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In Three New Rules, BIS Continues Efforts to Reshape Global Semiconductor Supply Chains and the Future of Artificial Intelligence Training and Supercomputing

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I. Introduction

On October 17, 2023, the Department of Commerce's Bureau of Industry and Security ("BIS") released three rules to update its export controls on advanced computing and semiconductor manufacturing items. Two are new interim final rules ("IFRs") and the third is a final rule amending the Entity List.[1] For ease of reference we refer to two IFRs together as the 2023 Amendments and separately as the SME IFR and AC/S IFR.

Broadly, the two IFRs impose controls on additional types of semiconductor manufacturing equipment; refine the restrictions on U.S. persons to ensure U.S. companies cannot provide support to advanced semiconductor manufacturing in the People's Republic of China ("China"); expand license requirements for the export[2] of semiconductor manufacturing equipment to apply to additional countries; adjust the licensing requirement criteria for advanced computing integrated circuits (hereinafter "Advanced ICs"); and impose new measures to address risks of circumvention of the controls by expanding them to additional countries. In the final rule, BIS seeks to further direct the flow of Advanced ICs and semiconductor manufacturing equipment ("SME") away from two new China-headquartered entities and their subsidiaries by adding them to its BIS Entity List. With the exception of a Temporary General License that was issued with the SME IFR and the Entity List additions, which are now in effect, the IFR amendments will become effective on November 17, 2023.

According to BIS, these new rules, as with the October 7, 2022 IFR (hereinafter, "2022 Regulations"), are intended to address specific national security and foreign policy threats presented by China's "military-civil fusion" program and its efforts to modernize its military through the use of Artificial Intelligence ("AI") and supercomputing applications.[3] BIS has designed the 2023 Amendments to strengthen, expand, and reinforce the 2022 Regulations, which curtailed China's ability to purchase and manufacture Advanced ICs for use in advanced weapon systems and other military applications of AI,[4] products that enable mass surveillance, and other technologies used in the abuse of human rights.[5]

BIS's amendments are the latest in a whole of government effort spanning U.S. presidential administrations to employ various international trade regulation tools at the government's disposal (including export controls, import controls, CFIUS, and economic sanctions) to ensure that the U.S. maintains military and strategic economic superiority over China. The 2023 Amendments also reflect an unprecedented effort by the Biden Administration to coordinate new international trade controls with key allies and to

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minimize the impact on U.S. allies. Such efforts include minimizing some of the known collateral impacts that current unilateral controls could have on international trade flows, especially on the Advanced IC and SME supply chains of U.S. and allied country companies, and encouraging a collective "friend-shoring" of U.S. and allied country supply chains for critical technologies. We further discuss the broader set of policies these export controls help in part to advance in our recent client alerts detailing President Biden's August 2023 executive order imposing restrictions on outbound investments in China's semiconductor, AI, and quantum computing industries and outlining the Biden Administration's priorities as described in the recent National Security Strategy.

This update provides an overview of key changes and insights presented by the 2023 Amendments. In Section II, we summarize significant amendments contained in the SME IFR concerning expanded license requirements for SME exports, clarified and elaborated SME classifications, clarified and expanded prohibitions on U.S. person support of Advanced IC development and production, and a new temporary general license for SME-related exports. We then summarize significant amendments contained in the AC/S IFR concerning a new performance density parameter in the Export Control Classification Number ("ECCN") description for Advanced ICS, measures to address circumvention risk, expand end-use restrictions, and guidance on due diligence and red flag identification.

In Section III, we analyze the implications of the new regulations. Importantly, the new regulations create increased diligence responsibilities and compliance costs for transaction parties due to enhanced transaction and counterparty diligence requirements and the need for greater upstream and downstream supply chain visibility. We also discuss how a divergence in the ways that BIS and the Department of Treasury Office of Foreign Assets Control ("OFAC") construe key concepts such as support and facilitation, and in how they view the mechanics of recusal policies, may place certain U.S. person employees of non-U.S. employers and multinational firms at a higher risk of noncompliance. Additionally, we discuss BIS's new guidance on the application of its foreign-direct product rules, and how two temporary general licenses and other features of the 2023 Amendments advance the U.S. policy of "friend-shoring" Advanced IC manufacturing.

In Section IV, we describe a BIS-acknowledged gap in its current ability to regulate AI foundational model training and other areas that BIS is now seeking further public comments to address.

