

# **NAVIGATING THE NEW EXPORT MAZE: BIS IMPLEMENTS ADDITIONAL CONTROLS ON ADVANCED COMPUTING AND SEMICONDUCTOR MANUFACTURING ITEMS**

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## NAVIGATING THE NEW EXPORT MAZE

On October 19, 2023, the US Department of Commerce, Bureau of Industry and Security (BIS), unveiled two updated interim final rules concerning semiconductor manufacturing equipment and advanced computing items. The two regulations amend the Export Administration Regulations (EAR) by imposing further restrictions on advanced computing integrated circuits (ICs), computer commodities that contain such ICs, and certain semiconductor manufacturing items while also offering some relief, including licensing relief, for previously unclear requirements related to items classified as EAR99 items under the Commerce Control List and activities involving US persons, support, facilitation, and certain advanced technologies.

BIS also clarified a number of definitions, responded to pending advisory opinions through the Supplemental Information process, and reemphasized the justification for unilateral action prior to the concurrence of US partners and allies.

On the same day, BIS also introduced new designations to the Entity List, aligned with the national security focus on advanced ICs, artificial intelligence (AI), and related technologies. These designations included 13 Chinese entities identified by BIS as involved in the development of advanced computing ICs in a manner contrary to US national security interests. Together, these revisions further emphasize BIS's management of the national security issues related to crucial technologies through a combination of restrictions, licensing, presumptions of denial, and transparency.

At a higher level, BIS's actions reflect the Biden administration's more coordinated strategy across regulatory frameworks—the Committee on Foreign Investment in the United States (CFIUS) and the proposed outbound investment review regime—that focus on existing and future US technology leads in semiconductors, AI, and quantum. This approach highlights the importance of evaluating national security-related restrictions holistically by considering factors such as export controls, foreign direct investment, support through management assistance, and outbound investment for global transactions.

### BACKGROUND

On October 7, 2022, BIS released an Interim Final Rule titled [Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification](#) (the 2022 IFR).

The 2022 IFR introduced controls on advanced computing ICs, computer items integrated with these ICs, and specific semiconductor manufacturing items and implemented additional changes to the EAR. The 2022 IFR further restricted certain activities by "US persons" related to the advanced computing and semiconductor manufacturing items.

One year later, based in part on the public comments it received, BIS published a second set of interim regulations on October 19, 2023 that update, revise, and extend the 2022 IFR. According to BIS, the purpose of these regulations is to "protect U.S. national security interests by restricting the People's Republic of China's (China's) military modernization efforts and degrading its ability to violate human rights." However, these newly introduced rules, spanning over 400 double-spaced pages, are intricate, complex, and may prove challenging to navigate.

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While the rules clarified various open issues and eliminated certain inconsistencies, the revisions and updates continue to raise questions that will need to be addressed as companies navigate implementation of the new requirements.

Among the key issues, the potential for ongoing overcompliance—a common comment to the 2022 IFR—remains a significant issue. As drafted, the updated regulations are expected to influence ongoing business dealings, investment decisions, diligence processes, and export guidance, including how businesses handle exports, reexports, and transfers both within China and outside the United States.

As noted later in this commentary, while BIS acknowledged concerns related to overcompliance, the agency answered these concerns in Topic 53 of the semiconductor manufacturing items interim final rule by stating: “BIS regrets that companies may have paused or ceased activities that were not ultimately restricted by the [2022] IFR and encourages industry to engage with BIS to confirm the scope of controls when needed.” While an important comment, BIS’s ongoing challenges in timely responding to licensing requests, advisory opinions, and other engagements renders this comment less helpful.

## **EXPORT CONTROLS ON SEMICONDUCTOR MANUFACTURING ITEMS INTERIM FINAL RULE**

BIS stated that the [Export Controls on Semiconductor Manufacturing Items Interim Final Rule](#) (the SME IFR) is being implemented in anticipation of formal multilateral regime adoption. This is consistent with the requirements of the Export Control Reform Act of 2018 and portends multilateral controls through the Wassenaar Arrangement to address dual-use export controls.

In addition, BIS asserted that these new revisions focus the SME controls on “specific capabilities related to military advancement and activities or technologies that enable those capabilities” and use a more nuanced license review and general authorization process.

However, as explained further below, the SME IFR expanded controls in certain ways by applying restrictions to countries beyond China and Macau<sup>1</sup> and by extending controls for foreign-produced SME that is related to specified lithography. The SME IFR included two effective dates: November 17, 2023 for the majority of the IFR and January 1, 2026 for one specific section. While effective as of those dates, BIS published the IFR with a 60-day comment period.

