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DEPARTMENT OF COMMERCE

Bureau of Industry and Security

15 CFR Parts 742, 744, 772 and 774

[Docket No. 170202139-7139-01]

RIN 0694-AH33

Revisions to the Export Administration Regulations Based on the 2016 Missile Technology Control Regime Plenary Agreements

AGENCY: Bureau of Industry and Security, Commerce.

ACTION: Final rule.

SUMMARY: The Bureau of Industry and Security (BIS) is amending the Export Administration Regulations (EAR) to reflect changes to the Missile Technology Control Regime (MTCR) Annex that were agreed to by MTCR member countries at the October 2016 Plenary in Busan, South Korea, and the March 2016 Technical Experts Meeting (TEM) in Luxembourg City, Luxembourg. This final rule revises thirteen Export Control Classification Numbers (ECCNs), adds one ECCN, revises two EAR defined terms (including making other EAR conforming changes for the use of these two terms) and makes conforming EAR changes where needed to implement the changes that were agreed to at the meetings and to better align the missile technology (MT) controls on the Commerce Control List (CCL) with the MTCR Annex.

DATES: This rule is effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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SUPPLEMENTARY INFORMATION:

Background

The Missile Technology Control Regime (MTCR or Regime) is an export control arrangement among 35 nations, including most of the world's suppliers of advanced missiles and missile-related equipment, materials, software and technology. The regime establishes a

common list of controlled items (the Annex) and a common export control policy (the Guidelines) that member countries implement in accordance with their national export controls. The MTCR seeks to limit the risk of proliferation of weapons of mass destruction by controlling exports of goods and technologies that could make a contribution to delivery systems (other than manned aircraft) for such weapons.

In 1993, the MTCR's original focus on missiles for nuclear weapons delivery was expanded to include the proliferation of missiles for the delivery of all types of weapons of mass destruction (WMD), *i.e.*, nuclear, chemical and biological weapons. Such proliferation has been identified as a threat to international peace and security. One way to address this threat is to maintain vigilance over the transfer of missile equipment, material, and related technologies usable for systems capable of delivering WMD. MTCR members voluntarily pledge to adopt the Regime's export Guidelines and to restrict the export of items contained in the Regime's Annex. The Regime's Guidelines are implemented through the national export control laws, regulations and policies of the regime members.

Amendments to the Export Administration Regulations (EAR)

This final rule revises the Export Administration Regulations (EAR) to reflect changes to the MTCR Annex agreed to at the October 2016 Plenary in Busan, South Korea, and changes resulting from the March 2016 Technical Experts Meeting (TEM) in Luxembourg City, Luxembourg. References are provided below for the MTCR Annex changes agreed to at the meetings that correspond to the EAR revisions described below. This rule also makes changes to the Commerce Control List (CCL) (Supplement No. 1 to Part 774 of the EAR) and to other EAR provisions in order to conform with the MTCR Annex. All of the changes in this final rule align

the MT controls on the CCL and other parts of the EAR with the MTCR Annex. In the discussion below, BIS identifies the origin of each change in the regulatory text of this final rule by using one of the following parenthetical phrases: (Busan 2016 Plenary), (Luxembourg 2016 TEM), or (Conforming Change to MTCR Annex).

§ 742.5 (Missile technology). In § 742.5 (Missile technology), this final rule revises the first sentence of paragraph (a)(2), which describes the definition of “missiles.” The term “missiles” is a defined term in § 772.1, but for ease of reference the first sentence of this paragraph (a)(2) restates the definition. As described in the paragraphs below, this final rule revises the definitions of “missiles” and “unmanned aerial vehicles” in § 772.1 of the EAR, so conforming changes are needed in §§ 742.5 and 744.3, as described below.

Conforming Change to § 742.5(a)(2). This final rule makes conforming changes in paragraph (a)(2) of § 742.5, by replacing the term “ballistic missile systems” with the term “ballistic missiles” (MTCR Annex Change, Category I: Item 1.A.1., Luxembourg 2016 TEM), and by replacing the term “cruise missile systems” with the term “cruise missiles.” (MTCR Annex Change, Category I: Item 1.A.2., Luxembourg 2016 TEM). This final rule also makes a conforming change by replacing the term “unmanned air vehicles” with the term “unmanned aerial vehicles.” (Conforming Change to MTCR Annex). Substantively, there is no difference between the old and revised terms, but this final rule makes these conforming changes to ensure consistent use of the terminology throughout the EAR. These conforming changes are described in more detail in the next three paragraphs, describing the changes that this final rule makes to the EAR definitions of “missiles” and “unmanned aerial vehicles.”

