

BIS Imposes New Controls Targeting China's Semiconductor and Advanced Computing Industries

OCTOBER 13, 2022

Over are the days of carefree selling to and offshoring supply chains through China for leading-edge semiconductors and the technologies and equipment used to produce them. On October 7, 2022, the U.S. Department of Commerce's ("Commerce") Bureau of Industry and Security (BIS) announced surgically precise and novel export controls targeting China's¹ semiconductor and advanced computing industries. According to the BIS [Press Release](#), the new controls will restrict China's ability "to produce advanced military systems including weapons of mass destruction; improve the speed and accuracy of its military decision making, planning, and logistics, as well as of its autonomous military systems; and commit human rights abuses." The new controls outlined below (which complement the recently signed [CHIPS Act](#) designed to bolster domestic industry) are set to influence the balance of economic power in industries as diverse as artificial intelligence, semiconductor manufacturing equipment and software, and all sectors that may seek to enhance their products with advanced computing power such as the automotive and aerospace industries.

The new rules and policies modifying the Export Administration Regulations (EAR) and clarifying the EAR's enforcement include:

- an interim final rule and request for comments focused on hampering China's advanced computing and semiconductor industries (the "[Semiconductor IFR](#)");
- a final rule revising the Unverified List (UVL) and the criteria leading to UVL designations (the [UVL FR](#)); and
- a memorandum from Assistant Secretary for Export Enforcement Matthew S. Axelrod addressing a new policy of automatic consideration for UVL and Entity List designations upon a foreign government's prevention of requested end-use checks (the "[End-Use Checks Memo](#)").

Our 10,000-foot takeaways are the following:

- Immediately evaluate any impact on your business and, if significant, submit a comment to BIS by the sixty (60)-day deadline.
- The new rules are detailed—do not guess. Do the analysis and ensure your sales to and/or supply chain through China comply.

- These new export controls are aggressive. A serious Chinese policy response is likely. Potential Chinese policy levers include the [Anti-Foreign Sanctions Law](#) and China's [emerging export controls regime](#).
- How BIS implements the case-by-case license review policy for U.S. and allied multinationals in China may be outcome determinative for many non-Chinese firms' business decisions.
- The enforcement burden on BIS will be resource-intensive, particularly given these new controls include two new and one expanded foreign-produced direct product (FDP) rules.
- The Semiconductor IFR is calibrated to leave the older "trailing-edge" or "mature" node semiconductors industry alone—BIS appears determined to deny China the chance to decisively move into leading-edge semiconductor manufacturing and design position.
- These measures are, at present, unilateral—whether the U.S. can convince other jurisdictions heavily invested in the semiconductor industry to implement the same or similar controls, such as the EU, Japan, South Korea, and Taiwan, will greatly determine their long-term effectiveness.
- These new controls are such a significant departure from the status quo ante that further significant modifications based on public comments and the lived experience of U.S. companies over the next several months are virtually guaranteed. Stay tuned.

Below we summarize the salient points applicable to global semiconductor / advanced IC industry participants who export, reexport, or transfer to—or maintain supply chains through—China.

THE SEMICONDUCTOR IFR CONTROLS WILL SCALE UP THROUGH OCTOBER 21, PROVIDING ONLY LIMITED RELIEF THROUGH A TEMPORARY GENERAL LICENSE EXPIRING APRIL 7, 2023

As indicated below, some controls were effective upon announcement on October 7, while most others will become effective on October 21 (expanded U.S. person "activities" controls became effective October 12). The Semiconductor IFR's savings clause provides that shipments falling within its scope that are en route aboard a carrier to a port of export on October 7, 2022 may proceed under a valid pre-October 7 export authority so long as they have been exported, reexported, or transferred before midnight on November 7, 2022.

A Temporary General License (TGL) issued within the Semiconductor IFR will permit supply chains in China operated by companies not headquartered in embargoed countries or in EAR Country Group D:1 or D:5 to continue most or all activities through April 7, 2023. However, the TGL does not authorize exports, reexports, or in-country transfers to any end users in China and does not overcome any restrictions on designated parties, such as Chinese firms on the Entity List.

FOUR NEW ECCNS, TWO NEW ECCN PARAGRAPHS, AND A CHINA-SPECIFIC REGIONAL STABILITY CONTROL

The Semiconductor IFR creates the below-described new ECCNs and paragraphs (and by design the preexisting ECCNs 3D001, 3E001, 4E001, 5A992, and 5D992 will control associated software and technology).

