Updates

"As I told Congress in July, my north star at BIS is to ensure that we are appropriately doing everything in our power to protect our national security and prevent sensitive technologies with military applications from being acquired by the People's Republic of China's military, intelligence, and security services."

- U.S. Department of Commerce Under Secretary of Commerce for Industry and Security Alan Estevez

The United States and China are in ever-increasing competition for technological primacy, and chip manufacturing has become a key battlefield. On October 7, 2022, the U.S. Commerce Department's Bureau of Industry and Security (BIS) announced an interim final rule (Interim Rule), adding a substantial number of new restrictions on export to China of advanced semiconductors and chip manufacturing equipment.

In the Interim Rule, BIS imposes these new controls to protect U.S. national security and foreign policy interests by restricting China's access to such advanced chips (and computers that contain them) for use in modernizing the Chinese military, including its nuclear weapons development, facilitation of advanced intelligence collection and analysis, and surveillance. BIS also seeks to limit China's ability to obtain and develop semiconductor manufacturing capabilities to produce integrated circuits (ICs or chips) for uses contrary to U.S. national security and foreign policy interests.

U.S. government officials stressed that the new export controls targeting advanced semiconductors are for "really high-end advanced chips," adding that BIS does not "anticipate a significant commercial impact," a senior administration official said during a press briefing last week. However, according to *Bloomberg*, stocks in semiconductor companies were down following the news, and this was affecting businesses around the globe. Those affected include U.S. companies like Nvidia, Netherlands-based Advanced Semiconductor Materials Lithographer (ASML), one of the key equipment suppliers for chip manufacturing, and Chinese entities such as chipmaker Semiconductor Manufacturing International Corporation (SMIC).

This Update provides an overview of the changes included in the Interim Rule. As noted, there is a large volume of new restrictions. As a result, we have not included them all in this summary; rather, we focus on the most significant changes.

New Export Controls

As noted, the Interim Rule imposes two sets of restrictive measures: (1) on certain advanced computing semiconductor chips, transactions for supercomputer end uses, and (through new foreign direct product rules) on transactions involving certain entities on the Entity List; and (2) on certain semiconductor manufacturing items and on transactions for certain IC end use.

Advanced Computing Semiconductor Chips and Computer Commodities Containing Such Chips (Effective October 21, 2022)

New Export Classification Control Numbers (ECCNs)

The Interim Rule adds the following ECCNs to the Commerce Control List (CCL):

- **3A090** for specified high-performance ICs.
- **4A090** for computers, "electronic assemblies," and "components," not elsewhere specified (n.e.s.), containing ICs in (new) ECCN 3A090.
- **4D090** for software associated with (new) 4A090 items.
- Existing related software and technology ECCNs in this area are 3D001, 3E001, and 4E001.

Regional Stability Added as a Reason for Control for New and Existing ECCNs

The new ECCNs listed above are controlled for regional stability (RS) reasons which require a license for exports or reexports to China, as well as antiterrorism (AT) reasons that require a license for export to E:1 and E:2 countries (i.e., Iran, Syria, Cuba, and North Korea).

RS will be added as a reason for control to the existing ECCNs for "software" and "technology" (i.e., ECCNs 3D001, 3E001, and 4E001). Therefore, exports of items under these ECCNs will require a license for export/reexport to China.

RS controls are also added to 5A992 and 5D992 encryption items that meet or exceed the performance levels of 3A090 or 4A090.

Additional License Requirements

A license requirement is imposed for exports, reexports, and transfers (in-country) of identified items[1] to or within China. This new license requirement does not apply to "deemed" exports or deemed reexports (i.e., disclosures or releases) of controlled technology or software source code to Chinese nationals located outside of China.

In addition to the new export license requirements to China, a license is required for the export from China to any global destination of technology for the design, development, or production of advanced computing chips (i.e., 3E001), if such technology is: (1) developed by an entity headquartered in China; (2) is the "direct product" of certain software subject to the Export Administration Regulations (EAR); and (3) is for the "production" of certain advanced computing integrated circuits and computers or assemblies containing them.

The license exceptions available for the identified items are limited to the replacement of parts and equipment (RPL); governments, international organizations, international inspections Under the Chemical Weapons Convention, and the International Space Station (GOV); and Technology and Software Unrestricted (TSU).

Supercomputers (Effective October 21, 2022)

End-use and end-user license requirements are added to the EAR for export of items for use in or with supercomputers in China.