II. Summary of the 2023 SME and Advanced AC/S IFR Amendments

In our client update on the 2022 Regulations, we detailed the initial steps taken by BIS to establish comprehensive controls restricting the export of technology, software, manufacturing equipment, and commodities crucial for the development of Advanced ICs, semiconductors, and supercomputers. BIS took a two-pronged approach to implement these watershed restrictions, creating (i) new Commerce Control List ("CCL")-based Regional Stability ("RS") controls and (ii) end-use/end-user-based controls for semiconductor manufacturing items destined for China and Macau. The RS restrictions required licenses for exports of Advanced ICs, computer commodities containing these ICs, and certain SME, along with associated software and technology, to China and Macau.[6] BIS's end-use/end-user-based controls imposed licensing requirements for the export of specific items related to supercomputers and Advanced IC development and production based on the exporter's knowledge of potential end uses in China or Macau.[7]

The 2023 Amendments fortify and broaden these controls in several ways.

A. SME IFR

1. Expansion of Destinations Now Requiring Licenses for SME

Perhaps the most significant change BIS has made through its SME IFR amendments is

the expansion of the list of destinations for which manufacturers and distributors of SME will require export licensing. Whereas before, the licensing requirement applied only to China and Macau, it now applies to 21 other destinations for which the U.S. maintains an arms embargo (excluding Cyprus).[8] These countries are listed in Country Group D:5[9] and include Afghanistan, Belarus, Burma, Cambodia, Central African Republic, Democratic Republic of Congo, Cuba, Cyprus, Eritrea, Haiti, Iran, Iraq, North Korea, Lebanon, Libya, Russian Federation, Somalia, the Republic of South Sudan, Sudan, Syria, Venezuela, and Zimbabwe.[10] While it may seem unlikely that many of the countries now subject to these controls would be involved in Advanced IC development and production, this expansion is intended to account for the possibility that counterparties located in these jurisdictions might try to obtain SME for other end-users in other destinations, and also to apply the prohibitions to the longer list of countries that the United Nations[11] and the United States have identified as posing heightened risks for weapons of mass destruction (WMD) proliferation.

2. Elaborated SME Item Controls

The rule removes a kind of see-through ECCN 3B090 that BIS had introduced in its 2022 Regulations to control Advanced IC manufacturing equipment, the use of which had created issues for companies' compliance systems because of the difficulty recording two ECCNs and their associated licensing requirements for the same product in their automated systems.[12] BIS now includes a specific positive list of SME items it sought to control with ECCN 3B090 in ECCNs 3B001 and 3B002.[13] In addition to refining past ECCN descriptions, the ECCN 3B001 subparagraphs impose licensing requirements on several additional types of SME that BIS has identified since its 2022 Regulations, including:

- Equipment designed for silicon, carbon doped silicon, silicon germanium ("SiGe"), or carbon doped SiGe epitaxial growth with specified parameters;
- Semiconductor wafer fabrication for equipment designed for ion implantation;
- Equipment designed for dry etching, including isotropic dry etching;
- Equipment designed for wet chemical processing and having the largest "silicon germanium-to-silicon etch selectivity" ratio of greater than or equal to 100:1;
- Equipment designed for plasma enhanced chemical vapor deposition of carbon hard masks meeting specified parameters;
- Spatial Atomic Layer Deposition ("SALD") equipment having a wafer support platform that rotates around an axis having any of the following: a spatial plasma enhanced Atomic Layer Deposition ("ALD") mode of operation, a plasma source, or a plasma shield or means to confine the plasma to the plasma exposure process region;
- Equipment designed for ALD or chemical vapor deposition ("CVD") of plasma enhanced low fluorine tungsten films;
- Equipment designed to deposit a metal layer and maintain a specified vacuum or inert gas environment;
- 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;
- Equipment designed for depositing a ruthenium layer using an organometallic compound while maintaining the wafer substrate at a specified temperature;
- Equipment assisted by remotely generated radicals enabling the fabrication of a silicon and carbon containing film having specified properties;
- Equipment designed for void free plasma enhanced deposition of a low-k dielectric layer in gaps between metal lines with specified parameters;
- Equipment designed for ion beam deposition or physical vapor deposition of multi-layer reflector for extreme ultraviolet ("EUV") masks, EUV pellicles, and equipment for manufacturing EUV pellicles;
- Equipment designed for coating, depositing, baking, or developing photoresist formulated for EUV lithography;

- Semiconductor wafer fabrication annealing equipment with specified parameters;
- 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;
- Single wafer wet cleaning equipment with surface modification drying; and
- Equipment designed for dry surface oxide removal preclean or dry surface decontamination.