Conforming Change to § 744.3 (Restrictions on certain rocket systems (including ballistic missile systems and space launch vehicles and sounding rockets) and unmanned air vehicles (including cruise missile systems, target drones and reconnaissance drones) end-uses). This final rule makes conforming changes in § 744.3 by changing the term “ballistic missile systems” to “ballistic missiles” (MTCR Annex Change, Category I: Item 1.A.1., Luxembourg 2016 TEM), and changing the term “cruise missile systems” to “cruise missiles.” (MTCR Annex Change, Category I: Item 1.A.2., Luxembourg 2016 TEM). These conforming changes are described in more detail in the next two paragraphs describing the changes that this final rule makes to the EAR definitions of “missiles” and “unmanned aerial vehicles.” In addition, this final rule makes conforming changes in § 744.3 by replacing the term “unmanned air vehicles” with “unmanned aerial vehicles” wherever this term appears in this section. (Conforming Change to MTCR Annex). Substantively, there is no difference between the old and revised terms, but this final rule makes these conforming changes to ensure consistent use of the terminology throughout the EAR. Lastly, this final rule removes the first reference to “and” in the section heading for the parenthetical phrase providing an illustrative list of examples of rocket systems. This “and” is removed because it is not needed to convey the meaning of the list of examples of rocket systems. These conforming changes are clarifications and will not change any scope of control. These changes are not expected to have any impact on the number of license applications received by BIS.

Changes and Conforming Amendments in § 772.1 (Definitions of Terms as Used in the Export Administration Regulations (EAR)). In § 772.1, this final rule amends the definition of the term “missiles.” (MTCR Annex Change, Category I: Item 1.A.1., Luxembourg 2016 TEM). Under the definition of “missiles,” this final rule revises the term “ballistic missile systems” by

removing the word “systems” and adding an “s” to “missile.” This final rule revises the definition of “missiles” to reflect changes in the description of complete rocket systems in the MTCR Annex. The final rule revises the term “ballistic missile systems” by removing the word “systems,” thus referring only to the flight vehicle. This final rule makes this change to conform to the other items in the illustrative list of “missiles,” and to clarify that a missile is covered under these entries that use this control text, regardless of whether it is part of a larger system (*e.g.*, a system including the flight vehicle and ground support equipment such as launch, recovery, and flight control equipment). This final rule also makes conforming changes to the same terms used in ECCNs 2B018 and 5A101, as described below. This final rule also makes a conforming change in the ECCNs for the use of the term “unmanned air vehicles,” which this final rule replaces with “unmanned aerial vehicles.” (Conforming Change to MTCR Annex). Substantively, there is no difference between the two formulations of the term, but this final rule makes these conforming changes to ensure consistent use of the terminology throughout the EAR. Lastly, this final rule removes the last sentence of the definition and adds it as a note to the definition. This clarifying change is made because the sentence is more appropriately included as a note to the definition. These changes correspond with the U.S. interpretation of the controls, and will not change any scope of control. These changes are not expected to have any impact on the number of license applications received by BIS.

In addition, in § 772.1, this final rule amends the definition of the revised term, “unmanned aerial vehicle.” (MTCR Annex Change, Category I: Item 1.A.2., Luxembourg 2016 TEM). Under the definition of “unmanned aerial vehicle,” this final rule revises the term “cruise missile systems” by removing the word “systems” and adding an “s” to “missile.” The definition of “unmanned aerial vehicles” has been updated to reflect changes in the description of

unmanned aerial vehicles in the MTCR Annex. The term “Cruise missile systems” has been changed by removing the word “systems,” thus referring only to the flight vehicle. This change both conforms to the other items in the illustrative list of unmanned aerial vehicles, and clarifies that an unmanned aerial vehicle is covered under these entries that use this control text, regardless of whether or not it is part of a larger system (*e.g.*, a system including the flight vehicle and ground support equipment such as launch, recovery, and flight control equipment). This final rule also makes conforming changes to similar text used in ECCNs 2B018 and 5A101 described below. These changes correspond with the U.S. interpretation of the controls, and will not change any scope of control. These changes are not expected to have any impact on the number of license applications received by BIS.

Amendments to the Commerce Control List (CCL)

In addition, this final rule amends the CCL to reflect changes to the MTCR Annex by amending thirteen ECCNs and adding new ECCN 9B104, as follows:

ECCN 1C107. This final rule amends ECCN 1C107 by revising the introductory text of paragraph d. and adding a paragraph d.3 in the List of Items Controlled section. This final rule also adds a Note and a Technical Note to ECCN 1C107.d.3 to clarify the scope of paragraph d.3. (MTCR Annex Change, Category II: Item 6.C.6., Busan 2016 Plenary). Specifically, in the introductory text of ECCN 1C107.d, this final rule removes the phrase “silicon carbide materials” and adds in its place the phrase “high-temperature materials.” This change is made because of the addition of certain bulk machinable ceramic composite materials that this final rule adds to ECCN 1C107 under new “items” paragraph d.3. Ultra High Temperature Ceramic

Composites (UHTCC) are materials that combine Ultra High Temperature Ceramics (UHTC) with fiber reinforcement. The UHTCs can be used in environments that exhibit extremes in temperature, chemical reactivity, and erosive attack. The combination of the UHTC and fiber reinforcement can mitigate some of the traditional drawbacks associated with ceramics, including a tendency to fracture. Typical end uses for these composites are leading edges for hypersonic vehicles, nose tips for re-entry vehicles, rocket motor throat inserts, jet vanes, and control surfaces, which this final rule adds as examples in the new control text. This final rule also adds a note to 1C107.d.3 to make clear that the UHTC materials that do not have fiber reinforcement are not caught under this control. Additionally, this final rule adds a technical note to 1C107.d to provide examples of UHTCs which are included. This change is expected to result in an increase of 1-3 applications received annually by BIS. This very small increase is because this material is not widely used or exported, but specific to the end uses described in the control text.