Supercomputer Defined

A definition of "supercomputer" is added as follows: "[a] computing "system" having a collective maximum theoretical compute capacity of 100 or more double-precision (64-bit) petaflops or 200 or more single-precision (32-bit) petaflops within a 41,600 ft3 or smaller envelope."

Supercomputer End-Use License Requirements

End-use license requirements are added to exports, reexports, or transfers of specified items[2] if a person has knowledge that such item will be subject to one of the following:

- Used in the development, production, use, operation, installation (including on-site installation), maintenance (checking), repair, overhaul, or refurbishing of a supercomputer located or destined for China.
- Incorporated into, or used to develop or produce, any component or equipment that will be used in a supercomputer located in or destined for China.

BIS may also inform persons, either individually by specific notice or through amendment to the EAR, that a license is required for certain exports, reexports, or transfers (in-country) of any item subject to the EAR to a certain end user because there is an unacceptable risk of use in, or diversion to, the activities specified related to the product scope and end-use activities described above.

No license exceptions are available to overcome the new supercomputer end-use license requirements. Additionally, there is a presumption of denial for license applications to engage in such exports, reexports, or transfers to or within China.

Semiconductor Manufacturing Equipment and Associated "Software" and "Technology" (Effective October 21, 2022)

New Export Classification Control Numbers (ECCNs)

The Interim Rule adds new ECCN 3B090 for certain semiconductor manufacturing deposition equipment and specially designed parts, components, and accessories for such equipment.

RS Is a Reason for Control for New ECCN 3B090

3B090 is controlled for RS reasons that, as noted above, require a license for exports or reexports to China, as well as for AT reasons that require a licensee for export to E:1 and E:2 countries (i.e., Iran, Syria, Cuba, and North Korea).

The RS reason for control is also to be added to the existing ECCNs for "software" and "technology" (i.e., ECCNs 3D001 and 3E001). Therefore, these items also will now require a license for export/reexport to China.

Additional License Requirements

A license requirement is imposed for exports, reexports, and transfers (in-country) of identified items[3] to or within China. This new license requirement does not apply to "deemed" exports or deemed reexports (i.e., disclosures or releases) of controlled technology or software source code to nationals of China located outside of China. Only license exception GOV is available for these identified items.

Semiconductor Manufacturing End-Use License Requirements (Effective on October 7, 2022)

Adds a new end-use control on items for the "development" or "production" of integrated circuits at certain semiconductor manufacturing "facilities" located in China. A license is required for the export, reexport, or transfer (in-country) of an item that is subject to EAR and designated for the end use detailed below:

- Where knowledge exists that the item is destined for end use for the development or production of integrated circuits at a semiconductor fabrication "facility" located in China that fabricates integrated circuits meeting any of the following criteria:
  - Logic integrated circuits using a non-planar transistor architecture or with a "production" technology node of 16/14 nanometers or less.
  - NOT AND (NAND) memory integrated circuits with 128 layers or more.
  - Dynamic random-access memory (DRAM) integrated circuits using a "production technology node of 18 nanometer half-pitch or less.
- For any item in a Category 3 ECCN in Product Groups B, C, D, or E where knowledge exists that such item will be used for the "development" or "production" of ICs at any semiconductor fabrication "facility" located in China, but an exporter does not know whether such semiconductor fabrication "facility" fabricates ICs that meet any of the criteria described above; or
- Where knowledge exists that the item will be used in an end use for "development" or "production" in China of any "parts," "components," or "equipment" specified under ECCNs 3B001, 3B002, 3B090, 3B611, 3B991, or 3B992.

No license exceptions are available for these new end-use license requirements. Further, there is a presumption of denial for related license applications.

Foreign Direct Product Rule (FDPR) Revisions and Additions (Effective October 21, 2022)

These revised and new FDPRs expand the scope of EAR to cover items produced outside of the United States.

Revision of Current FDPR

The current Entity List FDPR at EAR § 734.9(e) is revised by adding a special designation footnote 4 for 28 entities, all of which are already on the Entity List (FN4 Entities). Although the license requirement remains for "all items subject to the EAR," a new product scope[4] and end-user scope[5] are added for the FN4 Entities. Specifically, where both the product and end-user scopes are met, such items produced outside the United States become subject to the EAR, and relevant license requirements apply.