The SME IFR:

- provided additional or updated definitions;
- revised the Commerce Control List by eliminating one Export Control Classification Number (ECCN) and incorporating various items covered by the eliminated ECCN into existing ECCNs;
- included a “0% de minimis” requirement for certain lithography;
- issued a new Temporary General License to authorize certain shipments;
- revised certain license exceptions;

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<sup>1</sup> The same controls were implemented on Macau because of its position as a Special Administrative Region of China and the potential risk of diversion of items subject to the EAR from Macau to China.

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- clarified the scope of “US person” controls; and
- revised certain end use controls.

Each is discussed in more detail below.

## Updated Definitions

Several commenters highlighted the overbreadth and vagueness of various terms and definitions in the 2022 IFR as well as deficiencies that could or would result in overcompliance, loss of business opportunities, problems with foreign availability, delays in licensing, and loss of US technology leads. While BIS expressed support or comparable concern regarding these comments, the agency only adopted a few of the suggested changes. We outline two of the more impactful changes below.

- The SME IFR revised the EAR to define “extreme ultraviolet” (since it is now used in multiple ECCNs) to mean “electromagnetic spectrum wavelengths greater than 5 nm and less than 124 nm” as the term is used in ECCNs 3B001, 3B002, and 3D003. Previously, the term had been defined in a technical note located after ECCN 3B001.j.2.
- The SME IFR also revised the EAR to define “advanced-node [ICs]” to include ICs that meet any of the following criteria: (1) logic ICs using a non-planar transistor architecture or with a “production” technology node of 16/14 nanometers or less; (2) NOT AND (NAND) memory ICs with 128 layers or more; or (3) dynamic random-access memory (DRAM) ICs using a “production” technology node of 18 nanometer half-pitch or less. The higher threshold for NAND memory is intended to distinguish between the type of items easily obtained on the open market and the types of NAND memory that represent national security and foreign policy concerns under the 2022 IFR.

## Revisions to ECCNs

Responding to comments expressing concerns with the newly created ECCN 3B090 in the 2022 IFR, BIS removed this ECCN as it relates to certain semiconductor manufacturing equipment. BIS agreed with commenters that the addition of this category was both unnecessary and caused unneeded confusion. The SME IFR embedded the descriptions and performance characteristics from ECCN 3B090 into existing ECCNs, which “facilitate(s) global compliance and enforcement.” Conforming changes were made to ECCNs 3B001 and 3B002. These revised controls are reflected in those categories as follows:

<b>ECCN</b>	<b>Controlled Item</b>
3B001.a.4	Added to control equipment designed for silicon (Si), carbon doped silicon, silicon germanium (SiGe), or carbon doped SiGe epitaxial growth with specified parameters.
3B001.c.1	Added to control equipment designed for dry etching, including isotropic dry etching as specified (3B001.c.1.a) and anisotropic dry etching as specified (3B001.c.1.b and c.1.c).
3B001.c.2	Added to control equipment designed for wet chemical processing and having a largest “silicon germanium-to-silicon etch selectivity” ratio of greater than or equal to 100:1.
3B001.d.5	Added to control equipment designed for plasma enhanced chemical vapor deposition of carbon hard masks meeting specified parameters.

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3B001.d.6 (formerly 3B090.a.10)	Revised to add "Atomic Layer Deposition (ALD)" to clarify the type of equipment that is designed for area selective deposition of a barrier or liner using an organometallic compound.
3B001.d.9	Added to control spatial ALD equipment having a wafer support platform that rotates around an axis having any of the following: a spatial plasma enhanced ALD mode of operation, a plasma source, or a plasma shield or means to confine the plasma to the plasma exposure process region.
3B001.d.10	Added to control equipment designed for ALD or chemical vapor deposition (CVD) of plasma enhanced low fluorine tungsten films.
3B001.d.11	Added to control equipment designed to deposit a metal layer and maintain a specified vacuum or inert gas environment, including equipment designed for a CVD or cyclic deposition process by performing deposition of a tungsten nitride layer.
3B001.d.12	Added to control equipment designed for depositing a metal layer and maintaining a specified vacuum or inert gas environment, including equipment designed for selective tungsten growth without a barrier and equipment designed for selective molybdenum growth without a barrier.
3B001.d.13	Added to control equipment designed for depositing a ruthenium (Ru) layer using an organometallic compound, while maintaining the wafer substrate at a specified temperature.
3B001.d.14	Added to control deposition equipment assisted by remotely generated radicals enabling the fabrication of a silicon and carbon containing film having specified properties.
3B001.d.15	Added to control equipment designed for void free plasma enhanced deposition of a low-k dielectric layer in gaps between metal lines with specified parameters.
3B001.d.16	Added to control deposition equipment with capabilities similar to those described in new 3B001.d.14, but which also meets certain temperature requirements, has the capability to hold multiple vertically stacked wafers, and has certain injector configurations, as specified.
3B001.k	Added to establish controls on equipment designed for ion beam deposition or physical vapor deposition of multi-layer reflector for Extreme Ultraviolet (EUV) masks.
3B001.n	Added to establish controls on equipment designed for coating, depositing, baking, or developing photoresist formulated for EUV lithography, which as noted above is critical for production of advanced-node ICs.
3B001.o	Added to establish controls of semiconductor wafer fabrication annealing equipment with specified parameters.
3B001.p	Added to control three types of semiconductor wafer fabrication cleaning and removal equipment:

