

Commerce Department Imposes Controls on Five Types of “Emerging Technologies” Agreed to by Multilateral Regime Allies

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Key Points:

- The Department of Commerce’s Bureau of Industry and Security (BIS) has amended the Export Administration Regulations (EAR) to **add controls** over specific types of:
 - Discrete microwave transistors used in wideband semiconductors.
 - Software that ensures continuity of operation when electronics are exposed to an Electromagnetic Pulse (EMP) or Electrostatic Discharge (ESD).
 - Post-quantum cryptographic algorithms (also known as quantum-safe or quantum-resistant algorithms).
 - Underwater transducers designed to operate as hydrophones.
 - Aircraft specially designed or modified to be air-launch platforms for space launch vehicles.
- These are not the much-discussed possible unilateral (i.e., U.S.-only) controls over “emerging” and “foundational” technologies **that could be proposed and implemented under the authority of section 4817** of the Export Control Reform Act of 2018 (ECRA). Rather, they are controls **agreed to last year by our multilateral regime allies** that meet the same standards for control as that provision – i.e., they are newly developed or developing items essential to the national security of the United States. BIS has not yet announced its plans for whether or which “emerging” or “foundational” technologies it will propose unilateral controls over pursuant to this ECRA section.

Background

- The **Wassenaar Arrangement** consists of 42 countries that have agreed to regulate the same lists of military and dual-use items to prevent destabilizing accumulations of such items or their use by terrorists. Representatives from each country meet several times a year, usually in Vienna, Austria, to discuss and decide upon the warranted new or amended controls. Final decisions are usually agreed to each

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December. BIS traditionally implements the agreed-upon controls in one final notice **the following year**. BIS has, however, decided to publish early the Wassenaar controls it deemed to be “recently developed or developing technologies” that are essential to the national security of the United States. The remaining changes agreed to in the Wassenaar Arrangement’s plenary meeting will be published later, according to the rule.

New and Revised Controls

Changes to the Commerce Control List (**CCL**) include the addition of, and revisions to, the following Export Control Classification Numbers (ECCNs):

- 3A001 – The rule adds new ECCN 3A001.b.3.f to control discrete microwave transistors rated for operation with a peak saturated power output greater than 5 W (37.0 dBm) at all frequencies exceeding 8.5 GHz up to and including 31.8 GHz (due to the increasing variety of dual-use applications for wideband semiconductors).
- 3D005 – The rule adds new ECCN 3D005 for software specially designed to restore normal operation of a microcomputer, microprocessor microcircuit, or microcomputer microcircuit within 1 ms after an Electromagnetic Pulse (EMP) or Electrostatic Discharge (ESD) disruption, without loss of continuation of operation.
- 5A002 – The rule amends the Technical Notes following ECCN 5A002.a.4 in order to control asymmetric algorithms with security based on post-quantum cryptography (e.g., “NewHope,” “Frodo,” “NTRUEncrypt,” “Kyber,” “Titanium,” “SIKE,” “McEliece,” “Niederreiter”).
- 6A001 – The rule adds Technical Note 2 to ECCN 6A002.a.2.a to clarify that underwater acoustic transducers designed to operate as passive receivers are hydrophones, and the rule amends 6A002.a.2.a.6 with certain technical parameters to control underwater transducers designed to operate as hydrophones (due to their utility in Anti-Submarine Warfare).
- 9A004 – The rule adds new ECCN 9A004.g to control aircraft specially designed or modified to be air-launch platforms for space launch vehicles (SLV) in recognition of the move towards air-launch platforms by some commercial satellite owners and space tourism companies.

The Emerging and Foundational Technologies Review Process

These changes are not the possible and much-discussed unilateral controls over “emerging” or “foundational” technologies that **could be authorized under ECRA section 4817** public c. Given the timing of their publication, they were almost certainly under consideration by the multilateral regime allies before ECRA became law. In addition, ECRA section 4817 requires any new controls issued under the authority of that provision to be published as a proposed rule for public review and comment before being implemented. BIS published the new changes in a final rule.

Nonetheless, the new controls are, according to the rule, consistent with the ECRA standards for the types of emerging technologies to be controlled. In addition, consistent with a congressional preference expressed in ECRA, the new controls are multilateral, meaning that the United States and its regime allies impose or will soon impose the same controls.

BIS’s plans for publishing proposed unilateral controls over “emerging” and “foundational” technologies remain unknown. BIS and its interagency colleagues are

apparently still reviewing [public comments](#) filed in response to [its request for information](#) about [various types of emerging technologies](#) and otherwise analyzing the issues. BIS has not published a request for information seeking public comments on which types of “foundational” technologies do and do not warrant controls.

Conclusion

Regardless of the background to the new controls, companies should review the new and revised CCL entries in ECCNs 3A001, 3D005, 5A002, 6A001, and 9A004 to identify whether they describe items relevant to their business or other activities, and control them accordingly. All should also stay tuned in 2019 for the remaining Wassenaar changes to be implemented and any proposed controls over emerging or foundational technologies or requests for information about them.

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