New Advanced Computing FDPR and Supercomputer FDPR

- **Advanced Computing FDPR.** A foreign-produced item will be subject to the EAR and applicable licensing requirements if such item meets the criteria specified under the product scope[6] and the end-use scope.[7]
- **Supercomputer FDPR.** This new rule creates a new FDP rule on supercomputer items that meet both the product scope[8] and country and end-use scope.[9] For items subject to the Supercomputer FDP rule, such foreign-produced items will be subject to the EAR, the license requirements, and the license review policy. See § 744.23 of the EAR for license requirements, license review policy, and license exceptions applicable to foreign-produced items.

Restrictions on Specified Activities of US Persons (Effective on October 12, 2022)

New restrictions are added to a U.S. person's ability to support the development, or production, of integrated chips at certain semiconductor fabrication "facilities" located in China without a license.

Specifically, BIS may inform U.S. persons[10] that a license is required for activities that "could involve 'support' for the weapons of mass destruction-related end uses" specified at EAR § 744.6(b), including shipping, transmitting, or transferring, or facilitating such movement, to or within China, or servicing of:

- Any item not subject to the EAR when knowledge exists that the item is destined to be used in the development or production of chips at a semiconductor fabrication "facility" located in China that fabricates ICs meeting any of the following criteria:
    - Logic integrated circuits using a non-planar transistor architecture or with a "production" technology node of 16/14 nanometers or less
    - NOT AND (NAND) memory integrated circuits with 128 layers or more.
    - Dynamic random-access memory (DRAM) integrated circuits using a "production technology node of 18 nanometer half-pitch or less.
- Any item not subject to the EAR and classified in an ECCN in Product Groups B, C, D, or E in Category 3 of the CCL when knowledge exists that such item will be used in the "development" or "production" of integrated circuits at any semiconductor fabrication "facility" located in China, but a U.S. person does not know whether such semiconductor fabrication "facility" fabricates integrated circuits that meet any of the criteria described above.
- Any item not subject to the EAR and meeting the parameters of ECCN 3B090, 3D001 (for 3B090), or 3E001 (for 3B090) regardless of the end use or end user.

No license exceptions overcome these license requirements. Further, there is a presumption of denial for most license applications.

Temporary General License To Address Supply Chain Disruption (Effective October 21, 2022)

The Interim Rule establishes a temporary general license (TGL) to avoid disrupting supply chains for items covered by ECCNs ultimately destined for customers outside China. From now until April 7, 2023, the TGL allows exports, reexports, in-country transfers, and exports from abroad destined to or within China by companies not headquartered in Country Groups D:1, D:5, or E to continue or to engage in integration, assembly (mounting), inspection, testing, quality assurance, and distribution of items in certain specified ECCNs.

This TGL is only for companies that engage in the specific activities authorized under this TGL and does not authorize the export, reexport, in-country transfer, or export from abroad to "end-users" or "ultimate consignees" in China.

BIS Compliance Guidance

Model Certification for Advanced Computing FDPR[11]

A model certification is provided in the Interim Rule to assist exporters, reexporters, and transferors in determining whether the items being exported are subject to the EAR based on the Advanced Computing FDPR.

If the exporter, reexporter, or transferors has not obtained such a certification, due diligence must be conducted to determine if the items meet the scope of the Advanced Computing FDPR.

While useful, BIS, unfortunately, does not view this certification as the only step to be completed during a company's due diligence process.

BIS Issues FAQs

On October 28, 2022, BIS issued guidance on the Interim Rule in the form of frequently asked questions (FAQs). Among other things, the FAQs confirm that Hong Kong is treated the same as China with respect to the Interim Rule. More clarity on the definitions of "Facility" and "U.S. Person" is also provided.

Although the Interim Rule takes effect on the dates provided above, comments on the Interim Rule may be submitted to BIS until December 12, 2022. BIS will then publish a final rule that responds to such comments at a future date.

In the meantime, the U.S. and certain foreign companies that are involved in the semiconductor industry and conduct business operations in China or that have sales to Chinese semiconductor manufacturers will need to analyze the new BIS restrictions and comply with these provisions, given that they are now effective.

Endnotes

[1] A license is required for items specified in ECCNs 3A090, 3B090, 4A090, 5A992 (that meet or exceed the performance parameters of ECCNs 3A090 or 4A090) and associated software and technology in 3D001 (for 3A090 or 3B090), 3E001 (for 3A090 or 3B090), 3B090, or 3D001 (for 3A090 or 3B090), 4D090, 4E001 (for

4A090 and 4D090), and 5D992 (that meet or exceed the performance parameters of ECCNs 3A090 or 4A090).

