. Space launch vehicles.
b. ''Spacecraft.''
c. ''Spacecraft buses.''
d. ''Spacecraft payloads'' incorporating items specified by 3A001.b.1.a.4 or z (if also described in 3A001.b.1.a.4), 3A002.g, 5A001.a.1, .b.3, 5A002.c, z.3 or z.8, .e, z.5, 6A002.a.1, a.2, .b, .d, 6A003.b, 6A004.c, .e, 6A008.d, .e, .k, .l or 9A010.c.
e. On-board systems or equipment, ''specially designed'' for ''spacecraft'' and having any of the following functions:
e.1. 'Command and telemetry data handling;'
Note 1 to 9A004.e.1: *For the purpose of 9A004.e.1, 'command and telemetry data handling' includes bus data management, storage, and processing.*
e.2. 'Payload data handling;' *or*
Note 2 to 9A004.e.2: *For the purpose of 9A004.e.2, 'payload data handling' includes payload data management, storage, and processing.*
e.3. 'Attitude and orbit control;'
Note 3 to 9A004.e.3: *For the purpose of 9A004.e.3, 'attitude and orbit control' includes sensing and actuation to determine and control the position and orientation of a ''spacecraft.''*
f. Terrestrial equipment specially designed for ''spacecraft,'' as follows:
f.1. Telemetry and telecommand equipment ''specially designed'' for any of the following data processing functions:
f.1.a. Telemetry data processing of frame synchronization and error corrections, for monitoring of operational status (also known as health and safe status) of the ''spacecraft bus;'' *or*
f.1.b. Command data processing for formatting command data being sent to the ''spacecraft'' to control the ''spacecraft bus;''
f.2. Simulators ''specially designed'' for 'verification of operational procedures' of ''spacecraft''.
Technical Note: *For the purposes of 9A004.f.2, 'verification of operational procedures' is any of the following:*
1. Command sequence confirmation;
2. Operational training;
3. Operational rehearsals; or
4. Operational analysis.
g. ''Aircraft'' ''specially designed'' or modified to be air-launch platforms for space launch vehicles or ''sub-orbital craft.''
h. ''Sub-orbital craft.''
i. through q. [Reserved]
r. In-space habitats, other than the International Space Station (ISS).
Note 4 to 9A004.r: *In-space habitats are considered the commercial equivalent of a space station because it is used for persons conducting experiments or space tourism activities.*
s. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for in-space habitats in 9A004.r and that are NOT:
s.1. Described on the USML;
s.2. Described in ECCN 7A004 or 7A104;
s.3. Described in an ECCN containing ''space-qualified'' as a control criterion (refer to 9A515.x.4); or
s.4 Described in 9A001, 9A002, 9A003, 9A515, or 9A991.
t. [Reserved]
u. The James Webb Space Telescope (JWST) being operated under the supervision of the U.S. National Aeronautics and Space Administration (NASA).
v. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for the James Webb Space Telescope and that are NOT:
v.1. Described on the USML;
v.2. Microelectronic circuits;
v.3. Described in ECCN 7A004 or 7A104; *or*
v.4. Described in an ECCN containing ''space-qualified'' as a control criterion (refer to 9A515.x.4).
w. The International Space Station being operated under the supervision of the U.S. National Aeronautics and Space Administration.
x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for the International Space Station.
y. Items that would otherwise be within the scope of ECCN 9A004.s or .x but that have been identified in an interagency-cleared commodity classification (CCATS) pursuant to § 748.3(e) as warranting control in 9A004.y.
y.1. Discrete electronic components not specified in 9A515.e;
y.2. Thermistors for spacecraft applications;
y.3. RF microwave bandpass ceramic filters (*e.g.,* Dielectric Resonator Bandpass Filters);
y.4. Hall effect sensors for spacecraft applications;
y.5. Subminiature (SMA and SMP) plugs and connectors, TNC plugs and cable and connector assemblies with SMA plugs and connectors for spacecraft applications;
y.6. Flight cable assemblies for spacecraft applications;
y.7. Public address (PA) systems;
y.8. Audio selector panels;
y.9. Spacecraft crew, passenger, or participant lavatories and body waste management systems;
y.10. Spacecraft crew, passenger, or participant hygiene facilities and systems;
y.11. Spacecraft crew, passenger, or participant crew rest equipment or sleeping quarters;
y.12. Spacecraft crew, passenger, or participant galleys or food preparation or serving systems;
y.13. Spacecraft crew, passenger, or participant entertainment systems;
y.14. Spacecraft crew, passenger, or participant exercise systems;
y.15. Spacecraft crew, passenger, or participant laundry systems;
y.16. Spacecraft crew, passenger, or participant safety systems not including launch abort systems/launch escape systems, ejector seats, spacesuits, flight suits, helmets, or parts and components therefor;
y.17. Spacecraft crew, passenger, or participant storage units, facilities, or systems (for items related to human safety, welfare, and health);
y.18. Spacecraft crew, passenger, or participant medical facilities or health-related systems for monitoring, evaluating, or assessing, or for providing treatments;
y.19. Spacecraft crew, passenger, or participant information systems (*e.g.,* personal laptops and phones);
y.20. Name plates, identification plates, and identification systems;
y.21. Internal, external, and emergency lighting systems;
y.22. Humidity and CO_2 removal systems;
y.23. Potable water storage systems;
y.24. Water regeneration systems;
y.25. Air filters, filter networks, or air quality systems;
y.26. Space heaters, temperature sensors, or thermostats for human habitation;
y.27. Environmental control systems for human habitation;
y.28. Spacecraft environmental control systems (*e.g.,* air conditioner, air distribution, air filtration and sanitation, CO_2 removal, cabin pressure control, dehumidifier, fire suppression system, nitrogen oxygen recharge system, heater systems, thermostats);
y.29. Plant growth systems;
y.30. Fire extinguishers;
y.31. Flame, smoke, or CO_2 detectors;
y.32. Fire suppression systems;
y.33. Spacecraft crew, passenger, or participant seats and parts and components;
y.34. Spaceflight crew, passenger, or participant ejection seat mounted survival aids;
y.35. Spaceflight crew, passenger, or participant life rafts;