The new ECCN 3B002 subparagraphs also impose new destination-based licensing requirements on the export of inspection equipment designed for EUV mask blanks or EUV patterned masks and restrict the use of certain license exceptions.

3. U.S. Person Support to the Development or Production of Advanced ICs

BIS also uses its 2023 Amendments to clarify and expand prohibitions on U.S. person support of Advanced IC development and production in certain jurisdictions—which BIS introduced in its 2022 Regulations—and to codify some of the guidance it has provided in the form of Frequently Asked Questions on the kinds of U.S. person support that now require licensing. BIS created the U.S. person support prohibition to ensure that U.S. companies and U.S. natural persons do not provide support to China or Macau-based companies, including their non-China and Macau-located subsidiaries, in their development or manufacturing of Advanced ICs, or support their acquisition of certain SME. Since the 2022 Regulations, any U.S. person involved in the shipping, transmission, transferring (i.e., from one end-user to another in the same country), or servicing the end-items or services identified to Advanced IC development or production facilities in China and Macau has required a BIS license to engage in those activities.

BIS has now broadened this control to extend to U.S. person support for development or production of Advanced ICs at any facility of an entity headquartered in (or whose ultimate parent company is headquartered in) either Macau or a country subject to a U.S. arms embargo where the production of Advanced ICs occurs.[14] BIS also similarly broadened the control on U.S. person support involving SME that can be used to produce Advanced ICs.[15] At the same time, BIS clarifies that its facility-focused support prohibition is intended to include facilities engaged in all phases of production, important late-stage product engineering or early-stage manufacturing steps (among others) may occur. However, BIS narrowed its facility-based prohibition in one important way, by limiting its scope to exclude “back-end” production steps, such as assembly, testing, or packaging steps that do not alter the technology level of an IC.[16]

Additionally, BIS added an exclusion for U.S. persons employed or working on behalf of a company headquartered in the United States or a destination specified in Country Group A:5 or A:6 and not majority-owned by an entity that is headquartered in Macau or a destination specified in Country Group D:5.[17] Country Groups A:5 or A:6 include U.S. allies and other countries that have adopted export controls similar to those of the United States, such as the United Kingdom (U.K.), Japan, South Korea, and Taiwan, and members of European Union (E.U.) and NATO, among others.[18]

4. Temporary General License for Continuing SME-Related Exports to Embargoed Countries and Macau

Amidst BIS’s expanded destination and item-based licensing requirements, BIS has also issued a new Temporary General License (“TGL”), which is valid through the end of 2025, to authorize companies headquartered in the United States, allied countries, and countries that maintain similar export controls to continue shipping less sensitive items to manufacturing facilities located in an arms embargoed country or Macau for limited purposes.[19] BIS intends this TGL to allow additional time for Advanced IC and SME producers located in the United States and the Group A:5 and A:6 countries, to identify alternative supply chains outside of arms embargoed countries.[20]

B. Advanced IC and Supercomputing IFR

The AC/S IFR maintains the licensing requirements from the 2022 Regulations and makes two types of updates to the 2022 Regulations to address efforts by China and others to circumvent the new Advanced IC licensing requirements in different ways. The first is an addition to its item-based control parameters for Advanced ICs. The second are a set of additional measures BIS has designed to address other types of circumvention risks.

1. BIS Has Added a New Parameter to Its Advanced IC Description to Reflect the Potential for Aggregate Computing Power

The AC/S IFR adds a new control parameter in the ECCN description for Advanced ICs, found in ECCN 3A090. Advanced ICs now include any ICs that meet or exceed the preexisting performance thresholds set in the 2022 Regulations or a new "performance density"[21] parameter. The "performance density" parameter recognizes that those seeking to use Advanced ICs for AI foundational model training to support specific military and intelligence applications can acquire many smaller, less or non-controlled ICs and then combine them to achieve the processing power and related capabilities that Advanced ICs provide.

While this new parameter may better reflect reality, the introduction of this new threshold will be a challenge for some companies to apply. Not only do many companies lack the types of engineering talent required to determine whether this control threshold has been met, but depending on their business model, some exporters might be required to perform this calculation for thousands of products. Compounding the difficulty, companies whose ICs, electronic assemblies, components, or computers incorporate parts from multiple suppliers may lack sufficient technical information regarding the parts to make the calculation, necessitating the need for outreach and technical exchange with manufacturers who may be reluctant to share the requested information for a variety of reasons. Given these factors, it may be difficult for many companies to perform the required calculations to determine whether their products pass the threshold and therefore require export control licensing.