[2] ICs specified in ECCNs 3A001, 3A991, 4A994, 5A002, 5A004, or 5A992; or computers, electronic assemblies, or components specified in ECCNs 4A003, 4A004, 4A994, 5A002, 5A004, or 5A992.

[3] ECCNs 3B090, 3D001 (for software associated with ECCN 3B090), and 3E001 (for technology associated with ECCN 3B090).

[4] Product Scope (Current FDPR). The product scope applies if the foreign-produced item is (a) a "direct product" of "technology" or "software" subject to the EAR and specified in 18 ECCNs, as follows: 3D001, 3D991, 3E001, 3E002, 3E003, 3E991, 4D001, 4D993, 4D994, 4E001, 4E992, 4E993, 5D001, 5D002, 5D991, 5E001, 5E002, or 5E991; or (b) produced by any plant or 'major component' of a plant when the plant or 'major component' of a plant, whether made in the United States or a foreign country, itself is a "direct product" of U.S.-origin "technology" or "software" that is specified in the 18 ECCNs.

[5] End-User Scope (Current FDPR). The end-user scope applies if the foreign-produced item: (1) will be incorporated into, or will be used in the "production" or "development" of any "part," "component," or "equipment" produced, purchased, or ordered by any entity with FN4 Entity; or (2) where FN4 Entities are transaction parties involving the foreign-produced item, e.g., as a "purchaser," "intermediate consignee," "ultimate consignee," or "end-user."

[6] Product Scope (Advanced Computing FDPR). The product scope applies to a foreign-made item (1) in ECCNs 3A090, 3E001 (for 3A090), 4A090, or 4E001 (for 4A090) of the CCL; or (2) that is an integrated circuit, computer, "electronic assembly," or "component" specified elsewhere on the CCL that meets the performance parameters of ECCN 3A090 or 4A090. In order to meet the product scope, above discussed specified foreign-produced item needs (1) either the "direct product" of "technology" or "software" subject to the EAR and specified in 3D001, 3D991, 3E001, 3E002, 3E003, 3E991, 4D001, 4D090, 4D993, 4D994, 4E001, 4E992, 4E993, 5D001, 5D002, 5D991, 5E001, 5E991, or 5E002 (19 ECCNs) of the CCL, (2) the foreign-made item produced by a plant or major component of a plant that is itself the direct product of U.S.-origin technology or software specified in the same group of 19 ECCNs.

[7] End-User Scope (Advanced Computing FDPR). The end-use scope covers the before mentioned foreign-produced item, and when knowledge exists, is (1) destined to the China or will be incorporated into any "part," "component," "computer," or "equipment" not designated EAR99 that is destined to China; or (2) technology developed by an entity headquartered in China for the "production" of a mask or an integrated circuit wafer or die.

See EAR § 742.6(a)(6) for license requirements and license exceptions and EAR § 742.6(b)(10) for license review policy applicable to such foreign-produced items.

[8] Product Scope (Supercomputer FDPR). The product scope applies to (1) a foreign-made item that is the direct product of software or technology subject to the EAR (not limited to U.S.-origin software or technology) and specified in ECCNs 3D001, 3D991, 3E001, 3E002, 3E003, 3E991, 4D001, 4D993, 4D994, 4E001, 4E992, 4E993, 5D001, 5D002, 5D991, 5E001, 5E002, or 5E991; or (2) produced by a plant or major component of a plant that is itself the direct product of U.S.-origin technology or software specified in the same abovementioned group of ECCNs.

[9] Country and End-Use Scope (Supercomputer FDPR). The foreign item meets the country and end-use scope, if there is "knowledge" that the foreign produced item will be: (1) used in the design, "development," "production," operation, installation (including on-site installation), maintenance (checking), repair, overhaul, or refurbishing of, a "supercomputer" located in or destined to China; or (2) incorporated into, or used in the

"development," or "production," of any "part," "component," or "equipment" that will be used in a "supercomputer" located in or destined to China.

[10] "U.S. persons" means U.S. legal entities and their non-U.S. branches; individual U.S. citizens, lawful permanent residents ("green-card" holders), and protected individuals as defined by 8 U.S.C. 1324b(a)(3), no matter where located or employed; and persons present in the United States.

[11] At new EAR § 734.9(h)(3).

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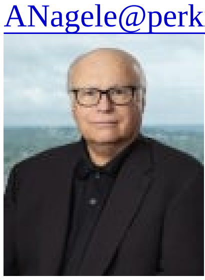

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