ECCN 1C111. This final rule amends ECCN 1C111 by revising paragraphs b.2 in the List of Items Controlled section to add a CAS (Chemical Abstract Service) Number. CAS Numbers are numerical identifiers assigned by the Chemical Abstracts Service (CAS) to every chemical substance described in open scientific literature, including organic and inorganic compounds, minerals, isotopes and alloys. The inclusion of CAS Numbers will make it easier to identify the materials controlled under this “items” paragraph of 1C111. This final rule revises paragraph b.2 to add the CAS Number (CAS 69102-90-5) after the material “Hydroxy - terminated polybutadiene (including hydroxyl - terminated polybutadiene) (HTPB).” (MTCR

Annex Change, Category II: Item 4.C.5.b., Busan 2016 Plenary). This change is not expected to have any impact on the number of license applications received by BIS.

ECCN 2B018. This final rule amends ECCN 2B018 by revising the “MT” paragraph in the table in the License Requirements section by revising the term “ballistic missile systems” to remove the term “systems” and add an “s” to the term “missile.” (MTCR Annex Change, Category I: Item 1.A.1., Luxembourg 2016 TEM). In addition, in the same “MT” paragraph, this final rule revises the term “cruise missile systems” to remove the term “systems” and add an “s” to the term “missile.” (MTCR Annex Change, Category I: Item 1.A.2., Luxembourg 2016 TEM). Lastly, this final rule makes conforming changes in the same “MT” paragraph by replacing the term “unmanned air vehicles” with “unmanned aerial vehicles” wherever this term appears in this section. (Conforming Change to MTCR Annex). Substantively, there is no difference between the old and revised terms, but this final rule makes these conforming changes to ensure consistent use of the terminology throughout the EAR. These are conforming changes for the changes described above to the definitions of “missiles” and “unmanned aerial vehicles.” This is a clarification and will not change any scope of control. This change is not expected to have any impact on the number of license applications received by BIS.

ECCN 2B109. This final rule amends ECCN 2B109 by revising the list of examples included in the second technical note. This final rule expands the list of examples to include interstages, because interstages can also be manufactured using the flow forming machines described in ECCN 2B109. (MTCR Annex Change, Category II: Item 3.B.3., Busan 2016 Plenary). This change is not expected to have any impact on the number of license applications

received by BIS, because this is only a change to the list of examples of products that can be made by this type of machine, and it does not change the scope of control.

ECCN 5A101. This final rule amends the heading of ECCN 5A101 by revising the term “ballistic missile systems” to remove the word “systems” and add an “s” to “missile.” (MTCR Annex Change, Category I: Item 1.A.1., Luxembourg 2016 TEM). The final rule revises the heading by revising the term “cruise missile systems” to remove the word “systems” and add an “s” after “missile.” (MTCR Annex Change, Category I: Item 1.A.2., Luxembourg 2016 TEM). These are conforming changes for the changes described above to the definitions of “missiles” and “unmanned aerial vehicles.” In addition, this final rule revises the heading of ECCN 5A101 to create a separate parenthetical phrase for the illustrative list of examples that are unmanned aerial vehicles. This final rule does this by removing the examples of “cruise missiles, target drones, and reconnaissance drones” from the list of examples that followed the terms “unmanned aerial vehicle or rocket systems” in the heading and adding those examples immediately after the term unmanned aerial vehicle. This final rule retains the rest of the examples from the parenthetical that follows the term “rocket systems,” which will make it clearer that this parenthetical list is an illustrative list of “rocket systems.” (Conforming Change to MTCR Annex). These are clarifications and will not change any scope of control. These changes are not expected to have any impact on the number of license applications received by BIS.

ECCN 7A103. This final rule amends ECCN 7A103 by adding a definition for “inertial measurement equipment and systems” for purposes of ECCN 7A103. In addition, this final rule revises “items” paragraph a and adds Note 3 in the List of Items Controlled section. (MTCR

Annex Change, Category II: Item 9.A.6., Luxembourg 2016 TEM). This final rule makes these changes to remove the ambiguous term “other equipment.” Instead, the locally defined term “inertial measurement equipment or systems” that the final rule adds to ECCN 7A103, along with an illustrative list of such equipment and systems, clarifies which types of equipment containing the specified accelerometers or gyros are caught by this entry. This final rule also removes the phrase “and systems incorporating such equipment” because this phrase has been removed from the MTCR Annex. The changes this final rule makes to ECCN 7A103 to increase the clarity of the control should make the control more precise and rule out items not strictly used for navigation purposes. This change is expected to result in a decrease of 3 to 5 license applications received annually by BIS. Lastly, this final rule updates and amends ECCN 7A103 by removing Related Controls paragraph (2), which is no longer accurate after changes were made to the EAR to correspond with changes made to USML Category XII (especially for unmanned aerial vehicles (UAVs)) that became effective December 31, 2016 (*See* October 12, 2016, (81 FR 70320) final rule). In addition, this paragraph (2) can be removed because the USML Order of Review and CCL Order of Review will provide sufficient guidance on where items that are subject to the ITAR are classified under the USML and where items that are subject to the EAR are classified in either the “600 series” or in other ECCNs in Category 7 of the CCL. Lastly, as a conforming change to the removal of paragraph (2), this final rule redesignates Related Controls paragraph (3) as new Related Controls paragraph (2).