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	(1) equipment designed for removing polymeric residue and copper oxide film and enabling deposition of copper metal in a vacuum (equal to or less than 0.01 Pa) environment (3B001.p.1);  (2) single wafer wet cleaning equipment with surface modification drying (BIS noted that this control is not intended to capture planarization equipment that may incorporate "cleaning" and "drying" steps as part of its overall process (3B001.p.2)); and  (3) equipment designed for dry surface oxide removal preclean or dry surface decontamination (3B001.p.3).
3B002.c	Added to control inspection equipment designed for "EUV" mask blanks or "EUV" patterned masks.

Licenses previously issued under ECCN 3B090 will remain valid until their specified expiration unless otherwise revoked for other reasons. BIS will therefore need to notify licensees if and when their individual licenses are revoked. Alongside these changes, the SME IFR introduced amendments to associated ECCNs, including the addition of controls for equipment dealing with silicon-based materials and specific "semiconductor wafer fabrication equipment."

Revisions have also been made to licensing requirements and exceptions, particularly for EUV technology equipment. To address security, diversion, and distribution concerns, the SME IFR broadened the list of controlled jurisdictions, incorporating destinations such as Macau and other countries in Country Group D:5.<sup>2</sup>

## 0% De Minimis Rule for Certain Lithography Equipment

The SME IFR also adopted a "0% de minimis rule"<sup>3</sup> for items described in ECCN 3B001.f.1.b.2.b (specified lithography equipment). As result of this change, there is **no** de minimis level for foreign-made lithography equipment and related "specially designed" items meeting the ECCN parameters when the equipment or items are destined for use in development or production of "advanced-node [ICs]," except when the country from which the foreign-made item was originally exported or reexported has an equivalent export control. The SME IFR also added a footnote with information concerning any countries that maintain an equivalent export control for equipment meeting the parameters of 3B001.f.1.b.2.b.

Practically, all products manufactured using lithography equipment having a maximum dedicated chuck overlay value greater than 1.50 nm but less than or equal to 2.4 nm that are destined for use in the development or production of advanced-node ICs are now controlled under the SME IFR.

Importantly, for items exported from a country without equivalent controls and then reexported or transferred elsewhere, the new rule extends BIS jurisdiction over such foreign-made equipment to

<sup>2</sup> D:5 countries include US arms embargoed countries, which currently lists Afghanistan, Belarus, Burma, Cambodia, Central African Republic, the People's Republic of China, Democratic Republic of Congo, Cuba, Cyprus, Eritrea, Haiti, Iran, Iraq, North Korea, Lebanon, Libya, Russia, Somalia, Republic of South Sudan, Sudan, Syria, Venezuela, and Zimbabwe. As with all country lists, BIS may update the countries in this category with little to no notice, depending upon the circumstances.

<sup>3</sup> 0% de minimis is not a new concept, as it has been used in a number of ECCNs as well as for certain encryption products.

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safeguard US national security and foreign policy interests, which may mean that licenses would be needed for additional transfers.

A 0% de minimis rule raises several jurisdictional questions as the EAR generally extends in circumstances where some US nexus exists—whether product, technology, service, or person. Here, BIS did not explain its jurisdictional basis for adopting such a rule. More specifically, BIS can only regulate items “subject to the EAR” or activities subject to US jurisdiction, such as what exists under US EAR anti-boycott regulations.

When US jurisdiction is not directly apparent—e.g., when an export-controlled product is manufactured in the United States or an export-controlled service is provided to a foreign person in the United States—BIS has utilized the de minimis and foreign direct product rules to extend jurisdiction to activities that occur overseas or to items that are manufactured, produced, or developed in non-US locations. These rules, however, are based on a minimum level of actual US content or engagement, which requires some percentage of US input. For this new 0% content assertion, BIS said only that it “retains jurisdiction over such foreign-made equipment to protect U.S. national security and foreign policy interests.”