- **Effective October 7**, the Commerce Control List (CCL) contains new **ECCN 3B090** controlling certain semiconductor manufacturing deposition equipment. (Associated software and technology in ECCN 3D001 also became effective on this date.)
- **Effective October 21**, the CCL contains **(i)** a new **ECCN 3A090** controlling certain semiconductors (referred to in the EAR as integrated circuits or "ICs") that have or are programmable to have an aggregate bidirectional transfer rate over all inputs and outputs of 600 Gbyte/s or more to or from ICs other than volatile memories, **(ii)** a new **ECCN 4A090** controlling computers, electronic assemblies, and components containing ICs, any of which exceed the limit in ECCN 3A090, and **(iii)** a new **ECCN 4D090** controlling software specially designed or modified for the development or production of ECCN 4A090 computers, assemblies, and components. (Associated software and technology in ECCNs 3E001, 4E001, 5A992, and 5D992 will also become effective on this date.)
- **Effective October 21**, the CCL contains **(i)** a new paragraph **3A991.p** controlling advanced ICs having a process performance of 8 tera-operations per second or 10^{12} operations per second (TOPS) or an aggregate bidirectional transfer rate over all inputs and outputs of 150 GB/s or more to or from **(ii)** a

new paragraph 4A994.I controlling computers, electronic assemblies, and components containing ICs exceeding the limits of 3A991.p. (Notably, the Semiconductor IFR contains a savings clause for deemed exports, reexports, or releases of software and technology related to 3A991.p and 4A994.I “that previously did not require a license, but now require a license,” so long as the deemed exports, reexports, or releases do not “exceed[] the scope of the technology or software that the foreign national already had access to prior to the implementation of controls in this rule.”)

(Hereafter, we collectively refer to these specific physical items, software, and technology as the “Newly Controlled Items.”)

Each of the Newly Controlled Items is subject, at a minimum, to Anti-Terrorism (AT) controls and a new unilateral China-specific provision of Regional Stability controls (“RS-China”). **Effective October 7**, new ECCN 3B090 and associated software and technology under ECCNs 3D001 and 3E001 are subject to the new RS-China controls. **On October 21**, the control expands to cover all Newly Controlled Items, their associated software and technology, and mass market ECCN 5A992 items that meet or exceed the performance parameters of the Newly Controlled Items. However, so as not to cripple necessary supply chains through China, semiconductor-related end users in China that are headquartered in the U.S. or in certain U.S.-allied nations will be eligible for a case-by-case license application review policy, which is significantly more permissive than the policy of denial. Additionally, the RS-China control does not apply to deemed exports and deemed reexports.

RIPPLE EFFECT ON BIS MILITARY END-USER / END-USE CONTROLS

The added scope of preexisting ECCNs 3A991 (with a new paragraph “.p”) and 4A994 (with a new paragraph “.I”) automatically expands the BIS military end-user / end-use (MEU) controls, which prohibit the export, reexport, or in-country transfer of these ECCNs to MEUs in China, as well as in Burma, Cambodia, and Venezuela. (The MEU controls already apply to all items “subject to the EAR” in Belarus and Russia.)

LICENSE EXCEPTION AVAILABILITY VERY LIMITED FOR ADVANCED ICs, COMPUTERS CONTAINING ADVANCED ICs, AND SEMICONDUCTOR MANUFACTURING EQUIPMENT

Effective October 21, only License Exceptions servicing and replacement of parts and equipment (RPL), governments (GOV), and technology and software – unrestricted (TSU) will be available for export, reexport, or in-country transfer of the Newly Controlled Items and other items meeting or exceeding the parameters of the Newly Controlled Items to China. (The limits on license exception availability activated even sooner—**on October 7**—for items controlled under ECCN 3B090 and associated software (3D001) and technology (3E001), and are further limited for those ECCNs to only GOV.) Otherwise, the TGL described above, or a specific license, will be required.

NEW SUPERCOMPUTER AND SEMICONDUCTOR MANUFACTURING END-USE CONTROLS THAT DO NOT ONLY AFFECT NEWLY CONTROLLED ITEMS

Many items “subject to the EAR” beyond the Newly Controlled Items, including items fully described under ECCNs prior to October 7, are affected by the Semiconductor IFR. In these new end-use controls, BIS has defined “supercomputer”² and has set forth a framework where even mere uncertainty under some circumstances about the precise end use must be resolved in favor of no prohibited supercomputer or semiconductor manufacturing end use; otherwise, there is a violation.