ECCNs 9A101, 9E101, and 9E102. This final rule amends ECCN 9E101 by revising the Related Controls paragraph in the List of Items Controlled section to make a conforming change for the use of the term “unmanned air vehicles,” which this final rule changes to “unmanned

aerial vehicles.” In addition, this final rule amends ECCN 9E101 and 9E102 by revising the headings of these two ECCNs to make conforming changes for the use of the term “unmanned air vehicles,” which this final rule changes to “unmanned aerial vehicles.” Substantively, there is not a difference in the two formulations of the term, but for consistency with how the term is used in other parts of the EAR, this final rule makes these conforming changes. (Conforming Change to MTCR Annex). This is a clarification and will not change any scope of control. These changes are not expected to have any impact on the number of license applications received by BIS.

New ECCN 9B104 and Related Conforming Amendments to 9D101, 9E001, and 9E002.

This final rule adds new ECCN 9B104 to control certain aerothermodynamic test facilities. The facilities controlled under this new ECCN 9B104 are those that are usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km and their subsystems, and having an electrical power supply equal to or greater than 5 MW or a gas supply total pressure equal to or greater than 3 MPa. This final rule adds this new ECCN 9B104 to complement the controls that already exist for aerodynamic test facilities in order to fully cover the types of ground test facilities necessary to reproduce the flight environments that occur during the reentry phase. Plasma arc jet and plasma wind tunnel facilities simulate the atmospheric reentry thermal effects due to high velocity around the vehicles and are key to the qualification of vehicle thermal protection subsystems. This final rule includes values for electrical power supply and gas supply total pressure in new ECCN 9B104 to exclude commercial systems of a similar nature from this new ECCN.

In addition, this final rule adds a Related Definition as part of new ECCN 9B104 to define the term “aerothermodynamic test facilities”. This definition specifies that these facilities include plasma arc jet facilities and plasma wind tunnels for the study of thermal and mechanical effects of airflow on objects. (MTCR Annex Change, Category II: Item 15.B.6., Luxembourg 2016 TEM). As a conforming change to the addition of ECCN 9B104, this final rule adds 9B104 to the heading of ECCN 9D101 and revises the “MT” paragraph in the table in the License Requirements section of ECCNs 9E001 and 9E002 to add 9B104. The headings of ECCNs 9E001 and 9E002 do not need to be revised to add technology for 9B104, because those two technology ECCNs apply to 9B ECCNs, except for those specifically excluded in the ECCN headings. These changes are expected to result in an increase of no more than 1 application received annually by BIS, because such systems and their software and technology are exported infrequently.

ECCN 9D104. This final rule amends ECCN 9D104 by adding a note to the List of Items Controlled section. This note clarifies that ECCN 9D104 also includes specific software for the conversion of manned aircraft to an unmanned aerial vehicle. (MTCR Annex Change, Category II: Item 1.D.2., Luxembourg 2016 TEM). This change is expected to result in an increase of 1 to 2 applications received annually by BIS, because, although this software was already controlled here, the note will clarify the scope of ECCN 9D104.

Savings Clause

Shipments of items removed from eligibility for a License Exception or export or reexport without a license (NLR) as a result of this regulatory action that were on dock for loading, on lighter, laden aboard an exporting or reexporting carrier, or enroute aboard a carrier to a port of export or reexport, on [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], pursuant to actual orders for export or reexport to a foreign destination, may proceed to that destination under the previous eligibility for a License Exception or export or reexport without a license (NLR) so long as they are exported or reexported before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Any such items not actually exported or reexported before midnight, on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], require a license in accordance with this rule.

Export Administration Act of 1979

Although the Export Administration Act of 1979 expired on August 20, 2001, the President, through Executive Order 13222 of August 17, 2001, 3 CFR, 2001 Comp., p. 783 (2002), as amended by Executive Order 13637 of March 8, 2013, 78 FR 16129 (March 13, 2013) and as extended by the Notice of August 4, 2016, 81 FR 52587 (August 8, 2016), has continued the Export Administration Regulations in effect under the International Emergency Economic Powers Act. BIS continues to carry out the provisions of the Export Administration Act of 1979, as appropriate and to the extent permitted by law, pursuant to Executive Order 13222, as amended by Executive Order 13637.

Executive Order Requirements

Executive Orders 13563 and 12866 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, distribute impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. This final rule has been designated a “significant regulatory action,” although not economically significant, under section 3(f) of Executive Order 12866. The MTCR was formed in 1987 by the U.S. and G-7 countries (Canada, France, Germany, Italy, Japan, and the UK) to address the increasing proliferation of nuclear weapons by addressing the most destabilizing delivery system for such weapons. The MTCR seeks to limit the risk of proliferation of weapons of mass destruction by controlling exports of goods and technologies that could make a contribution to delivery systems (other than manned aircraft) for such weapons. The proliferation of such weapons has been identified as a threat to domestic and international peace and security. Commerce estimates this rule will increase the number of license requests by fewer than four annually.

This rule does not contain policies with Federalism implications as that term is defined under E.O. 13132.