y.36. Spacecraft crew, passenger, or participant locator beacons;

y.37. Spacecraft crew, passenger, or participant mirrors;

y.38. Spacecraft crew, passenger, or participant windows;

y.39. Spacecraft locator beacons;

y.40. Viewing windows on non-crewed spacecraft;

y.41. Hydraulic, pneumatic, oil, fuel, gas, propellant, fluid, and thermal control fluid reservoirs, filters, filter assemblies, tubing, lines, hoses, check valves, and quick disconnects, and associated fittings, couplings, clamps, brackets, adapters, valves, gaskets, and shims;

y.42. Gauges and indicators;

y.43. Filtered and unfiltered panel knobs, indicators, annunciator panels, switches, buttons and dials;

y.44. Energy dissipating pads for cargo or crew;

y.45. Bracket adapters for bus and payload structures;

y.46. Latches and hinges;

y.47. Boom assemblies;

y.48. Multiplexor and Demultiplexors (MUX & DEMUX);

y.49. Switches, switch bank assemblies, beam select switches, transfer switch assemblies, switch matrices, thermal switches;

y.50. Magnetic torque bars;

y.51. Filters, filter networks;

y.52. Network switches;

y.53. Antenna feed horns;

y.54. Diplexers, modulators, demodulators;

y.55. Backshells, pins, and contacts;

y.56. Measurement devices;

y.57. Non Propulsive landing systems (*e.g.,* skids, inflatable);

y.58. Electrical connectors;

y.59. Electric fans;

y.60. Microphones;

y.61. Speakers;

y.62. Circuit breakers; *and*

y.63. Printed circuit boards.

Note 5 to 9A004: *An item operating on any celestial body other than Earth is treated as if it is on Earth for classification purposes on the CCL.*

* * * * *

9A515 ''Spacecraft'' and related commodities, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, MT, AT

Control(s)	*Country chart (see Supp. No. 1 to part 738)*
NS applies to entire entry, except .e, .x, and .y.	NS Column 1.
RS applies to entire entry, except .e, .x, and .y.	RS Column 1.
MT applies to microcircuits in 9A515.d and 9A515.e.2 when ''usable in'' ''missiles'' for protecting ''missiles'' against nuclear effects (*e.g.,* Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects). MT also applies to 9A515.h when the total impulse capacity is equal to or greater than 8.41×10^5 newton seconds.	MT Column 1.
NS applies to 9A515.x ...	NS Column 2.
RS applies to 9A515.e and .x.	RS Column 2.
RS applies to 9A515.y ...	China, Russia or Venezuela (see § 742.6(a)(7)).
AT applies to entire entry	AT Column 1.

