

Locke Lord QuickStudy: New Export Controls on Advanced Technologies: Quantum Computing, Semiconductors, and Additive Manufacturing

Locke Lord LLP

WRITTEN BY

Ryan Last

On September 6, 2024, the U.S. Department of Commerce's Bureau of Industry and Security ("BIS") issued an interim final rule (the "Interim Rule"), aimed at strengthening export controls on advanced technologies, including quantum computing, semiconductor manufacturing, and additive manufacturing. The Interim Rule is intended to align U.S. regulations with those of international partners to ensure national security and promote foreign policy safeguards, particularly concerning emerging and foundational technologies.

New and Revised ECCNs

The Interim Rule introduces 18 new Export Control Classification Numbers ("ECCNs") and revises 9 existing ones, targeting key technologies such as:

- Quantum computing (e.g., ECCNs 4A906, 4D906, and 4E906), including computers, assemblies, and the software necessary for their development.
- Advanced semiconductor manufacturing (e.g., ECCNs 3B001, and 3E905), with a focus on cutting-edge equipment like extreme ultraviolet (EUV) lithography and gate-all-around field-effect transistors (GAAFETs) that are critical for producing next-generation chips.
- Additive manufacturing (e.g., ECCNs 2B910, and 2D910), covering equipment used for 3D printing metal and alloy components, particularly those used in high-tech industries like aerospace.

Expanded Licensing Requirements

The Interim Rule introduces stricter licensing requirements for these newly classified technologies, imposing global export controls under the categories of (i) national security (NS) and (ii) regional stability (RS). Export of these goods and technologies to most destinations will require export licenses, and as usual the Commerce Country Chart (Supplement No. 1 to Part 738) determines applicable license requirements based on destination countries and "reason for control."

- A presumption of approval applies to exports to trusted nations, including those in Country Groups A:1, A:5, and A:6.
- A presumption of denial applies for countries considered higher risk, such as those in Country Groups D:1 and D:5, including nations like China and North Korea.

New License Exception

A new License Exception, IEC (“Implemented Export Controls”), has been introduced to facilitate exports to certain countries that have adopted equivalent export controls for these newly added items (e.g., UK and Italy), with others expected to be added as export controls are harmonized globally. This exception allows U.S. persons to export controlled items and technologies (e.g., deemed exports) to allied nations that have implemented equivalent technical export controls to facilitate trade among partner countries.

Grandfathering Deemed Export Provisions

To mitigate disruption to ongoing research and development efforts, the Interim Rule includes specific provisions to protect companies reliant on foreign talent. These “grandfather” clauses ensure that technology already accessible to foreign nationals before the Interim Rule’s publication date can still be accessed under certain conditions. Grandfathering, however, does not permit unlicensed deemed exports to individuals in high-risk countries, such as China and North Korea.

Compliance Deadline

Although the Interim Rule became effective on September 6, 2024, exporters, re-exporters, and transferors of quantum computing items specified in ECCNs 3A901, 3A904, 3B904, 3C907, 3C908, 3C909, 3D901 (for 3A901.b, 3B904), 3E901 (for 3A901, 3A904, 3B904, 3C907, 3C908, 3C909), 4A906, 4D906, or 4E906 to destinations specified in Country Group A:1 in supplement no. 1 to part 740 of the Export Administration Regulation (“EAR”) are not required to comply with the license requirements in § 742.4(a)(5)(i) or § 742.6(a)(10)(i) of the EAR until November 5, 2024. This gives companies time to apply for licenses and update their compliance processes.

These changes reflect the U.S. government’s broader efforts to control the flow of sensitive technologies, especially those related to quantum computing and advanced semiconductors, and ensure that they are not used by adversarial nations, such as Iran, Russia, and North Korea.

For businesses involved in exporting any of these newly controlled items, they must review existing compliance procedures and ensure appropriate categorization of their goods and where required, obtain licenses prior to export. This is particularly relevant for industries in sectors such as defense, aerospace, and emerging and foundational technologies.

Conclusion

This paper is intended as a guide only and is not a substitute for specific legal or tax advice. Please reach out to the authors for any specific questions. We expect to continue to monitor the topics addressed in this paper and provide future client updates when useful.

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