2. 2023 Amendments Seek to Prevent the Circumvention of Its New Controls in Several Ways

The AC/S IFR also addresses circumvention risk in other ways.

a. Foreign Direct Product Rule

In its 2022 Regulations, BIS introduced two new foreign direct product ("FDP") rules to reach non-U.S.-origin products used in advanced computing and supercomputers.[22] The 2023 Amendments expand the scope of the Advanced Computing FDP rule by expanding the destinations covered by the rule to cover Macau, all countries subject to an arms embargo (except Cyprus). Further, the new restrictions expand the scope of the restrictions worldwide whenever an exporter has "knowledge" that the items controlled by the rule are destined for any entity headquartered in, or whose ultimate parent company is headquartered in this expanded set of destinations. These changes are aimed at preventing companies from countries of concern from securing Advanced ICs directly or indirectly through their foreign subsidiaries and branches.

b. Advanced IC Licensing Requirements

To limit diversion risk of Advanced ICs, the AC/S IFR expands an ECCN-based license requirement for their export to any destination specified in Country Groups D:1, D:4, and D:5 (excluding Cyprus and Israel).[23] These items include the Advanced ICs and electronic assemblies, components, and computers described in the ECCN 3A090 and 4A090 subparagraphs, respectively, and to items BIS now specifies in new ".z" paragraphs that BIS has added to nine ECCNs to more easily identify items that meet or

surpass the ECCN 3A090 and 4A090 control parameters.[24] BIS will review license applications for exports of these items to Macau or D:5 countries with a presumption of denial and license applications for exports to other countries with a presumption of approval, unless the recipient is headquartered in, or their ultimate parent company is headquartered in, either Macau or in any one of the embargoed countries to which the licensing requirement applies.[25]

At the same time, BIS also has created a new license exception – Notified Advanced Computing ("NAC") – which will authorize exports of certain Advanced ICs and associated items to Group D countries, but will also enable BIS to monitor and track which Group D:1, D:4, and D:5 country end-users are seeking these Advanced ICs and for what purpose. NAC will be available to authorize exports to end users in all of these countries, but like all license exceptions, exporters are required to report their use in their export clearance filings (i.e., Electronic Export Information – "EEI," filings).[26] Exporters of Advanced ICs to Country Group D:5 countries and Macau also will need to notify BIS of their intent to export the controlled ICs to end users in these destinations and then wait 25 days for BIS to evaluate the proposed export.[27] Moreover, in order to use License Exception NAC, the export must be made pursuant to a written purchase order (unless the export is for commercial samples) and cannot involve any prohibited end users or end uses (including "military end users" or "military end uses" as defined in the U.S. Export Administration Regulations ("EAR")).[28]

BIS has also issued a second Temporary General License, valid through December 31, 2025, authorizing the export of Advanced ICs and electronic assemblies, components, and computers that contain Advanced ICs, and their associated software and technology to certain facilities in Country Groups D:1, D:4, and D:5 in order to enable companies to continue using facilities in these countries to perform more limited manufacturing tasks such as assembly, inspection, testing, quality assurance, and distribution.[29] Importantly, this TGL can only be used when the items being manufactured are not destined for ultimate end use in these countries, however, and the license cannot be used by a company that is headquartered in or whose ultimate parent is located in Macau or a destination specified in Country Group D:5.[30] We discuss the policy rationale for this TGL further in the next section.

c. 2023 Amendments' End-Use Controls Revisions

The 2022 Regulations introduced a new end-use prohibition on the export of certain items when the exporter knows at the time of the export that the items will be used for a specified end use. In response to several public comments received on the 2022 Regulations, BIS substantially revised the format and content of the end-use licensing requirements and introduced a tiered license application review policy.

Consistent with other restrictions discussed above, BIS's 2023 Amendments expanded the destination and end-use scope of the prohibitions beyond China and Macau to any destination subject to a U.S. arms embargo (Country Group D:5). BIS also further tailored its end-use licensing requirements depending on the items to be exported. For example, the export of items subject to U.S. export controls that will be used in almost any activity involving supercomputers, or that will be incorporated into or used in the development or production of components or equipment that will be used in supercomputers require a license. Another end-use licensing requirement applies to the exports of advanced computing items now described in ECCN "z" entries to any destination outside of the Group D countries if one knows that they are destined for use by a company that is headquartered in, or whose ultimate parent company is headquartered in, either Macau or an arms embargoed country. Tellingly, the example BIS provides for this end-use prohibition is the knowing export of one of the specified items to a China-headquartered cloud or data server provider located in a destination not otherwise excluded to, for example, train AI models in ways that would be contrary to U.S. national security interests. An additional, new end-use seeks to prevent entities located in Macau or an embargoed country from exporting ECCN 3E001 technology for use in making Advanced

ICs to any production facility worldwide without a license. BIS also crafted an end-use licensing requirement for exports of certain kinds of SME when the exporter knows that they will be used in the development or production of front-end IC production and associated components, assemblies, and accessories.