License Requirement Notes:

(1) The Commerce Country Chart is not used for determining license requirements for commodities classified in ECCN 9A515.a.1, .a.2, .a.3, .a.4, and .g. See § 742.6(a)(9), which specifies that such commodities are subject to a worldwide license requirement, except to Australia, Canada, and the United Kingdom.

(2) ECCN 9A004.a through .f apply to certain space launch vehicles, spacecraft, spacecraft buses, spacecraft payloads, onboard systems or equipment, and terrestrial equipment. They are listed in ECCN 9A004.a through .f in order to harmonize 9A004 with the Wassenaar Arrangement Dual-Use List, even though the controls for these items are found under ECCN 9A515 and to direct exporters, reexporters, and transferors to see USML Category IV for 9A004.a. See UMSL Category IV for 9A004.a. See ECCN 9A515 for 9A004.b through .f, and .h. See this ECCN 9A004 for .g, .h, .r, .s, and .u through .y.

List Based License Exceptions (See Part 740 for a Description of All License Exceptions)

LVS: $1500
GBS: N/A

Special Conditions for STA

STA: (1) Paragraph (c)(1) of License Exception STA (§ 740.20(c)(1) of the EAR) may not be used for ''spacecraft'' in ECCNs 9A515.a.1, a.2, a.3, or a.4, ''sub-orbital craft,'' or items in 9A515.g, unless determined by BIS to be eligible for License Exception STA in accordance with § 740.20(g) (License Exception STA eligibility requests for certain 9x515 and ''600 series'' items). (2) License Exception STA may not be used if the ''spacecraft'' controlled in ECCN 9A515.a.1, a.2, a.3, or a.4 contains a separable or removable propulsion system described in USML Category IV(d)(2) or USML Category XV(e)(12) and designated MT. (3) Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in 9A515.

List of Items Controlled

Related Controls: Spacecraft, launch vehicles and related articles that are described on the USML, and technical data (including ''software'') directly related thereto, and all services (including training) directly related to the integration of any satellite or spacecraft to a launch vehicle, including both planning and onsite support, or furnishing any assistance (including training) in the launch failure analysis or investigation for items in ECCN 9A515.a, are ''subject to the ITAR.'' All other ''spacecraft,'' as enumerated below and defined in § 772.1, are subject to the controls of this ECCN. See also ECCNs 3A001, 3A002, 3A991, 3A992, 6A002, 6A004, 6A008, and 6A998 for specific ''space-qualified'' items, 7A004 and 7A104 for star trackers, and 9A004 for the International Space Station (ISS), the James Webb Space Telescope (JWST), and ''specially designed'' ''parts'' and ''components'' therefor. See USML Category XI(c) for controls on certain ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers. See ECCN 9A610.g for pressure suits used for high altitude aircraft.

Related Definitions: 'Microcircuit' means a device in which a number of passive or active elements are considered as indivisibly associated on or within a continuous structure to perform the function of a circuit.

Items:

''Spacecraft'' and other items described in ECCN 9A515 remain subject to the EAR even if exported, reexported, or transferred (in-country) with defense articles ''subject to the ITAR'' integrated into and included therein as integral parts of the item. In all other cases, such defense articles are subject to the ITAR. For example, a 9A515.a ''spacecraft'' remains ''subject to the EAR'' even when it is exported, reexported, or transferred (in-country) with a ''hosted payload'' described in USML Category XV(e)(17) incorporated therein. In all other cases, a ''hosted payload'' performing a function described in USML Category XV(a) always remains a USML item. The removal of the defense article subject to the ITAR from the spacecraft is a retransfer under the ITAR and would require an ITAR authorization, regardless of the CCL authorization the spacecraft is exported under. Additionally, transfer of technical data regarding the defense article subject to the ITAR integrated into the spacecraft would require an ITAR authorization.

a. ''Spacecraft,'' including satellites, and space vehicles and ''sub-orbital craft,'' whether designated developmental, experimental, research or scientific, not described in USML Category XV or described in ECCN 9A004.r, .u, or .w, that:

a.1. Have electro-optical remote sensing capabilities and having a clear aperture greater than 0.35 meters, but less than or equal to 0.50 meters;

a.2. Have remote sensing capabilities beyond NIR (*i.e.,* SWIR, MWIR, or LWIR);

a.3. Have radar remote sensing capabilities (*e.g.,* AESA, SAR, or ISAR) having a center frequency equal to or greater than 1.0 GHz, but less than 10.0 GHz and having a bandwidth equal to or greater than 100 MHz, but less than 300 MHz;

a.4. Provide space-based logistics, assembly, or servicing of another ''spacecraft''; *or*

a.5. Are not described in ECCN 9A515.a.1, .a.2, .a.3 or .a.4.