When End-Use Is Known:

Exporters, reexporters, and in-country transferors—when having EAR-defined “knowledge” or when otherwise informed by BIS that a license is required—will be prohibited:

- **Effective October 7**, from exporting, reexporting, or transferring all items “subject to the EAR” for the development or production of certain advanced ICs (with specifications described in the EAR and that we will refer to as “Advanced ICs”³) at fabrication facilities (“fabs”) in China or the development or production at any type of facility in China of test, inspection, and production parts, components, or equipment for semiconductor and military electronics manufacturing.

- **Effective October 21**, from exporting, reexporting, or transferring:
 - (i) ICs “subject to the EAR” and described under ECCNs 3A001, 3A991, 4A994, 5A002, 5A004, and 5A992 and
 - (ii) computers, electronic assemblies, and components “subject to the EAR” and described under ECCNs 4A003, 4A004, 4A994, 5A002, 5A004, and 5A992:
- for the development or production of any component or equipment that will be used in a “supercomputer” in China or for any other purpose directly related to a China-located “supercomputer” itself.

When End-Use Is Unknown or Uncertain:

Further, exporters, reexporters, and in-country transferors who do not know whether the intended end-user fab in China fabricates the EAR-described Advanced ICs will be prohibited:

- **Effective October 7**, from exports, reexports, or transfers of all items “subject to the EAR” and classified in Product Group 3B, 3C, 3D, or 3E of the CCL for the development or production of any ICs at the end-user fab in China.

Except for the case-by-case treatment of end users headquartered in the U.S. or certain U.S. allies, these new end-use controls are subject to a license application review policy of denial and are ineligible for all license exceptions.

EXPANDED EAR U.S.-PERSON “ACTIVITIES” CONTROLS THAT RESEMBLE OFAC FACILITATION

The EAR already restrict the foreign support activities of “U.S. persons”—a term including individuals (citizens, lawful permanent residents, and certain refugees and asylees) and organizations present in or organized under the laws of any U.S. jurisdiction, including their foreign branches—relating to weapons of mass destruction (nuclear, biological, and chemical) (“WMD”), missiles, and certain adversary military intelligence.

Effective October 12, China’s domestically owned semiconductor industry is added to this list because of the danger its products might be used for WMD-related end users. “Support” for the same is now prohibited with a license review policy of denial. Taking a page out of the Office of Foreign Assets Control’s book, BIS defines actions such as “facilitation” along with shipment, transmission, and servicing in its long, item-specific definition of “support.” However, consistent with the RS-China licensing policy described above, semiconductor-related end users in China that are headquartered in the U.S. or in certain U.S.-allied nations will be eligible for a case-by-case license application review policy, which is significantly more permissive than the policy of denial.

NEW CONTROLS ON FOREIGN-PRODUCED ITEMS

Effective October 21, BIS will modify its FDP rules by adjusting the existing Entity List FDP and creating two new rules—the Advanced Computing FDP Rule and the Supercomputer FDP Rule. The Semiconductor IFR also publishes the elements of a “Model Certificate” to assist with FDP compliance.

Entity List FDP Rule Modifications

Prior to the Semiconductor IFR, the Entity List FDP Rule was aimed specifically at Huawei entities around the world to prevent them from obtaining foreign-manufactured software and technology for producing and developing advanced electronics such as leading-edge ICs, computers containing leading-edge ICs, and telecommunications items that are “direct products” of items “subject to the EAR.” Huawei entities were designated using footnote 1 on the Entity List and an accompanying reference to the Entity List FDP Rule. The concerns over Huawei’s access to such “direct products” relate primarily to counterintelligence, data privacy, and related issues, and footnote 1’s licensing policy is written accordingly.

Effective October 21, BIS now expands the Entity List FDP Rule by applying the exact same product scope to twenty-eight (28) entities in China under a new footnote 4. Footnote 4 clarifies that the licensing policy for footnote 4 entities, however, will be as specific as BIS wants to make it for each designee and BIS will clarify the licensing policy in the corresponding Entity List entries. Most of the first footnote 4 designations carry a presumption of denial license application review policy for all items “subject to the EAR,” but several (Beijing Sensetime Technology

Development Co., Ltd.; IFLYTEK; Intellifusion; Megvii Technology; and Yitu Technologies) have more nuanced review policies allowing a “case-by-case” review policy for certain items.