While BIS has previously adopted a 0% de minimis rule for certain encryption products, it also has not explained how it might seek to enforce its regulations against wholly foreign products involved in wholly foreign transactions. Presumably, this new extension of 0% de minimis constitutes some form of notice that, in the event foreign manufactured articles are sold in violation of this rule, BIS can utilize its enforcement authorities to address any alleged noncompliance.

## **Temporary General License for Certain Category 3B ECCN Items**

The 2022 IFR included a Temporary General License (TGL) that authorized a limited set of activities, requiring companies to obtain additional authorizations for activities that extended beyond those approved under the TGL. The SME IFR did not renew the 2022 TGL but issued a new TGL—the SME TGL—allowing for some shipments of controlled items to manufacturing units in Country Group D:5 nations and Macau.

The SME TGL is focused on controlled items specifically for the development or production of components under certain Category 3B ECCNs and applies only when items are controlled for anti-terrorism purposes and directed by a US-based company or those in Country Group A:5 or A:6, without majority ownership from firms in Macau or Country Group D:5. BIS noted that the SME TGL is designed to provide SME producers until the end of 2025 to find alternative suppliers or obtain specific licenses.

BIS also stated that the SME TGL is additive—it does not replace or otherwise relieve the obligation to comply with other EAR license requirements when the export-controlled activity involves prohibited end use or end users. Additionally, transactions conducted pursuant to this SME TGL mandate recordkeeping pursuant to Section 762 of the EAR.

## **Revisions to License Exceptions**

The SME IFR also updated the license exception restrictions under Section 740.2 of the EAR. Under the updated rules, certain ECCNs, including 3B001.a.4, c, d, f.1.b, and k through p; 3B002.b and c; and related software and technology ECCNs 3D001, 3D002, 3D003, and 3E001, are only eligible for License Exception GOV. Furthermore, BIS highlighted that License Exception TMP permits the temporary shipment of items under ECCNs 3A090 and 4A090 to Macau or a Country Group D:5 jurisdiction for processes such as inspection and repair.

## Clarification of the Scope of 'US Person' Controls

US person support and control raised significant concerns and uncertainty under the 2022 IFR. BIS acknowledged the uncertainty and the disruptions those uncertainties created to ongoing business operations and relationships and addresses those concerns through further refinement of the permissible and licensable activities that may be conducted by US persons.

In that vein, BIS made several changes:

- A US person now requires "knowledge" of specified activities, end uses, or parties for the Section 744.6 licensing requirement to apply.
- Controls are centered on facilities where specific production stages happen, particularly focusing on buildings with multiple production lines but not necessarily producing the advanced-node ICs targeted by the rule. This encompasses facilities engaged in late-stage product engineering or early-stage manufacturing.
- The restrictions apply where "development" activities coincide with advanced integrated chip production, ensuring comprehensive coverage of R&D activities, but excluding facilities only focused on "development."

The SME IFR explicitly distinguished between front-end IC fabrication steps and back-end production steps. This distinction resulted in some clarity regarding the types of activities that would be subject to licensing. The updated requirements state that US person controls do not pertain to "back-end" production activities such as assembly or packaging so long as those activities do not modify an IC's technological level.

Additionally, to promote compliance and prevent adverse impacts on US employment, certain controls exclude US individuals working for companies based in the United States or in Country Group A:5 or A:6 unless those companies are majority-owned by entities from Macau or a Country Group D:5 jurisdiction.

Servicing activities, such as installation, are generally exempt from US person controls, barring instances where they take place in facilities producing advanced-node ICs. Lastly, the SME IFR introduced a revised licensing presumption, generally denying license applications for destinations in Macau and Country Group D:5, with a few exceptions leaning toward approval. Other applications will be reviewed under a case-by-case assessment.

## Revisions to End Use Controls

BIS adjusted the end use controls for semiconductor manufacturing equipment to enhance clarity, align with the 2022 IFR objectives, and focus on advanced-node ICs. These changes include extending controls under Section 744.23 to items headed for Macau and Country Group D:5 areas (such as China). Controls now specifically apply to facilities involved in production, excluding those exclusively for design or development, such as smartphone IC design.

The product scope under Section 744.23(a)(4) has been tightened, emphasizing front-end IC production equipment and certain Category 3B ECCN items and excluding equipment used solely for back-end processes or those not changing the circuit's tech level. Moreover, back-end production activities that do not modify the circuit's technical performance are exempted.