Note 1 to 9A515: *ECCN 9A515.a includes commercial communications satellites, remote sensing satellites, ''sub-orbital craft,'' and planetary and interplanetary probes, not identified in ECCN 9A004 or USML Category XV(a).*

b. Equipment for telemetry, tracking, and control, as follows:

b.1. Ground control systems and training simulators ''specially designed'' for telemetry, tracking, and control of the ''spacecraft'' controlled in paragraphs 9A004.u or 9A515.a;

b.2. Terrestrial equipment ''specially designed'' for ''spacecraft,'' as follows:

b.2.a. Telemetry and telecommand equipment ''specially designed'' for any of the following data processing functions:

b.2.a.1. Telemetry data processing of frame synchronization and error corrections, for monitoring of operational status (also known as health and safe status) of the ''spacecraft bus;'' *or*

b.2.a.2. Command data processing for formatting command data being sent to the ''spacecraft'' to control the ''spacecraft bus;''

b.2.b. [Reserved]

b.3. Simulators ''specially designed'' for 'verification of operational procedures' of ''spacecraft.''

Technical Note: *For the purposes of 9A515.b.3, 'verification of operational procedures' is any of the following:*

1. Command sequence confirmation;

2. Operational training;

3. Operational rehearsals; or

4. Operational analysis.

c. [Reserved]

d. Microelectronic circuits (*e.g.,* integrated circuits, microcircuits, or MOSFETs) and discrete electronic components rated, certified, or otherwise specified or described as meeting or exceeding all the following characteristics and that are ''specially designed'' for defense articles, ''600 series'' items, or items controlled by ECCNs 9A004.v or 9A515:

d.1. A total dose of 5×10^5 Rads (Si) (5×10^3 Gy (Si));

d.2. A dose rate upset threshold of 5×10^8 Rads (Si)/sec (5×10^6 Gy (Si)/sec);

d.3. A neutron dose of 1×10^{14} n/cm^2 (1 MeV equivalent);

d.4. An uncorrected single event upset sensitivity of 1×10^{-10} errors/bit/day or less, for the CREME–MC geosynchronous orbit, Solar Minimum Environment for heavy ion flux; and

d.5. An uncorrected single event upset sensitivity of 1×10^{-10} errors/part or less for a fluence of 1×10^7 protons/cm^2 for proton energy greater than 50 MeV.

e. Microelectronic circuits (*e.g.,* integrated circuits, microcircuits, or MOSFETs) and discrete electronic components that are rated, certified, or otherwise specified or described as meeting or exceeding the characteristics in either paragraph e.1 or e.2, AND ''specially designed'' for defense articles described in USML Category XV or items controlled by ECCNs 9A004.u or 9A515:

e.1. A total dose $\geq 1 \times 10^5$ Rads (Si) (1×10^3 Gy(Si)) and $< 5 \times 10^5$ Rads (Si) (5×10^3 Gy(Si)); and a single event effect (SEE) (*i.e.,* single event latchup (SEL), single event burnout (SEB), or single event gate rupture (SEGR)) immunity to a linear energy transfer (LET) ≥80 MeV-cm^2/mg; *or*

e.2. A total dose $\geq 5 \times 10^5$ Rads (Si) (5×10^3 Gy (Si)) and not described in 9A515.d.

Note 2 to 9A515.d and .e: *See USML Category XI for military electronics. See 3A611.f for PLDs and ASICs programmed for 600 series items.*

Note 3 to 9A515.d and .e: *See 3A001.a and .z for controls on radiation-hardened microelectronic circuits ''subject to the EAR'' that are not controlled by 9A515.d or .e.*

f. Pressure suits (*i.e.,* space suits) capable of operating at altitudes greater than or equal to 55,000 feet above sea level.

g. Remote sensing components ''specially designed'' for ''spacecraft'' described in ECCNs 9A515.a.1 through .a.4 as follows:

g.1. Space-qualified optics (*i.e.,* lens, mirror, membrane having active properties (*e.g.,* adaptive, deformable)) with the largest lateral clear aperture dimension equal to or less than 0.35 meters; or with the largest clear aperture dimension greater than 0.35 meters but less than or equal to 0.50 meters;

g.2. Optical bench assemblies ''specially designed'' for ECCN 9A515.a.1, a.2, a.3, or a.4 ''spacecraft;'' *or*

g.3. Primary, secondary, or hosted payloads that perform a function of ECCN 9A515.a.1, a.2, a.3, or a.4 ''spacecraft.''