Advanced Computing FDP Rule

The first of two novel FDP Rules created in the Semiconductor IFR, the Advanced Computing Rule seeks to prevent China from obtaining ICs, computers, electronic assemblies, components, and related software and technology produced using U.S.-origin software, technology, or equipment that was itself produced using U.S.-origin software or technology and falling under **(i)** the newly created ECCNs 3A090 and 4A090, **(ii)** their associated technology ECCNs 3E001 and 4E001, or **(iii)** any other ECCN meeting or exceeding the parameters of 3A090 or 4A090. Although produced abroad, such “direct products” made with U.S.-origin inputs as described above are “subject to the EAR.”

The Advanced Computing FDP Rule goes into effect on October 21.

The Semiconductor IFR also publishes the elements of a “model” certificate to “assist exporters, reexporters, and transferors with the process of resolving potential red flags regarding whether an item is subject to the EAR based on” the Advanced Computing FDP Rule. However, obtaining a signed certification is not required, and “BIS does not view this as the only step to be completed during a company’s due diligence process.”

Supercomputer End-Use FDP Rule

Also effective October 21, the Supercomputer End-Use FDP Rule similarly incorporates foreign-produced items under the EAR’s jurisdiction when those items are **(i)** produced using U.S.-origin software or technology, or equipment that is itself made from U.S.-origin software or technology, and **(ii)** the exporter, reexporter, or transferor has “knowledge” that the item will be used in virtually any way relating to a “supercomputer” in China. BIS noted that the scope of foreign-produced items covered by the Supercomputer End-Use FDP Rule should “generally match[] the product scope for the new ‘supercomputer’ end use rule” described above, which imposes controls on items in the U.S. or of U.S. origin.

NO SECTION 1758 EMERGING AND/OR FOUNDATIONAL TECHNOLOGIES DETERMINATIONS (YET)

BIS clarified that due to the urgency of the threat, it is forgoing the required notice and comment necessary to name any new Section 1758 emerging and/or foundational technologies under the Export Control and Reform Act. In doing so BIS would have tipped its hand and allowed firms to potentially front-load orders that they knew would be prohibited. However, BIS noted it “is interested in hearing from the public about the items in [the Semiconductor IFR] and the scope of the new control.” Indeed, the entire Semiconductor IFR is premised on the semiconductor’s status as a foundational technology. U.S. businesses that produce, design, manufacture, fabricate, or develop properly designated Section 1758 emerging and/or foundational technologies are “TID U.S. Businesses” for Committee on Foreign Investment in the United States (CFIUS) purposes and can be significantly scrutinized when sold to certain foreign interests under CFIUS’ rules.

SEMICONDUCTOR IFR: SPEAK NOW OR FOREVER HOLD YOUR PEACE

Comments on the Semiconductor IFR may be submitted to BIS for sixty (60) days following the Semiconductor IFR’s publication in the Federal Register. If your company has concerns about the scope of these new controls, we recommend submitting a comment. Please remember that these new controls not only have instantaneous implications for export activities but also, more likely than not, will form the basis of new Section 1758 technologies designations down the road.

GENERAL PROHIBITION TEN CONSEQUENCES FOR STOLEN OR ILLEGALLY DIVERTED TECHNOLOGY

Consistent with BIS’s uptick in messaging and enforcement relating to General Prohibition Ten (“GP Ten”), which prohibits any action with respect to an item that is known to have been involved in an EAR violation or will likely be involved in an EAR violation, the Semiconductor IFR similarly warns of GP Ten’s reach. “*Entities outside of [China] that receive 3E001 for 3A090 technology from China should consider confirming that a license was obtained to export such technology from China,*” the Semiconductor IFR states. This statement is largely aimed at suppliers outside China that may receive specifications or other technical details for orders to build components China

requires. The U.S. believes much of this technology is likely of U.S. origin and was illegitimately transferred to China and/or is illegitimately being diverted to China's suppliers.