Lastly, BIS updated the license review presumption policies, with presumptions of denials for Macau and Country Group D:5 destinations, but with the inclusion of certain exemptions leaning toward approval; other requests will be assessed on a case-by-case basis.



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However, BIS also provided insight into how it would view the licensing requirements when imperfect information existed regarding whether a specific facility was involved in advanced-node IC activities. The updated regulation continues to impose enhanced diligence requirements to confirm what production, design, development, or other activity is occurring at a particular site. Responding to a commenter's request that BIS confirm what constitutes a reasonable level of due diligence, BIS explained that obtaining an end user statement is a good compliance practice, but is not by itself determinative. Instead, BIS encouraged the party to evaluate "all the information that it obtains during the normal course of business."

As expected, the response is less detailed than would be helpful, although BIS has outlined other types of diligence—for example, pulling a business license, approval to operate in a jurisdiction, collection of information on ultimate beneficial owners—in conferences and through some of its enforcement actions. But a lack of clarity here, coupled with the strict liability that applies, renders the amorphous comment on "good compliance practices" less than helpful.

To this end, BIS did not change its original 2022 IFR approach—if a party is unable to confirm exactly what may be occurring at a specific facility, then BIS expects parties to submit export licenses for that facility. Thus, BIS continues the negative presumption that a party must assume a facility is participating in (or has the potential to participate in) advanced-node IC production if it lacks the ability to confirm that activity is not occurring or may not occur.

**This requirement is a significant and important compliance point for parties, as it could result in organizations taking compliance action regarding export control requirements on the basis of what is not known, rather than what is known. It is difficult to sustain or support with evidence a lack of activity.**

BIS acknowledged the challenges that the need for additional diligence creates, but also noted that the approach was in line with the protection of US national security interests. We anticipate that the diligence standards will remain a continuing issue for companies and other organizations especially where information in Country Group D countries or in Macau remains limited.

## IMPLEMENTATION OF ADDITIONAL EXPORT CONTROLS

### **Certain Advanced Computing Items; Supercomputer and Semiconductor End Use; Updates and Corrections Interim Final Rule**

Concurrent with the release of the SME IFR, BIS issued a second Interim Final Rule, [Implementation of Additional Export Controls: Certain Advanced Computing Items; Supercomputer and Semiconductor End Use; Updates and Corrections Interim Final Rule](#) (the AC/S IFR). The AC/S IFR, also open for comments, addresses public feedback received from the 2022 IFR related to controls for advanced computing ICs and their embedded computer commodities.

This rule both broadens the 2022 IFR's scope and refines it for greater efficiency and clarity, ensuring better alignment with US national security objectives set out in the 2022 IFR. BIS emphasized that the expansions to the 2022 IFR are largely in response to concerns about the use of AI models to advance China's aim of outpacing the military strength of the United States and its allies. The AC/S IFR also includes two effective dates—November 17, 2023 and January 1, 2026 (for one specific section).

We outline below a number of revisions that will affect ongoing and future business operations in China, Macau, and other Country Group D:5 countries under the following topics:

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- Revisions to Certain ECCNs
- Revisions to the Destination Control Statement
- Expansion of End Use Controls
- Clarification of US Person Controls
- Revisions to License Exceptions
- Temporary General License
- Additional Diligence Issues

Each is discussed in more detail below.

## Revisions to Certain ECCNs

*First*, to counter potential technical circumventions of the 2022 IFR, the AC/S IFR introduced a “**performance density**” parameter in the controls and restructured the original control. This move aims to deter the tactic employed by some of buying a greater quantity of smaller datacenter AI chips that, collectively, match the capability of chips controlled under the 2022 IFR. Under the updated ECCNs, ECCN 3A090.a will control ICs with one or more digital processing units having either:

- a total processing performance (TPP)<sup>4</sup> of 4,800 or more, or
- a TPP of 1,600 or more and a performance density<sup>5</sup> of 5.92 or more.

This new framework will control ICs under ECCN 3A090.b if they have one or more digital processing units having either:

- a TPP of 2,400 or more and less than 4,800 and a performance density of 1.6 or more and less than 5.92, or
- a TPP of 1,600 or more and a performance density of 3.2 or more and less than 5.92.

As a result, it appears that the A800, H800 AI, HPC, and similar graphics processing units may now be controlled under 3A090.a, and consumer-grade graphic cards, such as the RTX4090, may be captured under 3A090.b.