h. Spacecraft thrusters using bi-propellants or mono-propellants that provide thrust equal to or less than 150 lbf (*i.e.,* 667.23 N) vacuum thrust.

i. through w. [RESERVED]

w. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that would otherwise be within the scope of ECCN 9A515.x but that have been identified by the interagency as warranting control in 9A515.w, as follows:

w.1. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for defense articles described in USML Category XV or items controlled by 9A515, and that are NOT:

x.1. Described on the USML or elsewhere within ECCNs 9A515 or 9A004;

x.2. Microelectronic circuits and discrete electronic components;

x.3. Described in ECCNs 7A004 or 7A104;

x.4. Described in an ECCN containing ''space-qualified'' as a control criterion (*i.e.,* 3A001.b.1, .e.4 or .z, 3A002.g.1, 3A991.o, 3A992.b.3, 6A002.a.1, .b.2, .d.1, 6A004.c and .d, 6A008.j.1, 6A998.b, or 7A003.d.2);

x.5. Microwave solid state amplifiers and microwave assemblies (refer to ECCN 3A001.b.4 and .z for controls on these items);

x.6. Travelling wave tube amplifiers (refer to ECCN 3A001.b.8 and .z for controls on these items); *or*

x.7. Elsewhere specified in ECCN 9A515.y.

Note 4 to 9A515.x: *''Parts,'' ''components,'' ''accessories,'' and ''attachments'' described on the USML, either in Category XV(e) or elsewhere, are subject to the ITAR.*

Note 5 to 9A515.b and .x: *This note clarifies the scope of controls over baseband units (BBU). For purposes of 9A515.b and .x, a BBU means a device that interprets the original frequency range of a transmission signal. These devices are not controlled under 9A515.b or .x when they do not perform telemetry, track, and control.*

y. Items that would otherwise be within the scope of ECCN 9A515.x but that have been identified in an interagency-cleared commodity classification (CCATS) pursuant to § 748.3(e) as warranting control in 9A515.y.

y.1. Discrete electronic components not specified in 9A515.e;

y.2. Thermistors for spacecraft applications;

y.3. RF microwave bandpass ceramic filters (*e.g.,* Dielectric Resonator Bandpass Filters);

y.4. Hall effect sensors for spacecraft applications;

y.5. Subminiature (SMA and SMP) plugs and connectors, TNC plugs and cable and connector assemblies with SMA plugs and connectors for spacecraft applications;

y.6. Flight cable assemblies for spacecraft applications;

y.7. Public address (PA) systems;

y.8. Audio selector panels;

y.9. Spacecraft crew, passenger, or participant lavatories and body waste management systems;

y.10. Spacecraft crew, passenger, or participant hygiene facilities and systems;

y.11. Spacecraft crew, passenger, or participant crew rest equipment or sleeping quarters;

y.12. Spacecraft crew, passenger, or participant galleys or food preparation or serving systems;

y.13. Spacecraft crew, passenger, or participant entertainment systems;

y.14. Spacecraft crew, passenger, or participant exercise systems;

y.15. Spacecraft crew, passenger, or participant laundry systems;

y.16. Spacecraft crew, passenger, or participant safety systems, not including launch abort systems/launch escape systems, ejector seats, spacesuits, flight suits, helmets, or ''parts'' and ''components'' therefor;

y.17. Spacecraft crew, passenger, or participant storage units, facilities, or systems (for items related to human safety, welfare, and health);

y.18. Spacecraft crew, passenger, or participant medical facilities or health-related systems for monitoring, evaluating, or assessing, or for providing treatments;

y.19. Spacecraft crew, passenger, or participant information systems (*e.g.,* personal laptops and phones);

y.20. Name plates, identification plates, and identification systems;

y.21. Internal, external, and emergency lighting systems;

y.22. Humidity and CO_2 removal systems;

y.23. Potable water storage systems;

y.24. Water regeneration systems;

y.25. Air filters, filter networks, or air quality systems;

y.26. Space heaters, temperature sensors, or thermostats for human habitation;

y.27. Environmental control systems for human habitation;