No license exceptions are available to overcome the above licensing requirements, but BIS has established a tiered system for reviewing licenses. Specifically, license applications for Macau and destinations specified in arms embargoed countries will be reviewed with a presumption of denial. Whereas proposed exports involving other destinations and uses will be reviewed either under a on a case-by-case basis policy or a policy presumption of approval.

d. Due Diligence

Finally, BIS also provides additional guidance on its due diligence expectations and on the types of red flags that exporters should be looking when they are trying to determine whether a proposed export will require licenses. We analyze BIS's diligence guidance and its expanding diligence expectations further in the next section.

III. Analysis

A. The Importance—and Challenge—of Being Diligent

BIS's 2022 Regulations significantly increased the diligence responsibilities of transaction parties involved in semiconductor and semiconductor equipment development and production. For example, companies anywhere in the supply chain have had to review whether their products may be ultimately provided to semiconductor fabrication facilities engaging in Advanced IC manufacturing, to ultimately support the development or production of certain controlled equipment, or to ultimately be incorporated into a supercomputer—even when they were several steps removed from the final product. Over the past year, we supported many clients whose products are used in semiconductor development and production to map their upstream and downstream supply chains for particular products, develop new tools for gathering the required information, and rewrite their compliance procedures to ensure the relevant information is gathered and licensing analysis completed at the appropriate times.

The 2023 Amendments reflect BIS's continuing and expanded expectation that companies should exercise heightened due diligence when dealing with the semiconductor and advanced computing industries in China. How important private sector diligence is to BIS's implementation of these new controls is evident by how often BIS used the words "diligence" (26 times) and some formulation of the words "know/known/knowable/knowledge" (84 times) across the 2023 Amendments. BIS's efforts to control Advanced IC, supercomputing, and SME development, supply chains, and use away from the countries targeted by the 2023 Amendments depends on private sector companies making new investments in their due diligence systems.

Not surprisingly, BIS received several comments from the public regarding the challenges of the diligence responsibilities imposed under the 2022 Regulations. In the SME IFR, BIS acknowledged public comments that companies further up the supply chain do not have full visibility into the specific operations of the end-user facilities.[31] In the AC/S IFR, BIS summarized (although disagreed with) public comments that its controls "represent[] an unprecedented burden shift" by "effectively mandat[ing] diligence via a licensing requirement."[32] Ultimately, BIS did not relieve parties from the responsibility to be diligent, stating that China's activities "warrant[] imposition of a higher level of affirmative duty to 'know' in order to not be subject to a license requirement."[33]

Rather, BIS provided additional guidance on how to meet its expanding diligence expectations.

Know Your Customer Guidance and Red Flags. BIS updated its existing Know Your Customer Guidance and Red Flags to add additional red flag indicators, including a customer's marketing materials, representations, and anticipated or intended future capabilities.[34] Following the 2022 Regulations, BIS had issued the FAQs for Interim Final Rule that stated that a reasonable level of due diligence for U.S. support activities outlined in 15 C.F.R. 744.6 include the "review of publicly available information, capability of items to be provided or serviced, proprietary market data, and end-use statements." In response to a public comment BIS confirmed in the AC/S IFR that it expects companies to apply the same kinds of diligence to ensure their compliance with the SME end-use prohibitions.[35] Both guidance documents confirm that transaction parties must be vigilant even to aspirational development or production of their counterparties (and parties down the supply chain), which BIS acknowledged to be a "moving target."[36]

End-User/End-Use Certification. In the 2022 Regulations, BIS provided a voluntary model end-user/end-use certification to assist people in applying the new FDP rules.[37] In the AC/S IFR, BIS clarified that the model certificate can be used with all FDP rules to ease the compliance burden. That said, BIS still stated that the certification is neither necessary to be obtained from all counterparties in China,[38] nor sufficient or determinative without other due diligence steps.[39] Rather, "[t]he exporter, reexporter, or transferor must evaluate all the information that it obtains during the normal course of business to determine if it has 'knowledge' that the item is ultimately destined for use in a prohibited activity."[40] While the certification conveniently summarizes in one place which FDP rules apply to the product, note that completing such a certificate could require exporters to complete more than a dozen different permutations of the FDP rule analysis for every item the certificate is meant to accompany. We further discuss the unique burden of FDP rule analysis below.