The AC/S IFR also refined the scope (with added notes) of ECCN 3A090 by including a new exception that excludes specific ICs, especially those not aimed at data centers and not meeting a certain TPP threshold.

*Second*, the 2022 IFR introduced a new performance metric, TOPS (trillions or tera operations per second). BIS agreed with the commenters that there are multiple ways to calculate TOPS. Accordingly, the AC/S IFR amended the technical notes for clarity and, most importantly, replaced bits x TOPS with TPP values and defines clear, objective criteria that can be used to calculate the TPP value.

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<sup>4</sup> TPP is 2 x MacTOPS x bit length of the operation, aggregated over all processing units on the IC. The rate of MacTOPS is to be calculated at its maximum value theoretically possible.

<sup>5</sup> Performance density is TPP divided by applicable die area. For purposes of 3A090, applicable die area is measured in millimeters squared and includes all die area of logic dies manufactured with a process node that uses a non-planar transistor architecture.

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Old Performance Metric	New Performance Metric
<p>Highest <b>bit x TOPS</b> value, calculated at its maximum value theoretically possible when all processing elements are operating simultaneously.</p> <p>Note: The rate of TOPS and aggregate bidirectional transfer rate is assumed to be the highest value the manufacturer claims in a manual or brochure for the IC.</p>	<p>Total processing performance value, calculated as <b>2 x MacTOPS x bit length of the operation</b>, aggregated over all processing units on the IC.</p> <p>Note: MacTOPS is the theoretical peak number of Tera operations per second for multiply-accumulate computation (<math>D = A \times B + C</math>). It is assumed to be the highest value the manufacturer claims in annual or brochure for the IC.</p> <p>2 in the formula is based on industry convention of counting one multiply-accumulate computation as 2 operations for purpose of datasheets. As such, 2 x MacTOPS may correspond to the reported TOPS or FLOPS on a datasheet.</p>

*Third*, the AC/S IFR introduced a positive list of nine additional ECCNs that have performance attributes or functions comparable to or surpassing ECCN 3A090 or 4A090 related to computers. To these nine ECCNs—3A001, 4A003, 4A004, 4A005, 5A002, 5A004, 5A992, 5D002, and 5D992—BIS has added new .z paragraphs, making it easier for exporters, reexporters, and transferors to identify additional controls and restrictions on items with overlapping controls.

BIS cross-referenced these ECCNs with others, such as 3A090, 3A991, 4A090, and 4A994, to aid in classification. Further adjustments were made to align with the EAR due to the introduction of .z paragraphs, and changes were implemented to enhance the transparency of shipments under .z, 3A090, and 4A090 categories.

## Revisions to the Destination Control Statement

To address concerns regarding China and Macau’s efforts to procure advanced ICs through transshipment, diversion, and cloud-based or data access, the AC/S IFR broadened its control measures over specific destinations.

*First*, BIS adopted a two-tiered strategy to meet this objective. Tier 1 Controls cover the most powerful data-center ICs, classified under ECCN 3A090.a, which pose significant national security and foreign policy risks. These products now have a licensing requirement for any location included in Country Group D:1, D:4, or D:5 unless the country is also in Country Group A:5 or A:6, in which case the special licensing requirement does not apply.

Tier 2 Controls encompass advanced ICs of lesser power but still potent enough for large-scale AI training in the hands of adequately resourced entities (falling under ECCN 3A090.b and certain commodities of 3A090.a). These products may be exported under license exception NAC for destinations in Country Group D:1, D:4, or D:5. However, this exception mandates prior notification for exports or reexports to Macau or any Country Group D:5 destination.

*Second*, BIS broadened the scope of the Regional Stability (RS) license related to advanced computing and semiconductor manufacturing. This expansion entails the removal of references to 3A090 and 4A090 and their related software and technology. It also involves the addition of .z items and the imposition of a licensing requirement for items heading to Country Groups D:1, D:4, and D:5.

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License applications for items targeting Country Group D:5 (excluding Macau) are now subject to a “presumption of approval” unless they are associated with entities primarily based in Macau or a Country Group D:5 destination. In such cases, the presumption hews toward denial.

*Third*, BIS revised the Advanced Computing Foreign Direct Product (FDP) Rule. The AC/S IFR modified the Advanced Computing FDP Rule by replacing “PRC or Macau” with “destinations in Country Groups D:1, D:4, or D:5,” excluding those also in Country Group A:5 or A:6.<sup>6</sup> Consequently, the Advanced Computing FDP Rule’s jurisdiction now encompasses global transactions if they involve entities based in Macau or Country Group D:5. This stipulation also applies if any of these entities play a role in the foreign-produced item’s transaction, such as being a purchaser or end user.

