ViviSat LLC, a United States owned and operated company, is pleased to comment on the proposed Export Administration Regulations (EAR): Control of Spacecraft Systems and Related Items the President Determines No Longer Warrant Control Under the United States Munitions List (USML), Proposed Rule, 78 Fed. Reg. 31,431-31,443 (May 24, 2013) (to be codified in 15 C.F.R. pts. 734, 736, 740, 742, 748, 758, 772, and 774)

ViviSat, www.vivisat.com, is a joint venture of U.S. Space LLC and ATK Incorporated (ATK: NASDAQ). Our company provides a commercial satellite life extension service to U.S. government and commercial geosynchronous altitude satellites, e.g. communications satellites. We have obtained agreements from enough customers to produce and launch an initial set of Mission Extension Vehicles (MEV). The MEV is an independent satellite that can semi-autonomously rendezvous, dock and remain attached to a client satellite to provide auxiliary propulsion capabilities. Our MEV will dock and un-dock multiple times during its mission life to service multiple customer satellites. Our near future plans include robotic servicing of major satellite components, e.g. solar array replacement, while our long term goal is to provide space logistics involving transportation, maintenance and on-orbit construction of space based systems.

Regards the proposed changes to the EAR, we would like to ensure our commercial service and its associated technology are acknowledged as falling under the EAR so they do not automatically default to becoming United States Munitions List (USML) controlled items.

Specifically, we suggest editing the Note to 9A515.a, which lists several types of satellites and spacecraft that are controlled under the Note. Based on our review of the proposed rule for USML Category XV, our satellite servicing Mission Extension Vehicles do not appear to be listed on the USML but are also not listed specifically in the Note to ECCN 9A515.a. ViviSat recommends the insertion of a phrase such as "satellites not otherwise enumerated in USML Category XV" to make clear that any satellites not specifically listed under USML Category XV are covered under ECCN 9A515.a. Our suggested edit is embedded below in the proposed ECCN language.

■ *41. In Supplement No. 1 to Part 774, between the entries for ECCNs 9A120 and 9A980, add new entry for ECCN 9A515 to read as follows:*

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

License Requirements
Reason for Control: NS, MT, RS, AT

Control(s)	*Country chart*
NS applies to entire entry	*NS Column 1*
RS applies to entire entry	*RS Column 1*
MT applies to 9A515.d when ''usable in'' ''missiles'' for protecting ''missiles'' against nuclear effects (e.g. Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects).	*MT Column 1*
AT applies to entire entry	*AT Column 1*

License Exceptions
LVS: $1500
GBS: N/A
CIV: N/A
STA: 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
Unit: End items in number; ''parts,'' ''components,'' ''accessories,'' and ''attachments'' in $ value
Related Controls: Spacecraft, launch vehicles and related articles that are enumerated in the USML, and technical data (including ''software'') directly related thereto, launch services, and launch failure analysis for items in 9A515.a, are ''subject to the ITAR.'' A license is required under the ITAR for a ''U.S. person'' to provide ''defense services'' to a foreign person for a ''spacecraft'' to be launched from outside the United States, even if that ''spacecraft'' may be exported under License Exception STA. See 22 CFR 120.9. All other

''spacecraft,'' as enumerated below and defined in section 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 and 9A004 for the International Space Station.
Related Definitions: N/A.

List of Items Controlled
Unit: End items in number; ''parts,'' ''components,'' ''accessories,'' and ''attachments'' in $ value
Related Controls: Spacecraft, launch vehicles and related articles that are enumerated in the USML, and technical data (including ''software'') directly related thereto, launch services, and launch failure analysis for items in 9A515.a, are ''subject to the ITAR.'' A license is required under the ITAR for a ''U.S. person'' to provide ''defense services'' to a foreign person for a ''spacecraft'' to be launched from outside the United States, even if that ''spacecraft'' may be exported under License Exception STA. See 22 CFR 120.9. All other ''spacecraft,'' as enumerated below and defined in section 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 and 9A004 for the International Space Station.
Related Definitions: N/A.
Items:
a. ''Spacecraft,'' including satellites, manned or unmanned space vehicles, whether designated developmental, experimental, research or scientific, not enumerated in USML Category XV.
Note: *ECCN 9A515.a includes commercial communications satellites, remote sensing satellites not identified in USML Category XV, satellites not otherwise enumerated in USML Category XV, planetary rovers, and planetary and interplanetary probes.*
b. Ground control systems and training simulators ''specially designed'' for telemetry, tracking, and control of the ''spacecraft'' in paragraph 9A515.a.
c. [Reserved]
d. Microelectronic circuits 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 9A515:
(1) A total dose of 5×10^5 Rads (Si) (5×10^3 Gy (Si));
(2) A dose rate upset threshold of 5×10^8 Rads (Si)/sec (5×10^6 Gy (Si)/sec);
(3) A neutron dose of 1×10^{14} n/cm^2 (1 MeV equivalent);

(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
(5) An uncorrected single event upset sensitivity of 1 × 10^{-3} errors/part or less for a fluence of 1 × 107 protons/cm^2 for proton energy greater than 50 MeV.
Note 1: *Application specific integrated circuits (ASICs) ''specially designed'' for defense articles are controlled by Category XI(c) of the USML regardless of characteristics.*
Note 2: *See 9A515.x for controls on ''space qualified'' microelectronic circuits that are not rated certified, or otherwise specified or described as meeting or exceeding the characteristics in paragraph .d.*
Note 3: *See 3A001.a for controls radiation hardened microelectronic circuits ''subject to the EAR'' that are not controlled by 9A515.d or 9A515.x.*
Note 4: *Microelectronic circuits that are ''specially designed'' for defense articles on the USML or for ''600 series'' items are controlled under 3A611.x.*
e. through w. [Reserved]
x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''space qualified'' and not enumerated or controlled in the USML, elsewhere within ECCN 9A515, or an ECCN containing ''space-qualified'' as a control criterion, i.e., 3A001.b.1, 3A001.e.4, 3A002.a.3, 3A002.g.1, 3A991.o, 3A992.b.3, 6A002.a.1, 6A002.b.2, 6A002.d.1, 6A002.e, 6A004.c and .d, 6A008.j.1, or 6A998.b.
Note 1: *''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in USML subcategory XV(e) or enumerated in other USML categories are subject to the controls of that paragraph or category.*

The ViviSat team appreciates the opportunity to comment on this proposed change to the Commerce Controlled List. We look forward to discussing our comments and rationale in more detail, if desired.

Sincerely,

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