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United Technologies

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Regulatory Policy Division
Bureau of Industry and Security
Room 2099B
U.S. Department of Commerce
14th St and Pennsylvania Ave., NW
Washington, D.C. 20230

Attn: RIN 0694-AF41

Re: Revisions to the Export Administration Regulations (EAR): Control of Gas Turbine Engines and Related Items the President Determines No Longer Warrant Control under the United States Munitions List (76 Fed. Reg. 76072, December 6, 2011)

Dear Mr. Christiansen:

United Technologies Corporation ("UTC")[1] appreciates the opportunity to submit these comments on the Bureau of Industry and Security's ("BIS") proposed rule on revisions to the Export Administration Regulations ("EAR") regarding the control of gas turbine engines and related items the President determines no longer warrant control under the U.S. Munitions List ("USML").[2] The notice seeks input on the changes to the EAR to address the movement of items currently controlled under USML Category VIII-Aircraft and Associated Equipment to the Commerce Control List ("CCL") in new ECCNs 9A619, 9B619, 9C619, 9D619, and 9E619. In addition, the proposed rule would control certain military trainer aircraft turboprop engines and related items now falling under ECCNs 9A018, 9D018 and 9E018 under the ECCN 9A619, 9B619, or 9E619. The proposed rule also defines the availability of certain license exceptions for the newly created ECCNs.

UTC strongly endorses the Administration's Export Control Reform Initiative, and its stated goal of strengthening national security and the competitiveness of key U.S. manufacturing and technology sectors by focusing on current threats and the changing

[1] UTC is a global, diversified corporation based in Hartford, Connecticut, supplying a broad range of high technology products and services to the aerospace, power generation, security, transportation, and building systems industries. UTC's companies are industry leaders, among them Hamilton Sundstrand aerospace and industrial systems; Pratt & Whitney aircraft engines, space propulsion systems and industrial turbines; Sikorsky helicopters; Carrier heating, air conditioning and refrigeration systems; Otis elevators and escalators; UTC Fire & Security electronic security and fire safety systems; and UTC Power fuel cell and power systems.

[2] UTC is submitting comments on the U.S. Department of State's parallel proposed rule to amend the ITAR to revise USML Category XIX (Gas Turbine Engines and Associated Equipment).

technological landscape. Of paramount importance in achieving this goal is reforming both the USML and the CCL, and aligning associated export licensing policies, to achieve a more positive, transparent and predictable structure that concentrates munitions and dual-use export controls on the most sensitive items. The reform and alignment of the control lists, and the transfer of militarily less significant items to CCL control, will facilitate UTC's ability to compete more effectively in the international marketplace while maintaining and enhancing U.S. national security and foreign policy objectives.

As BIS recognized in its July 15, 2011 proposed rule, which set forth the "600 series" framework for controlling items that would be moved from the USML to the CCL, the current USML jurisdictional structure is exceedingly broad, imposing controls on countless parts, components, assemblies, attachments and accessories of military products and their associated technologies that have little or no military significance and are indistinguishable from commercial counterparts that are widely available globally. The over-control of a vast array of parts and components under the USML puts enormous pressure on the defense trade licensing and compliance systems, requiring exporters and their global suppliers, partners and customers to manage life-cycle controls under the rigorous requirements of the International Traffic in Arms Regulations ("ITAR"). Managing these requirements demands significant compliance resources, and hinders the speed, efficiency and effectiveness of international programs with NATO allies and multilateral regime partners. As such, the present system imposes excessive costs on U.S. exporters and recipients of controlled goods and services, constrains competiveness of the U.S. industrial base, and impedes collaboration with U.S. friends and allies with no commensurate benefit from the standpoint of protecting U.S. national security interests.

For UTC companies, the large majority of defense trade licensing activity relates to defense articles and defense services falling under USML Category VIII. UTC's products span a broad spectrum of aerospace products from helicopters and associated equipment, aircraft engines and engine controls, and a wide range of rotor and fixed wing aircraft systems including auxiliary power units, propeller systems, electric power, actuation, air management, fire protection and detection, among others. In calendar year 2011, approximately 85 percent of our more than 1000 ITAR license applications included items falling within Category VIII. Of that volume, roughly 78 percent involved defense articles – parts, components, accessories, attachments and associated equipment – currently captured in subcategory VIII(h). Given the widespread significance of Category VIII, and the proposed Category XIX and corresponding 9x619 series ECCNs, to UTC and the aerospace industry as a whole, we encourage prompt consideration of the public comments and subsequent steps to finalize and implement these proposals for aircraft, gas turbine engines and related articles.