y.28. Spacecraft environmental control systems (*e.g.,* air conditioner, air distribution, air filtration and sanitation, CO_2 removal,

cabin pressure control, dehumidifier, fire suppression system, nitrogen oxygen recharge system, heater systems, thermostats);

y.29. Plant growth systems;

y.30. Fire extinguishers;

y.31. Flame, smoke, or CO_2 detectors;

y.32. Fire suppression systems;

y.33. Spacecraft crew, passenger, or participant seats, other than ejection seats, and ''parts'' and ''components;''

y.34. Spaceflight crew, passenger, or participant ejection seat mounted survival aids;

y.35. Spaceflight crew, passenger, or participant life rafts;

y.36. Spacecraft crew, passenger, or participant locator beacons;

y.37. Spacecraft crew, passenger, or participant mirrors;

y.38. Spacecraft crew, passenger, or participant windows;

y.39. Spacecraft locator beacons;

y.40. Viewing windows on non-crewed spacecraft;

y.41. Temperature sensors and pressure transducers;

y.42. Thermal control pumps, accumulators, fluid filters and filter assemblies, control valves, heat exchangers, and radiators;

y.43. Hydraulic, pneumatic, oil, fuel, gas, propellant, fluid, and thermal control fluid reservoirs, filters, filter assemblies, tubing, lines, hoses, check valves, and quick disconnects, and associated fittings, couplings, clamps, brackets, adapters, valves, gaskets, shims, and o-rings;

y.44. Gauges and indicators;

y.45. Filtered and unfiltered panel knobs, indicators, annunciator panels, switches, buttons and dials;

y.46. Spacecraft tires and brake systems (does not include sintered mix or carbon/carbon materials);

y.47. Bearings (*e.g.,* Ball, roller, wheel);

y.48. Energy dissipating pads for cargo or crew;

y.49. Spacecraft bus structures;

y.50. Bracket adapters for bus and payload structures;

y.51. Latches and hinges;

y.52. Boom assemblies;

y.53. Cables, cable assemblies, and connectors;

y.54. Batteries and associated battery management circuitry;

y.55. Germanium coated polyimide tapes (*e.g.,* Kapton tape);

y.56. Multiplexors and Demultiplexors (MUX & DEMUX);

y.57. Switches, switch bank assemblies, beam select switches, transfer switch assemblies, switch matrices, thermal switches;

y.58. Magnetic torque bars;

y.59. Filters, filter networks;

y.60. Network switches;

y.61. Reflectors, antennas;

y.62. Antenna feed horns;

y.63. Diplexers, modulators, demodulators;

y.64. Second surface mirrors;

y.65. Backshells, pins and contacts;

y.66. Measurement devices;

y.67. Electrical power distribution and control units;

y.68. Electrical connectors;

y.69. Non-propulsive landing systems (*e.g.,* skids, inflatable);

y.70. Electric fans;

y.71. Microphones;

y.72. Speakers;

y.73. Circuit breakers; *and*

y.74. Printed circuit boards ''specially designed'' for items classified under 9A515.y

Note 6 to 9A515: *An item operating on any celestial body other than Earth is treated as if it is on Earth for classification purposes on the CCL.*

9A604 Commodities related to launch vehicles, missiles, and rockets (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, MT, AT, UN

Control(s)	*Country chart (See Supp. No. 1 to part 738)*
NS applies to entire entry.	NS Column 1.
RS applies to entire entry.	RS Column 1.
MT applies to 9A604.c, .d, and .f.	MT Column 1.
RS applies to 9A604.y ...	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry.	See § 746.1(b) for UN controls.

List Based License Exceptions (See Part 740 for a Description of All License Exceptions)

LVS: N/A

GBS: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in this ECCN 9A604.

List of Items Controlled

Related Controls: (1) Launch vehicles, missiles, and rockets are subject to the ITAR (see USML Category IV). (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content. (3) Thermal batteries for USML Category IV items are subject to the ITAR (see USML Category XIII).