Entity List. Alongside its 2023 Amendments, BIS also published a Federal Register notice adding 13 entities involved with developing large AI models and AI enabling ICs for defense purposes using U.S.-origin items to its Entity List. The additions were made in part to address public comments requesting that BIS publish a positive list of "semiconductor fabrication facilities" of concern.[41] BIS noted that while it intends to continue to "add additional entities to the Entity List as they are identified and approved by the End-User Review Committee,"[42] parties must still "do their own due diligence when dealing with parties not identified on the Entity List with a footnote 4 designation."[43] BIS did not specifically respond to public comments that the due diligence would require significant efforts and may lead to disparate conclusions from exporter to exporter.

Although the 2023 Amendments provide some much-needed guidance, they also make it evident that BIS has high expectations for the private sector to be at the forefront of handling complex due diligence. Given the need to review multiple information sources, even including a counterparty's aspirational development or production of technology, this type of screening is especially difficult to automate, and companies with relevant products will need to expend more compliance resources to fully address BIS's heightened diligence expectations.

B. BIS's U.S. Person Support Clarifications Place Certain Kinds of U.S. Person Employees at Higher Risk of Noncompliance

As noted above, BIS's 2022 Regulations and 2023 Amendments revised the EAR's U.S. Persons controls to ensure that U.S. persons are prohibited from supporting advanced semiconductor manufacturing in China and Macau without specific authorization from BIS. "U.S. persons" can refer to both juridical persons organized under the laws of the United States and their foreign branches, natural persons who are U.S. citizens, permanent legal residents, or refugees and asylees, and any other person located in the United States.[44] Note here that any persons located in the United States can include the U.S. located operations of non-U.S. companies. For multinational companies, including those based in jurisdictions of U.S. allies, this creates the need to evaluate whether the involvement of any U.S.-based personnel or operations in their non-U.S. origin transactions might also

bring them within the scope of these new U.S. person support prohibitions.

With respect to natural persons, BIS reaffirms in its guidance that U.S. natural persons employed by non-U.S. Persons must comply with these end-use controls but notes that if a non-U.S. employer engages in transactions that U.S. natural person employees are restricted from performing, employees can excuse themselves from those types of activities or obtain a BIS license as needed.[45] BIS specifically notes that these activities include the shipping, transmitting, or transferring (in-country) to or within China or Macau (and the facilitation and servicing thereof) any item not subject to the EAR that the employee knows will be used to develop integrated circuits at China and Macau advanced IC fabrication facilities.[46] BIS rejected a broader construal of "support" to include performing any contract, service, or employment that one would know may assist or benefit advanced semiconductor fabrication in China.[47] BIS also codified past guidance it had provided in FAQs, noting that restricted facilitation does not include:

- administrative, clerical, legal advice, or regulatory advice activities, including counseling on the requirements of the EAR (*but does include other activities directly responsible for bringing about prohibited activity*);
- the provision of back-office services helping the business function (including IT services, financial services, or human resource support);
- order intake and processing;
- invoicing and cash or receivables collection activities; and
- referring matters to non-U.S. persons.[48]

BIS also notes that the following two activities would typically be prohibited facilitation, but that BIS has authorized them so a U.S. person employee can engage in them:

- trade compliance clearance of licensed shipments with China semiconductor customers including Entity List parties; and
- providing administrative and limited servicing support for shipments to Entity List parties authorized by BIS licenses.[49]

BIS also lessened the compliance burdens for U.S. employees of companies that are headquartered in specified countries by excluding them from the requirement to obtain a license for these activities.[50] These countries include those in Country Group A:5 and A:6, provided that they are not majority-owned by an entity headquartered in Macau or Country Group D:5.

But for U.S. employees of companies whose roles do not meet the exclusion criteria, BIS does not address the possibility that employees may not be permitted to exclude themselves from performing their job requirements. Nor does BIS consider that their employers may not permit them to gather and provide the kind of information that BIS will require for its U.S. person support license applications, including detailed descriptions of planned production and sales of SME and Advanced ICs whose export BIS otherwise would not have jurisdiction to control. BIS was even less accommodating for U.S. natural persons who serve in executive roles in non-U.S. and non-Country Group A:5 and A:6 headquartered companies.