I. COMMENTS ON ECCN 9X619

As noted above, UTC strongly supports the broad movement of militarily less significant end-items, parts and components, including but not limited to so-called "generic" parts and components, from the USML to the EAR. However, controls on items moved to EAR jurisdiction under existing ECCNs or proposed "600 series" ECCNs should be carefully

calibrated to the significance of the items and applied so as to maximize eligibility for license exceptions to U.S. friends, allies and regime partners. Certain modifications to the proposed rule are needed to fully realize these objectives.

A. ECCN 9A619.a

ECCN 9A619.a specifies "Military Gas Turbine Engines" not controlled in USML Category XIX, paragraphs (a), (b), or (d). However, Category XIX(c) also controls such engines. To eliminate duplicate control over XIX(c) engines, the proposed language needs to be changed. UTC's suggestion for improved 9A619.a wording is as follows:

a. "Military Gas Turbine Engines" "specially designed" for a military use that are not controlled in USML Category XIX, paragraphs (a), (b), (c) or (d).

B. ECCN 9A619.c

The definition of hot section components in 9A619.c is nearly a direct copy of the proposed USML XIX(f)(2) entry. The USML entry is a substantial expansion of the definition of Significant Military Equipment (SME) parts and components that will cause a roll-back of control. UTC is providing extensive comments on the proposed USML rule, and the two rules must be compatible. Items that leave the USML must have an appropriate corresponding home on the CCL.

The proposed USML XIX(f)(2) and 9A619.c regulation wording itself has several composition issues. The first part of the first sentence calls out generic parts (e.g. 'turbine blades' or 'nozzles') "specially designed" for engines in the category, and then calls out a subset of the same parts (e.g. 'cooled low pressure turbine blades' and 'cooled nozzles'). Cooled low pressure turbine blades are assumed to be included in 'turbine blades,' rendering portions of the rest of the sentence redundant. The regulation also adds three items (cowl, diffuser, and dome) to the existing two controlled combustor components (chamber and liners). The combustor chamber and liners are directly exposed to the combustion gas temperatures and pressures, and often utilize advanced cooling technology. The combustor cowl (aka 'hood'), diffuser, and dome are simple components that are not exposed to combustion temperatures or pressures – they operate under similar conditions as the high pressure compressor. The combustor chamber and liner should be controlled at the same level as the high turbine. The combustor cowl, diffuser, and dome, should be controlled at the same level as other compressor components. It is noted that the proposed USML XIX(f)(2) includes combustor shells, whereas the proposed 9A619.c does not.

In UTC's comments on the proposed Category XIX, we suggest XIX(f)(2) retain the wording of the existing VIII(b) for 'hot section' components. In order for 9A619 to integrate properly with XIX, the 9A619 wording must also change. One approach is to split 9A619.c into two sections, where c.1 would reflect the XIX(f)(2) 'hot section' wording, and c.2 would capture other turbine and exhaust components worthy of control. This would provide a direct mapping of parts and components from XIX to 9A619.

UTC's suggestion for improved 9A619.c wording is as follows:

c.1 Hot section parts and components (i.e., combustion chambers and liners; high pressure turbine blades, vanes, disks and related cooled structure; cooled low pressure turbine blades, vanes, disks and related cooled structure; cooled augmenters; and cooled nozzles) "specially designed" for gas turbine engines controlled in this ECCN 9A619.

c.2 Uncooled turbine and exhaust system components not specified in c.1 (i.e. uncooled intermediate and low turbine vanes, blades, disks, and 'tip shrouds'; exhaust liners, tail cones, and nozzles) for engines controlled in this ECCN 9A619 or in USML XIX, except for those engines controlled in XIX(f)(1).

Parts and components of the 'hot section' for engines on the USML are controlled on the USML, so only 9A619 engines can contribute 'hot section' parts and components to 9A619.c.1 . However, both 9A619 engines and certain USML engines can contribute non-hot section parts and components to either 9A619.c.2, .x, or .y. The inclusive list of parts in .c.2 is intended to capture those critical parts, and leave out non-critical items such as seals.