Related Definitions: N/A

Items:

a. through b. [Reserved]

c. ''Components'' ''specially designed'' for ramjet, scramjet, pulse jet, or combined cycle engines described in USML Category IV, including devices to regulate combustion in such commodities.

d. ''Components'' ''specially designed'' for hybrid rocket motors described in USML Category IV usable in rockets, missiles, or unmanned aerial vehicles capable of a range equal to or greater than 300 km.

e. ''Components'' ''specially designed'' for pressure gain combustion-based propulsion systems described in USML Category IV.

f. Composite structures, laminates and manufactures thereof ''specially designed'' for the following items described in USML Category IV:

f.1. Systems capable of a range equal to or greater than 300 km;

f.2. Individual rocket stages usable in 9A604.f.1. systems;

f.3. Solid propellant rocket motors or hybrid rocket motors having a total impulse capacity equal to or greater than 8.41×10^5 Ns; or

f.4. Liquid propellant rocket engines integrated, or designed or modified to be integrated, into a liquid propellant propulsion system which has a total impulse capacity equal to or greater than 8.41×10^5 Ns.

f.5. Thrust vector control systems usable in rockets, space launch vehicles (SLVs), and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km.

f.6. Re-entry vehicles or warhead heat shields usable in rockets, SLVs, and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km.

f.7. Safing, arming, fuzing, and firing components usable in rockets, SLVs, and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km.

g. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity subject to control in paragraphs .a through .d of this ECCN, or a defense article described in USML Category IV, and not specified elsewhere on the USML or in 9A604.y.

Note to 9A604.x: ''*Parts,*'' ''*components,*'' ''*accessories,*'' *and* ''*attachments*'' *specified in USML Category IV(h) are subject to the controls of that paragraph.*

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in this entry, ECCN 9A604, or for a defense article in USML Category IV and not elsewhere specified on the USML or on the CCL, and other commodities, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. ''Parts'' and minor ''components'' for landing leg assemblies; *and*

y.2. [RESERVED]

* * * * *

9D515 ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of ''spacecraft'' and related commodities, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT

Control(s)	*Country chart (See Supp. No. 1 to part 738)*
NS applies to entire entry except 9D515.x and y.	NS Column 1.
RS applies to entire entry except 9D515.x and y.	RS Column 1.
NS applies to 9D515.x ...	NS Column 2.
RS applies to 9D515.x ...	RS Column 2.
RS applies to 9D515.y, except to Russia for use in, with, or for the International Space Station (ISS), including launch to the ISS.	China, Russia, or Venezuela (see § 742.6(a)(7)).

Control(s)	*Country chart (See Supp. No. 1 to part 738)*
AT applies to entire entry	AT Column 1.

List Based License Exceptions (See Part 740 for a Description of All License Exceptions)

TSR: N/A

Special Conditions for STA

STA: (1) Paragraph (c)(1) of License Exception STA (§ 740.20(c)(1) of the EAR) may not be used for 9D515.b, .d, or .e. (2) Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any ''software'' in 9D515.

List of Items Controlled

Related Controls: (1) ''Software'' directly related to articles described in USML Category XV is subject to the ITAR. (2) See also ECCNs 3D001, 6D001, 6D002, and 6D991 for controls of specific ''software'' ''specially designed'' for certain ''space-qualified'' items. (3) For ''software'' for items listed in 9A004.d that are incorporated into ''spacecraft payloads'', see the appropriate ''software'' ECCN within those Categories.

Related Definitions: N/A

Items:

a. ''Software'' (other than ''software'' controlled in paragraphs .b, .d, or .e of this entry) ''specially designed'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 9A515 (except 9A515.d, .e, or .x) or 9B515.

b. ''Source code'' that:

b.1. Contains the algorithms or control principles (*e.g.,* for clock management), precise orbit determination (*e.g.,* for ephemeris or pseudo range analysis), signal construct (*e.g.,* pseudo-random noise (PRN) anti-spoofing) ''specially designed'' for items controlled by ECCN 9A515;

b.2. Is ''specially designed'' for the integration, operation, or control of items controlled by ECCN 9A515;

b.3. Contains algorithms or modules ''specially designed'' for system, subsystem, component, part, or accessory calibration, manipulation, or control of items controlled by ECCN 9A515;

b.4. Is ''specially designed'' for data assemblage, extrapolation, or manipulation of items controlled by ECCN 9A515;

b.5. Contains the algorithms or control laws ''specially designed'' for attitude, position, or flight control of items controlled in ECCN 9A515; or

b.6. Is ''specially designed ''for built-in test and diagnostics for items controlled by ECCN 9A515.

c. [Reserved]

d. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.d.

e. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.e.

f. through w. [Reserved]

x. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.x.

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities enumerated in ECCN 9A515.y.