In response to a public comment asking whether BIS would presume that a company's executives facilitated a restricted transaction even when they did not have knowledge of a violative transaction, BIS refused to provide a general response and went further to note that efforts by executives to limit the information that would normally come to them could result in an EAR violation if these steps were taken to avoid EAR licensing requirements.[51] We note BIS's specific guidance on this point, like BIS's guidance that restricted facilitation does not include referring opportunities to non-U.S. persons, is in direct opposition with the acceptable use recusal policies as compliance tools for U.S. economic sanctions, which allow U.S.-person executives and other decision makers to limit the executives' access to information and their need to approve transactions that the company can engage in but a U.S. person cannot. As a result of BIS's conflicting

guidance on recusal, U.S. person executives who continue to work at non-U.S. semiconductor-focused companies could now find themselves at higher risk of violating U.S. export controls if they adopt more typical sanctions-focused recusal policies that limit the information they receive.

C. BIS Has Provided Some (But Not Enough) New Foreign Direct Product Rule Guidance

One of most significant expansions of U.S. export control jurisdiction over the last decade has been accomplished through BIS's introduction of new FDP rules. Indeed, the number of FDP Rules has grown from a single National Security FDP rule in 2013 to now nine different FDP rules (each with at least two permutations) and differing use cases. Through the operation of FDP rules, BIS deems certain non-U.S. origin items located outside of the United States to be subject to the EAR's licensing requirements when the items are a "direct product" of specified "technology" or "software," or are produced by a complete plant or "major component" of a plant that itself is a "direct product" of the specified "technology" or "software."

Although the FDP rules vary in scope and target, by making non-U.S. origin items subject to the EAR, they give the U.S. Government the jurisdiction to control where and to whom the affected items can be exported. Moreover, the FDP rules can create the foundation to further extend U.S. jurisdiction to other non-U.S. origin items that incorporate qualifying foreign direct products. Once foreign items become subject to the EAR via an FDP rule, those who seek to incorporate or bundle them into or with other non-U.S. origin items need to further consider other bases of U.S. jurisdiction over the other item, such as the EAR's *De Minimis* Rule, which controls non-U.S. origin items that contain controlled (i.e. license requiring) U.S. content above various thresholds depending on the content and the item's destination. For example, in the SME IFR, BIS also amended its *De Minimis* Rule to set a 0% *de minimis* threshold for certain specialized lithography equipment, meaning that any non-U.S. origin system containing this kind of equipment is subject to U.S. export controls.

The 2023 Amendments make significant changes to the Advanced Computing FDP rule, which BIS introduced in its 2022 Regulations. First, BIS significantly expands jurisdictions and companies impacted by the Advanced Computing FDP Rule, which previously was only applicable to exports to China and Macau. Under the revised Advanced Computing FDP Rule, BIS has implemented a worldwide licensing requirement for the export of foreign direct product Advanced ICs when they are being exported to; incorporated into any parts, components, computers, or equipment destined to; or for any company that is headquartered in any destination subject to a U.S. arms embargo or whose ultimate parent company is headquartered in any of those countries.[52] As such, this expanded rule, in addition to adding licensing requirements applicable to both U.S. and non-U.S. persons related to exports destined for an additional 21 countries, also seeks to prevent companies from these countries from bypassing these restrictions and securing controlled ICs through their foreign subsidiaries and branches. Additionally, BIS uses the IFR to complete a bit of housekeeping to make parallel the different FDP rules, removing ambiguities caused by slight variations in phrasing that had accumulated over recent amendments to the EAR. [53]

However, BIS's amendments did not include clarification of a fundamental concept that BIS uses in its FDP rules. FDP rule analyses are among the most complex required by the EAR and the burden of completing FDP analyses falls most squarely on non-U.S. companies or companies producing their products outside of the United States. FDP Rule analysis requires a detailed understanding of the software and technology that is being used to not only produce one's own product, but also of any equipment one is using in the production process and this equipment's development and production software and technology. Despite regular exporter confusion regarding what constitutes a "major component" sufficient to bring an item that is used in the production of an item within the scope of the FDP rules, the 2023 Amendments do not provide any meaningful additional

guidance. Indeed, the included definition, which defines a “major component” as “‘equipment’ that is essential to the ‘production’ of an item,”[54] is largely identical to the vague definition included in previous iterations. Given the limited guidance BIS has provided regarding how to distinguish a “major component” from, say, a minor component or any other item that is used in a production process through rulemaking, informal FAQs, or other guidance, foreign companies will have to assess for themselves whether the function of any equipment they identify as essential to the production process may be a “major component” subject to the relevant FDP rule.