For the purposes of E.O. 13771, this rule is issued with respect to a national security function of the United States. The cost-benefit analysis indicates the rule is intended to improve national security as its primary direct benefit, and the regulation qualifies for a good cause exception under 5 U.S.C. 553(b)(B). Accordingly, this rule meets the requirements set forth in

the April 5, 2017, OMB guidance implementing E.O 13771, and is, therefore, exempt from the requirements of E.O. 13771.

Paperwork Reduction Act Requirements

Notwithstanding any other provision of law, no person may be required to respond to or 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 regulation involves a collection currently approved by OMB under control number 0694–0088, Simplified Network Application Processing System. This collection includes, among other things, license applications, and carries a burden estimate of 43.8 minutes for a manual or electronic submission for a total burden estimate of 31,833 hours. BIS expects the burden hours associated with this collection to increase slightly by 2 hours and 19 minutes for an estimated cost increase of \$85 dollars. This increase is not expected to exceed the existing estimates currently associated with OMB control number 0694–0088. Although this final rule makes important changes to the EAR for items controlled for missile technology reasons, Commerce believes the overall increase in costs and burdens due to this rule will be minimal.

Any comments regarding the collection of information associated with this rule, including suggestions for reducing the burden, may be sent to Jasmeet K. Seehra, Office of Management and Budget (OMB), by e-mail to Jasmeet_K._Seehra@omb.eop.gov, or by fax to (202) 395-7285.

Administrative Procedure Act and Regulatory Flexibility Act Requirements

The provisions of the Administrative Procedure Act (APA) (5 U.S.C. 553) requiring notice of proposed rulemaking, the opportunity for public participation, and a delay in effective date, are inapplicable because this action involves a military and foreign affairs function of the United States (5 U.S.C. 553(a)(1)). Immediate implementation of these amendments fulfills the United States' international commitments to the MTCR. The MTCR contributes to international peace and security by promoting greater responsibility in transfers of missile technology items that could make a contribution to delivery systems (other than manned aircraft) for weapons of mass destruction. The MTCR consists of 35 member countries acting on a consensus basis. The changes discussed in this rule implement agreements reached at the October 2016 Plenary in Busan, South Korea, and the March 2016 Technical Experts Meeting in Luxembourg City, Luxembourg. Since the United States is a significant exporter of the items discussed in this rule, implementation of this provision is necessary for the MTCR to achieve its purpose.

Although the APA requirements in section 553 are not applicable to this action under the provisions of paragraph (a)(1), this action also falls within two other exceptions in the section. The subsection (b) requirement that agencies publish a notice of proposed rulemaking that includes information on the public proceedings does not apply when an agency for good cause finds that the notice and public procedures are impracticable, unnecessary, or contrary to the public interest, and the agency incorporates the finding (and reasons therefor) in the rule that is issued (5 U.S.C. 553(b)(B)). In addition, the section 553(d) requirement that publication of a

rule shall be made not less than 30 days before its effective date can be waived if an agency finds there is good cause to do so.

The section 553 requirements for notice and public procedures and for a delay in the date of effectiveness do not apply to this rule, as there is good cause to waive such practices. Delay in implementation would disrupt the movement of these potentially national- and international-security-threatening items globally, creating disharmony between export control measures implemented by MTCR members. Export controls work best when all countries implement the same export controls in a timely manner. Delaying this rulemaking would prevent the United States from fulfilling its commitment to the MTCR in a timely manner, would injure the credibility of the United States in this and other multilateral regimes, and may impair the international communities' ability to effectively control the export of certain potentially national and international security threatening materials. Therefore, this regulation is issued in final form, and is effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Further, no other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this final rule. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule under the Administrative Procedure Act 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 742

Exports, Terrorism.

15 CFR Part 744

Exports, Reporting and recordkeeping requirements, Terrorism.

15 CFR Part 772

Exports.

15 CFR Part 774

Exports, Reporting and recordkeeping requirements.

Accordingly, parts 742, 744, 772 and 774 of the Export Administration Regulations (15 CFR parts 730–774) are amended as follows:

PART 742—[AMENDED]

1. The authority citation for 15 CFR part 742 continues to read as follows:

Authority: 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; Sec. 1503, Pub. L. 108–11, 117 Stat. 559; 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. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783; Presidential Determination 2003-23, 68 FR 26459, 3 CFR, 2004 Comp., p. 320; Notice of August 4, 2016, 81 FR 52587 (August 8, 2016); Notice of November 8, 2016, 81 FR 79379 (November 10, 2016).

2. Section 742.5 is amended by revising the first sentence of paragraph (a)(2) to read as follows:

§ 742.5 Missile technology.

(a) ***

(2) The term “missiles” is defined as rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) and unmanned aerial vehicle systems (including cruise missiles, target drones, and reconnaissance drones) capable of delivering at least 500 kilograms (kg) payload to a range of at least 300 kilometers (km). ***

PART 744—[AMENDED]

3. The authority citation for 15 CFR part 744 continues to read as follows:

Authority: 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. 12947, 60 FR 5079, 3 CFR, 1995 Comp., p. 356; 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 January 20, 2016, 81 FR 3937 (January 22, 2016); Notice of August 4, 2016, 81 FR 52587 (August 8, 2016); Notice of September 15, 2016, 81 FR

64343 (September 19, 2016); Notice of November 8, 2016, 81 FR 79379 (November 10, 2016);
Notice of January 13, 2017, 82 FR 6165 (January 18, 2017).