* * * * *

9E515 ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, repair, overhaul, or refurbishing of ''spacecraft'' and related commodities, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, MT, RS, AT

Control(s)	*Country chart (see Supp. No. 1 to part 738)*
NS applies to entire entry except 9E515.x and .y.	NS Column 1.
RS applies to entire entry except 9E515.x and .y.	RS Column 1.
MT applies to technology for items in 9A515.d, .e.2, .h, and 9B515.a controlled for MT reasons.	MT Column 1.
NS applies to 9E515.x ...	NS Column 2.
RS applies to 9E515.x ...	RS Column 2.
RS applies to 9E515.y, except to Russia for use in, with, or for the International Space Station (ISS), including launch to the ISS.	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to entire entry	AT Column 1.

License Requirement Note: The Commerce Country Chart is not used for determining license requirements for ''technology'' classified ECCN 9E515.f. See § 742.6(a)(9), which specifies that such ''technology'' is subject to a worldwide license requirement, except to Australia, Canada, and the United Kingdom.

List Based License Exceptions (See Part 740 for a Description of All License Exceptions)

TSR: N/A

Special Conditions for STA

STA: (1) Paragraph (c)(1) of License Exception STA (§ 740.20(c)(1) of the EAR) may not be used for ECCN 9E515.b, .d, .e, or .f unless determined by BIS to be eligible for License Exception STA in accordance with § 740.20(g) (License Exception STA eligibility requests for certain 9x515 and ''600 series'' items). (2) Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any ''technology'' in 9E515.

List of Items Controlled

Related Controls: Technical data directly related to articles described in USML Category XV are subject to the ITAR. See also ECCNs 3E001, 3E003, 6E001, and 6E002 for specific ''space-qualified'' items. See ECCNs 9E001 and 9E002 for technology for the International Space Station, the James Webb Space Telescope (JWST) and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor. See USML Category XV for controls on technical data and defense services related to launch vehicle integration.

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development,'' ''production,'' installation, repair (including on-orbit anomaly resolution and analysis beyond established procedures), overhaul, or refurbishing of commodities controlled by ECCN 9A515 (except 9A515.a.1, a.2, a.3, a.4, .b, .d, .e, or .g), ECCN 9B515, or ''software'' controlled by ECCN 9D515.a.

b. ''Technology'' ''required'' for the ''development,'' ''production,'' failure analysis or anomaly resolution of software controlled by ECCN 9D515.b.

c. [Reserved]

d. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.d.

e. ''Technology'' ''required'' for the ''development,'' ''production,'' failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.e.

f. ''Technology'' ''required'' for the ''development,'' ''production,'' installation, repair (including on-orbit anomaly resolution and analysis beyond established procedures), overhaul, or refurbishing of commodities controlled by ECCN 9A515.a.1, a.2, a.3, a.4, or .g.

g. through w. [Reserved]

x. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.x.

y. Specific ''technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software enumerated in ECCN 9A515.y or 9D515.y.

Note 1: *[Reserved]*

Note 2: *Activities and technology/technical data directly related to or required for the spaceflight (e.g., sub-orbital, orbital, lunar, interplanetary, or otherwise beyond Earth orbit) passenger or participant experience, regardless of whether the passenger or participant experience is for space tourism, scientific or commercial research, commercial manufacturing/production activities, educational, media, or commercial transportation purposes, are not subject to the ITAR or the EAR. Such activities and technology/technical data include those directly related to or required for:*

(i) ''Spacecraft'' access, ingress, and egress, including the operation of all ''spacecraft'' doors, hatches, and airlocks;

(ii) Physiological training (e.g., human-rated centrifuge training or parabolic flights, pressure suit or spacesuit training/ operation);

(iii) Medical evaluation or assessment of the spaceflight passenger or participant;

(iv) Training for and operation by the passenger or participant of health and safety related hardware (e.g., seating, environmental control and life support, hygiene facilities, food preparation, exercise equipment, fire suppression, communications equipment, safety-related clothing or headgear) or emergency procedures;

(v) Viewing of the interior and exterior of the spacecraft or terrestrial mock-ups;

(vi) Observing ''spacecraft'' operations (e.g., pre-flight checks, landing, in-flight status);

(vii) Training in ''spacecraft'' or terrestrial mock-ups for connecting to or operating passenger or participant equipment used for purposes other than operating the ''spacecraft''; or

(viii) Donning, wearing or utilizing the passenger's or participant's flight suit, pressure suit or spacesuit, and personal equipment.

* * * * *

Thea D. Rozman Kendler,

Assistant Secretary for Export Administration.

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