## Expansion of End Use Control

The AC/S IFR introduced two new end use license requirements:

- It established an advanced computing end use control for items under specific ECCNs, such as 3A001.z and 5D992.z, targeting entities based in Macau or Country Group D:5 destinations. According to BIS, this control is focused on addressing diversion concerns that could arise from entities that set up cloud or data servers abroad, which could facilitate AI model training that jeopardizes US national security.
- It applied an end use control to 3E001 (for 3A090) technology (1) when developed by entities in Macau or Country Group D:5, (2) subject to the EAR by the FDP Rule, and (3) for reexports or transfers from Macau or Country Group D:5 to any global destination.

## Clarification of the Scope of ‘US Person’ Controls

The AC/S IFR extended the country scope for “US persons” activities under Section 744.6(c)(2) to include Macau and destinations in Country Group D:5. This applies when the person is aware that the item will be used in the “development” or “production” of ICs by an entity based in Macau or Country Group D:5.

However, there are exemptions; for instance, for “US persons” engaged in US government law enforcement and intelligence operations that are not subject to these controls. The AC/S IFR emphasized the need for US individuals to conduct due diligence to ascertain the end use of items not governed by the EAR, specifically distinguishing between “advanced-node [ICs]” and legacy ICs. Guidelines for conducting such due diligence are provided in the AC/S IFR.

## Revisions to License Exceptions and Creation of New Exception

The AC/S IFR introduced modifications to License Exception CCD (which applies to consumer communications devices), making ECCNs 3A991.p and 4A994.1 eligible when they pertain to exports to countries such as Cuba, Russia, and Belarus. Additionally, a new license exception named Notified Advanced Computing (NAC) has been established for the export of certain low-performance consumer-grade ICs.

Under this new NAC exception, the US government will determine within 25 calendar days of receiving a notice of intended exports and/or reexports to Macau and other Country Group D:5 destinations whether

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<sup>6</sup> Armenia, Azerbaijan, Bahrain, Belarus, Burma, Cambodia, Central African Republic, China, Democratic Republic of Congo, Cuba, Egypt, Eritrea, Georgia, Haiti, Iran, Iraq, Jordan, Kazakhstan, North Korea, Kuwait, Kyrgyzstan, Laos, Lebanon, Libya, Macau, Moldova, Mongolia, Oman, Pakistan, Qatar, Russia, Saudi Arabia, Somalia, Republic of South Sudan, Sudan, Syria, Tajikistan, Turkmenistan, United Arab Emirates, Uzbekistan, Venezuela, Vietnam, Yemen, Zimbabwe.

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a transaction may proceed or instead requires a license. According to BIS, the purpose of the notification process is to provide BIS and its interagency export controls partners the opportunity to evaluate the national security risk posed by ICs that fall within this parameter. In that sense, the NAC process is similar to the encryption notifications and de minimis notice process under Part 734, Supplement 2.

License Exception NAC is available for exports, reexports, and transfers in or within Country Group D:1, D:4, or D:5, with different requirements applicable to Macau and destinations specified in Country Group D:5. Items eligible for License Exception NAC include ECCN 3A090.b (including ICs that are designed or marketed for use in a data center) and non-datacenter ICs under 3A090.a (ICs not designed or marketed for use in datacenters and that do have a TPP of 4800 or more).

<b>Eligible Items</b>	<b>Destination</b>	<b>License Requirements</b>
3A090 (except for items designed or marketed for use in a datacenter and meeting the parameters of 3A090.a.), 4A090, 3A001.z, 4A003.z, 4A004.z, 4A005.z, 5A002.z, 5A004.z, 5A992.z, 5D002.z, or 5D992.z	Exports, reexports, or transfer (in-country) to Country Group D:1 or D:4	Authorized under License Exception NAC; must be made pursuant to a written purchase order (except for commercial samples and in-country transfers)
	Exports or reexports to Macau or Country Group D:5	Authorized under License Exception NAC but must meet the notification requirements (only one notification prior to the first export or reexport is required for multiple exports); a commodity classification determination is not required but will be helpful in limiting concerns associated with the item

## Temporary General License for Advanced Computing Items

The AC/S IFR added a new TGL (expiring on December 31, 2025) for advanced computing items that (1) specifies the specific items that may be authorized under this new TGL (of which there are many)<sup>7</sup> and (2) limits the end use to entities to continue or engage in integration, assembly (mounting), inspection, testing, quality assurance, and distribution of items, provided that the items are for ultimate end use (a) outside of destinations specified in Country Group D:1, D:4, or D:5, excluding destinations also specified in Country Group A:5 or A:6, and (b) by entities that are not headquartered in, or whose ultimate parent company is not headquartered in, Macau or Country Group D:5.