4. Section 744.3 is amended:

a. By revising the section heading;

b. By revising paragraphs (a)(1), (2), (3), and the Note to paragraph (a) of this section;

c. By revising paragraph (d)(1); and

d. By revising paragraph (d)(2)(ii), (iii), and (v) to read as follows:

§ 744.3 Restrictions on certain rocket systems (including ballistic missiles, space launch vehicles and sounding rockets) and unmanned aerial vehicles (including cruise missiles, target drones and reconnaissance drones) end-uses.

(a) ***

(1) Will be used in the design, development, production or use of rocket systems or unmanned aerial vehicles capable of a range of at least 300 kilometers in or by a country listed in Country Group D:4 of Supplement No. 1 to part 740 of the EAR.

(2) Will be used, anywhere in the world except by governmental programs for nuclear weapons delivery of NPT Nuclear Weapons States that are also members of NATO, in the design, development, production or use of rocket systems or unmanned aerial vehicles, regardless of range capabilities, for the delivery of chemical, biological, or nuclear weapons; or

(3) Will be used in the design, development, production or use of any rocket systems or unmanned aerial vehicles in or by a country listed in Country Group D:4, but you are unable to determine:

(i) The characteristics (*i.e.*, range capabilities) of the rocket systems or unmanned aerial vehicles, or

(ii) Whether the rocket systems or unmanned aerial vehicles, regardless of range capabilities, will be used in a manner prohibited under paragraph (a)(2) of this section.

NOTE TO PARAGRAPH (a) OF THIS SECTION: For the purposes of this section, “Rocket Systems” include, but are not limited to, ballistic missiles, space launch vehicles, and sounding rockets. Also, for the purposes of this section, “unmanned aerial vehicles” include, but are not limited to, cruise missiles, target drones and reconnaissance drones.

(d) ***

(1) Applications to export, reexport or transfer (in-country) the items subject to this section will be considered on a case-by-case basis to determine whether the export, reexport or transfer (in-country) would make a material contribution to the proliferation of certain rocket systems, or unmanned aerial vehicles. When an export, reexport or transfer (in-country) is deemed to make a material contribution, the license will be denied.

(2) ***

(ii) The significance of the export, reexport or transfer in terms of its contribution to the design, development, production or use of certain rocket systems or unmanned aerial vehicles;

(iii) The capabilities and objectives of the rocket systems or unmanned aerial vehicles of the recipient country;

(v) The types of assurances or guarantees against design, development, production, or use for certain rocket system or unmanned aerial vehicle delivery purposes that are given in a particular case; and

PART 772—[AMENDED]

5. The authority citation for 15 CFR part 772 continues to read as follows:

Authority: 50 U.S.C. 4601 *et seq.*; 50 U.S.C. 1701 *et seq.*; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783 Notice of August 8, 2016, 81 FR 52587 (August 8, 2016).

6. Section 772.1 is amended by revising the definitions of “missiles” and “unmanned aerial vehicle (“UAV”)” to read as follows:

§ 772.1 Definitions of terms as used in the Export Administration Regulations (EAR).

“Missiles”. (All) Rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) and unmanned aerial vehicle systems (including cruise missiles, target drones, and reconnaissance drones) “capable of” delivering at least 500 kilograms payload to a range of at least 300 kilometers. See § 746.3 for definition of a “ballistic missile” to be exported or reexported to Iraq or transferred within Iraq.

“Unmanned aerial vehicle” (“UAV”). (Cat 9) Any “aircraft” capable of initiating flight and sustaining controlled flight and navigation without any human presence on board.

Note to definition of “Unmanned aerial vehicle” (“UAV”): For the purposes of § 744.3 of the EAR, unmanned air vehicles, which are the same as “unmanned aerial vehicles,” include, but are not limited to, cruise missiles, target drones and reconnaissance drones.

PART 774—[AMENDED]

7. The authority citation for 15 CFR part 774 continues to read as follows:

Authority: 50 U.S.C. 4601 *et seq.*; 50 U.S.C. 1701 *et seq.*; 10 U.S.C. 7420; 10 U.S.C. 7430(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. 1824a; 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; Notice of August 4, 2016, 81 FR 52587 (August 8, 2016).

8. In Supplement No. 1 to part 774 (the Commerce Control List), Category 1 – Special Materials and Related Equipment, Chemicals, “Microorganisms” and “Toxins,” Export Control Classification Number (ECCN) 1C107 is amended:

a. By revising the introductory text of “items” paragraph d. in the List of Items Controlled section; and

b. By adding paragraph d.3., including a Note and a Technical Note to 1C107.d.3., to read as follows:

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

1C107 Graphite and ceramic materials, other than those controlled by 1C007, which can be machined to any of the following products as follows (see List of Items Controlled).

List of Items Controlled

Items:

d. High-temperature ceramic materials, useable in rockets, missiles, and unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km, as follows:

d.3. Bulk machinable ceramic composite materials consisting of an ‘Ultra High Temperature Ceramic (UHTC)’ matrix with a melting point equal to or greater than 3000°C and

reinforced with fibers or filaments, usable for missile components (such as nose tips, re-entry vehicles, leading edges, jet vanes, control surfaces, or rocket motor throat inserts).

Note: ECCN 1C107.d.3. does not control 'Ultra High Temperature Ceramic (UHTC)' materials in non-composite form.