IF CHINA INTERFERES WITH BIS END-USE CHECKS IN CHINA, EXPECT MORE UVL AND ENTITY LIST DESIGNATIONS

Simultaneous with all the changes described above in the Semiconductor IFR, BIS issued the UVL FR and End-Use Checks Memo, both of which indicate that non-U.S. parties that are listed as foreign parties on export control documents will be subject to end-use checks that must be timely completed. While end-use checks are not new, the new policy indicates that even if the ultimate consignee or end user in China is willing and able to facilitate the end-use check, interference or delay by the Chinese government will cause the End-User Review Committee ("ERC") to consider the party for UVL designation. Then, if a UVL designation occurs, and further interference or delay continues, the ERC will consider the entity for designation on the Entity List. The UVL FR and End-Use Checks Memo technically apply worldwide and specifically relate to foreign government (rather than private party) interference with end-use checks. The End-Use Checks Memo describes two sixty (60)-day periods starting from the time of a U.S. request for an end-use check to the time the ERC will consider an entity for the UVL or the Entity List. According to the Memo, an entity will be first designated on the UVL after the first sixty (60)-day period and then will be designated on the Entity List following the second sixty (60)-day period.

In accordance with the new policy, thirty-one (31) persons in China were added to the UVL "on the basis that BIS was unable to verify their *bona fides* because an end-use check could not be completed satisfactorily for reasons outside the U.S. Government's control," while nine (9) persons in China were removed "because BIS was able to verify their *bona fides*."

* * *

These extensive new U.S. export controls against China's semiconductor industry come **(i)** shortly after previously announced new controls on two semiconductor substrate materials and electronic computer-aided design software specially designed for the development of ICs with any gate-all-around field-effect-transistor structure are **set to take effect on October 14, 2022**, and **(ii)** on the heels of the CHIPS Act, a largely bipartisan effort to bolster U.S. chip-making ability that includes a Commerce-led outbound investment review process to prevent U.S. tax dollars from benefiting the Chinese semiconductor industry.

Winston & Strawn attorneys will continue to monitor U.S. export controls against China and the CHIPS Act and provide regular updates through client alerts and on our blog. Please contact the authors or your Winston relationship partner if you have questions, would like assistance with submitting a comment to the Semiconductor IFR, or wish to be added to Winston's Global Trade & Foreign Policy Insights mailing list.

WINSTON'S SEMICONDUCTOR INDUSTRY EXPERIENCE

Winston boasts a cross-disciplined team of attorneys with significant experience assisting clients in the semiconductors and materials science industry. Our semiconductors group helps our clients to navigate various intellectual property, securities, international trade, CFIUS, and antitrust issues, including those involving alleged conspiracies to unreasonably restrain trade, illegal imports, alleged anticompetitive licensing schemes, FRAND violations, and monopolization claims. We have worked to get punitive consumer class actions dismissed, Section 337 investigations settled, and high-profile claims by competitors and licensees dismissed. In his prior role as the Deputy Assistant Secretary for Investment Security at Treasury, one of our key international trade partners oversaw several CFIUS reviews of high-profile semiconductor company transactions. Our firm includes over 20 attorneys with technical degrees in life sciences and high-tech sectors (including industrial and systems engineering, electrical engineering, and computer engineering), and attorneys with experience working for leading semiconductor companies, allowing us to truly understand the technology involved in this field. We also have extensive experience overseas, with a particularly strong presence in Asia, often allowing us to pursue a comprehensive legal strategy across jurisdictions to help our clients achieve their business goals.

¹¹ Under the EAR, China includes Hong Kong, but excludes Taiwan. Therefore, every mention of China in this article includes Hong Kong.

▣ 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.

▣ (A) Logic integrated circuits using a nonplanar transistor architecture or with a “production” technology node of 16/14 nanometers or less; (B) NOT AND (NAND) memory integrated circuits with 128 layers or more; and (C) Dynamic random-access memory (DRAM) integrated circuits using a “production” technology node of 18 nanometer half-pitch or less.

10+ Min Read

Authors

[Tony Busch](#)

[Cari Stinebower](#)

Related Locations

Washington, DC

Related Topics

U.S. Department of Commerce

BIS

Semiconductor

China

Supply Chain

Related Capabilities

Technology, Media & Telecommunications

Related Regions

North America

Related Professionals



[Tony Busch](#)



Cari Stinebower

This entry has been created for information and planning purposes. It is not intended to be, nor should it be substituted for, legal advice, which turns on specific facts.