## Additional Due Diligence Guidance

The AC/S IFR introduced guidelines regarding model certification for the FDP rules. Such certification can be given by any entity in the supply chain, including exporters, reexporters, or transferors. Additionally,

<sup>7</sup> These items are limited to the items subject to the EAR that are specified in ECCNs 3A001.z; 3A090; 3D001 (for “software” for commodities controlled by 3A001.z, 3A090); 3E001 (for “technology” for commodities controlled by 3A001.z, 3A090); 4A003.z; 4A004.z; 4A005.z; 4A090; 4D001 (for “software” for commodities controlled by 4A003.z, 4A004.z, and 4A005.z); 4D090; 4E001 (for “technology” for commodities controlled by 4A003.z, 4A004.z, 4A005.z, 4A090 or “software” specified by 4D001 (for 4A003.z, 4A004.z, and 4A005.z), 4D090); 5A002.z; 5A004.z; 5A992.z; 5D002.z; 5D992.z; 5E002 (for “technology” for commodities controlled by 5A002.z or 5A004.z or “software” specified by 5D002 (for 5A002.z or 5A004.z commodities)); or 5E992 (for “technology” for commodities controlled by 5A992.z or “software” controlled by 5D992.z).

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the IFR identified five new “red flags” to help foundries recognize potential attempts to bypass controls. These flags highlight such scenarios as the following:

- Prior advertisements or claims about capabilities related to “advanced-node [ICs]”
- Discrepancies between the stated use of an item and its conventional use
- Customers known for creating items for companies in Macau or the specific Country Groups involved in supercomputer production
- Intentions to produce supercomputers or ICs in restricted areas
- Semiconductor facilities receiving orders where the final product is likely to fall under EAR regulations due to its specifications, particularly when it is associated with entities in Macau or certain Country Groups

## Requests for Comments

BIS is actively seeking feedback on a range of issues concerning the national security implications of AI and associated technologies. Key areas of inquiry include the following:

- Suggestions on regulating AI in relation to national security, especially how infrastructure as a service (IaaS) providers could identify and manage customers involved in dual-use AI foundation model production without excessively disrupting business processes.
- Potential technical solutions to prevent certain products, such as those under ECCN 3A090 or 4A090, from being misused in large-scale AI foundation models of concern.
- Effective methods for assisting semiconductor fabrication facilities in identifying “direct products.”
- The business implications of deemed exports and reexports, and the potential impact if licenses were mandated for these.
- Refinement suggestions for ECCN 3A090 to target only ICs of concern and to more precisely define ICs not intended for datacenter usage.
- Clarifications on defining entities associated with Macau or specific Country Groups, particularly in terms of accessing requisite information to assess a foreign party’s status.
- Feedback on defining the term “supercomputer” and its relevance to the end use control under Section 744.23(a)(1).

## TAKEAWAYS

Commerce continues to engage actively with industry and affected parties to both fulfill the national security mandate it identifies as the key reason for the revised controls and address the anticipated and unintended consequences of these regulations. We anticipate further regulations from BIS, new additions to the Entity List, and ongoing obligations by companies to manage its supply chain and customer diligence more assertively. The regulations reinforce the importance of ensuring the following:

- Enhanced document diligence regarding the end user and end uses of companies or organizations in Country Group D:5 and Macau
- Documentation may include the collection of representations or end user certifications that provide reasonable and adequate statements regarding end use and end user. BIS,

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however, also states that these, alone, may not suffice to demonstrate that an appropriate degree of diligence occurred

- Developing processes that allow for real-time visibility into changes in the supply chain, e.g., new suppliers of which a company may not be aware or changes in the status of the supplier (an entity that took in investment of 50% or more from a sanctioned party)
- Refreshing contract language related to, for example:
  - Force majeure provisions;
  - Unilateral termination rights;
  - Justifications for termination for cause;
  - Record keeping and reporting rights; and
  - Ongoing certifications regarding certain compliance requirements.

Given the impact of these regulations, parties are encouraged to continue engaging with BIS and provide input on the effect the regulatory changes have had, are having, and will continue to have on business. Commenters included a number of specific scenarios that highlighted the confusion, overbreadth, and unintended consequences of the regulations. BIS's responses to each scenario provides useful guidance on interpreting the scope of the regulations.

## CONTACTS

If you have any questions or would like more information on the issues discussed in this report, please contact any of the following:

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