Technical Note: 'Ultra High Temperature Ceramics (UHTC)' includes: titanium diboride (TiB₂), zirconium diboride (ZrB₂), niobium diboride (NbB₂), hafnium diboride (HfB₂), tantalum diboride (TaB₂), titanium carbide (TiC), zirconium carbide (ZrC), niobium carbide (NbC), hafnium carbide (HfC), tantalum carbide (TaC).

9. In Supplement No. 1 to part 774 (the Commerce Control List), Category 1 – Special Materials and Related Equipment, Chemicals, “Microorganisms” and “Toxins,” Export Control Classification Number (ECCN) 1C111 is amended by revising “items” paragraph b.2. in the List of Items Controlled section to read as follows:

1C111 Propellants and constituent chemicals for propellants, other than those specified in 1C011, as follows (see List of Items Controlled).

List of Items Controlled

Items:

b. ***

b.2. Hydroxy-terminated polybutadiene (including hydroxyl-terminated polybutadiene) (HTPB) (CAS 69102-90-5), except for hydroxyl-terminated polybutadiene as specified in USML Category V (see 22 CFR 121.1) (also see Related Controls Note #1 for this ECCN);

10. In Supplement No. 1 to part 774 (the Commerce Control List), Category 2 – Materials Processing, Export Control Classification Number (ECCN) 2B018 is amended by revising the “MT” paragraph in the table in the License Requirements section to read as follows:

2B018 Equipment on the Wassenaar Arrangement Munitions List.

License Requirements

Reason for Control: *****

<i>Control(s)</i>	<i>Country Chart (See Supp. No. 1 to part 738)</i>

<p>MT applies to specialized machinery, equipment, and gear for producing rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) and unmanned aerial vehicle systems (including cruise missiles, target drones, and reconnaissance drones) usable in systems that are controlled for MT reasons including their propulsion systems and components, and pyrolytic deposition and densification equipment.</p>	<p>MT Column 1</p>
<p>*****</p>	

11. In Supplement No. 1 to part 774 (the Commerce Control List), Category 2 – Materials Processing, Export Control Classification Number (ECCN) 2B109 is amended by revising Technical Note paragraph 2. at the end of the “items” paragraph in the List of Items Controlled section to read as follows:

2B109 Flow-forming machines, other than those controlled by 2B009, and “specially designed” “parts” and “components” therefor.

List of Items Controlled

Items:

Technical Notes:

2. 2B109 does not control machines that are not usable in the “production” of propulsion “parts,” “components” and equipment (e.g., motor cases and interstages) for “missiles.”

12. In Supplement No. 1 to part 774 (the Commerce Control List), Category 5 – Telecommunications and “Information Security,” Part 1 – Telecommunications, Export Control Classification Number (ECCN) 5A101 is amended:

a. By revising the heading, and

b. By revising the Note at the end of the “items” paragraph to read as follows:

5A101 Telemetry and telecontrol equipment, including ground equipment, designed or modified for unmanned aerial vehicle (including cruise missiles, target drones, and reconnaissance drones) or rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) capable of a maximum “range” equal to or greater than 300 km.

List of Items Controlled

Items:

Note: ECCN 5A101 does not include items not designed or modified for unmanned aerial vehicles (including cruise missiles, target drones, and reconnaissance drones) or rocket systems (including ballistic missiles, space launch vehicles and sounding rockets) capable of a maximum “range” equal to or greater than 300km (e.g., telemetry circuit cards limited by design to reception only and designed for use in personal computers).

13. In Supplement No. 1 to part 774 (the Commerce Control List), Category 7—
Navigation and Avionics, Export Control Classification Number (ECCN) 7A103 is amended:

- a. By removing the Related Controls paragraph (2) and redesignating Related Controls paragraph (3) as Related Controls paragraph (2) in the List of Items Controlled section;
- b. By revising the Related Definitions paragraph in the List of Items Controlled section;
- c. By revising the introductory text of “items” paragraph a. in the List of Items Controlled section; and
- d. By adding a Note 3 to “items” paragraph a. in the List of Items Controlled section to read as follows:

7A103 Instrumentation, navigation equipment and systems, other than those controlled by 7A003, and “specially designed” “parts” and “components” therefor, as follows (see List of Items Controlled).

List of Items Controlled

Related Definitions: ‘Inertial measurement equipment or systems’ specified in 7A103.a. incorporate accelerometers or gyros to measure changes in velocity and orientation in order to determine or maintain heading or position without requiring an external reference once aligned.

Items:

a. ‘Inertial measurement equipment or systems’ using accelerometers or gyros controlled by 7A001, 7A002, 7A101 or 7A102, and “specially designed” “parts” and “components” therefor;

Note 3: 7A103.a. includes Attitude and Heading Reference Systems (AHRSs), gyrocompasses, Inertial Measurement Units (IMUs), Inertial Navigations Systems (INSs), Inertial Reference Systems (IRSs), and Inertial Reference Units (IRUs).

14. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—
Aerospace and Propulsion, Export Control Classification Number (ECCN) 9A101 is amended by

revising the Related Controls paragraph in the List of Items Controlled section to read as follows:

9A101 Turbojet and turbofan engines, other than those controlled by 9A001, as follows (see List of Items Controlled).