II. COMMENTS ON PART 740, SUPPLEMENT NO. 4

A. "Build-to-Print" STA Eligibility

The proposed rule adds Supplement No. 4 to Part 740 to identify a set of parts and components classified under ECCN 9A619.x for purposes of limiting eligibility of license exceptions GOV and STA for certain development and production software and technology related to these items. Specifically, items are identified where no 9D619 "software" or 9E619 "technology" is eligible (paragraph (b)(2)) and items where only "build-to-print" "technology" is STA eligible (paragraph (b)(1)).

Items enumerated in paragraph (b)(1) are STA-eligible for "build-to-print" "production" "technology", whereas items enumerated in (b)(2) are not STA-eligible for any "production" "technology." "Build-to-print" "production" "technology" differs from the rest of "production" "technology" in that it does not include manufacturing know-how. The recipient of the data is assumed to be inherently capable of manufacturing the item, and only needs the blueprints. Therefore, paragraph (b)(1) identifies items where manufacturing know-how is not STA eligible, but other "production" "technology" is. The items enumerated in paragraph (b)(1) are of low technical sophistication (e.g. casings, synchronization rings) and the 'prohibited' manufacturing know-how is in most cases identical to 9E991 "technology" for a similar commercial engine part or component. The manufacturing know-how "technology" is being controlled based on the end-use of the part (i.e. "military"), and not on the inherent sensitivity, or even availability, of the "technology."

Paragraph (b)(2) lists items of higher technical sophistication, primarily compressor, combustor, turbine, and FADEC parts and components. The "production" "technology" for compressor components typically falls under 9E991 for commercial engine parts and components. Commercial engine "production" "technology" for combustor, turbine, and FADEC parts and components are covered either 9E991 or 9E003. For "military" engines controlled under 9A619, the "technology" is similar, or in some cases, less sophisticated, than present commercial engine technology.

For the reasons stated above, the manufacturing know-how for 9A619.x items is no different than 9A991 technology today. As such, UTC proposes that STA "build-to-print" eligibility for 9E619 "production" "technology" be authorized for all '.x' parts for 9A619.a engines. This would allow 'build-to-print" "production" "technology" for 9A619.a engine compressor components, which the proposed rule prohibits. This also greatly simplifies the listing. With the proposed structure of 9A619.c.1 and c.2 as noted in Section I B above, entries (iv) through (vi) of Supplement No. 4, paragraph (b)(2) are unnecessary.

UTC suggests the following:

Part 740 Supplement No. 4, paragraph (b)(1) (STA-eligible "build-to-print" only) to contain only:

(i) 9A619.x "parts" and "components" for engines controlled in 9A619.a.

Part 740 Supplement No. 4, paragraph (b)(2) (No STA-eligibility) to contain two entries:

(i) 9A619.b, 9A691.c, and 9A619.x "parts" and "components" for engines controlled in USML Category XIX.

(ii) 9A619.b and 9A691.c "parts" and "components" for engines controlled in 9A619.a.

The effect would be that STA cannot be applied to parts and components on the CCL for engines that remain on the USML.

III. TRANSITION PERIOD

UTC believes that the transfer of items of lesser military significance from the USML to the CCL will result in reduced cost and improved business flexibility. However, the transition of potentially tens of thousands of parts and components, each with a multiplicity of associated technical documents, will require a very substantial effort requiring a transition period to train staff, determine new jurisdictions and classifications, adjust ERP systems and other automated jurisdictional and classification tools, change document markings, and coordinate with suppliers, distributors and customers. The philosophy of the phase-in should

be to avoid unnecessary costs and schedule delays. To ease concern and possible confusion over this transition, the rule should explicitly address the phase-in of changes, as follows:

- Permit a phase-in of changes through interim and final rules. The EAR underwent a similar change in 1996, and the transition was implemented with an interim rule effective April 24, 1996, with compliance not compelled until November 1 of the same year. A similar extended implementation time frame would allow companies to change computer systems, update marking procedures, and start the process of reviewing the jurisdiction and classification of a large number of items. Due to the size and complexity of the effort, we recommend a nine month phase-in period.

- Permit 'grandfathering' of existing and in-process licenses and agreements. There may be cases where amending a Department of State authorization may be faster than applying for a new BIS license. In this case, the item(s) would necessarily retain the jurisdiction stated in the authorization. Continuing to license an item under the original jurisdiction should not preclude transitioning the item to the CCL without agency agreement in alignment with the proposed changes.

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For additional information, please contact the undersigned at (202) 336-7467 or, with regard to technical proposals, Ari Novis at Pratt & Whitney at (860) 557-2353.

Sincerely,

Peter S. Jordan
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