List of Items Controlled

Related Controls: 9A101.b controls only engines for non-military unmanned aerial vehicles [UAVs] or remotely piloted vehicles [RPVs], and does not control other engines designed or modified for use in “missiles”, which are “subject to the ITAR” (see 22 CFR parts 120 through 130).

15. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—Aerospace and Propulsion, add, between entries for Export Control Classification Numbers (ECCNs) 9B010 and 9B105, ECCN 9B104 to read as follows:

9B104 ‘Aerothermodynamic test facilities’, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km and their

subsystems, and having an electrical power supply equal to or greater than 5 MW or a gas supply total pressure equal to or greater than 3 MPa.

License requirements

Reasons for Control: MT, AT

<i>Control(s)</i>	<i>Country Chart (See Supp. No. 1 to part 738)</i>
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: N/A

GBS: N/A

CIV: N/A

List of Items Controlled

Related Controls: See ECCNs 9D101, 9E001 and 9E002.

Related Definitions: ‘Aerothermodynamic test facilities’ include plasma arc jet facilities and plasma wind tunnels for the study of thermal and mechanical effects of airflow on objects.

Items:

The list of items controlled is contained in the ECCN heading.

16. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—
Aerospace and Propulsion, Export Control Classification Number (ECCN) 9D101 is amended by
revising the heading to read as follows:

**9D101 “Software” “specially designed” or modified for the “use” of commodities
controlled by 9B104, 9B105, 9B106, 9B116, or 9B117.**

17. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—
Aerospace and Propulsion, Export Control Classification Number (ECCN) 9D104 is amended by
adding a Note to the “items” paragraph in the List of Items Controlled section to read as follows:

**9D104 “Software” specially designed or modified for the “use” of equipment controlled by
ECCN 9A001, 9A012 (for MT controlled items only), 9A101 (except for items in 9A101.b
that are “subject to the ITAR,” see 22 CFR part 121), or 9A106.d.**

List of Items Controlled

Items:

Note: For a manned aircraft converted to operate as an unmanned aerial vehicle specified in 9A012 and controlled for MT reasons, 9D104 includes “software”, as follows:

a. “Software” “specially designed” or modified to integrate the conversion equipment with the aircraft system functions;

b. “Software” “specially designed” or modified to operate the aircraft as an unmanned aerial vehicle.

18. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—Aerospace and Propulsion, Export Control Classification Number (ECCN) 9E001 is amended by revising the “MT” paragraph in the table in the License Requirements section to read as follows:

9E001 “Technology” according to the General Technology Note for the “development” of equipment or “software”, controlled by 9A001.b, 9A004, 9A012, 9B (except for ECCNs 9B604, 9B610, 9B619, 9B990 and 9B991), or ECCN 9D001 to 9D004, 9D101, or 9D104.

License Requirements

*Reason for Control: ******

<i>Control(s)</i>	<i>Country Chart (See Supp. No. 1 to part 738)</i>

MT applies to “technology” for items controlled by 9A012, 9B001, 9B002, 9B003, 9B004, 9B005, 9B007, 9B104, 9B105, 9B106, 9B115, 9B116, 9B117, 9D001, 9D002, 9D003, or 9D004 for MT reasons.	MT Column 1

19. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—Aerospace and Propulsion, Export Control Classification Number (ECCN) 9E002 is amended by revising the “MT” paragraph in the table in the License Requirements section to read as follows:

9E002 “Technology” according to the General Technology Note for the “production” of “equipment” controlled by ECCN 9A001.b, 9A004 or 9B (except for ECCNs 9B117, 9B604, 9B610, 9B619, 9B990, and 9B991).

License Requirements

Reason for Control: *****

<i>Control(s)</i>	<i>Country Chart (See Supp. No. 1 to part 738)</i>

MT applies to “technology” for equipment controlled by 9B001, 9B002, 9B003, 9B004, 9B005, 9B007, 9B104, 9B105, 9B106, 9B115 or 9B116 for MT reasons	MT Column 1

20. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—Aerospace and Propulsion, Export Control Classification Number (ECCN) 9E101 is amended by revising the heading to read as follows:

9E101 “Technology” according to the General Technology Note for the “development” or “production” of commodities or “software” controlled by ECCN 9A012 (applies only to “production” “technology” for MT-controlled items in 9A012), 9A101 (except for items in 9A101.b that are “subject to the ITAR,” see 22 CFR part 121), 9A106.d or .e, 9A110 (for items that are “specially designed” for non-military unmanned aerial vehicles controlled by 9A012), 9C110, 9D101, or 9D104.

21. In Supplement No. 1 to part 774 (the Commerce Control List), Category 9—Aerospace and Propulsion, Export Control Classification Number (ECCN) 9E102 is amended by revising the heading to read as follows:

9E102 “Technology” according to the General Technology Note for the “use” of commodities or “software” controlled by ECCN 9A004 (except for items in 9A004 that are “subject to the ITAR,” see 22 CFR part 121), 9A012, 9A101 (except for items in 9A101.b that are “subject to the ITAR,” see 22 CFR part 121), 9A106.d or .e, 9A110 (for items that are “specially designed” for non-military unmanned aerial vehicles controlled by 9A012), 9B105, 9B106, 9B115, 9B116, 9D101, or 9D104.

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