FDP rule analyses also impose other indirect costs. At least for now, many non-U.S. companies that make up IC supply chains use equipment that may be the product of U.S. software or technology. However, non-U.S. companies often do not have sufficient information regarding the development and production history of their equipment to determine whether it might be the direct product of controlled software or technology. As a result, different manufacturers of similar products may come to differing conclusions regarding the applicability of U.S. export control requirements, which not only undermines their efficacy, but also leaves companies that get the analysis wrong potentially subject to BIS enforcement. In light of the uncertainties and attendant risks associated with using U.S. equipment, many companies may opt to eliminate U.S. equipment from their production processes altogether.

D. How Temporary General Licenses and Allied Country Exclusions Promote “Friend-shoring” of the Development and Production of Critical Technologies like SME and Advanced ICs

BIS is using several amendments to encourage the “friend-shoring”[55] of Advanced IC manufacturing. These include the two Temporary General Licenses discussed in Section II and BIS’s use of Country Group A:5 and A:6 exclusions.

Although the TGLs discussed in Section II allow companies headquartered in the United States or Country Group A:5 or A:6 countries continue exporting to and producing certain Advanced ICs in Group D countries, and to continue using facilities in these jurisdictions to develop and produce less restricted SME parts, components, and equipment at the direction of companies, the terms of these TGLs only extend through December 31, 2025.[56] The uncertainty surrounding whether BIS will extend these terms acts to incentivize companies located in the U.S. and in eligible countries to relocate their supply chains to their own or other allied jurisdictions during the TGL’s limited term.

BIS has also granted Group A:5 and A:6 headquartered companies varying exclusions from the presumption of denial for all licenses requests under its end-use controls on supercomputing and semiconductor manufacturing. Its updated license review policy includes a presumption of approval where the end user of the product is headquartered in Country Groups A:5 or A:6, provided that they are not majority-owned by an entity headquartered in either Macau or a destination specified in Country Group D:5.[57] By applying restrictions on exports to Group D countries while simultaneously privileging allied countries and affording them more favorable license treatment, the U.S. signals that allied countries will remain a “safe harbor” for Advanced IC manufacturing.

Similarly, allowing exports by these companies of less restricted items used in the production of SME to Country Group D:5 countries can channel the development of more advanced SME away from these countries. These exclusions and more refined licensing requirements help to minimize the immediate effects of the U.S. Government’s unilateral controls on allied country companies, enabling them to continue using historical supply chains for certain activities while acting as a kind of carrot to lead their governments to adopt analogous controls going forward.

IV. BIS Acknowledges a Big Gap in Its Regulations and Requests Public Comments

Despite the significant regulations implemented in October 2022 and October 2023, BIS acknowledges that regulatory gaps still exist. A significant one relates to use of datacenter Infrastructure as a Service (IaaS) offerings for AI training. Specifically, China and other countries impacted by the new rules can potentially bypass controls on "supercomputers" through the rental or leasing of the computing power required for training AI foundational models on IaaS platforms.

While current regulations restrict engagements with supercomputing efforts in China and Macau, and the 2023 Amendments expand the country scope of these restrictions, IaaS solutions can still enable the offloading of China's computational workloads to computers in other countries, which would allow it to circumvent U.S. export controls on Advanced IC-enabled supercomputing. The risk is especially magnified in light of the absence of multilateral end-use/end-user controls in this arena. BIS continues to review the potential for such circumvention and how a regulatory response could mitigate the issue and notably, specifically seeks public comments on how it could use regulatory tools to address access to IaaS provided AI "development" by customers who might use them to develop large dual-use AI foundation models with potential capabilities of concern, such as models exceeding certain thresholds of parameter count, training compute, and/or training data.[58]

BIS also requests public comments on a number of other issues, including on how BIS could use technical parameters to distinguish Advanced ICs and computers more commonly used for small or medium scale training of AI foundational models from those used for large AI foundational models with different capabilities of concern.[59] BIS also asks companies to assess the impact of imposing licensing requirements on the use of foreign national employees to support Advanced IC and SME, and to share what practices they already use to safeguard technology and intellectual property, among other questions.[60]

Although BIS did not accept every commenter's suggested revisions to the 2022 Regulations in this latest round of amendments, many of the amendments BIS did make reflect a recognition by BIS that EAR control parameters need to be regularly updated and that it should, whenever possible, try to minimize the unintended collateral impacts its new regulations are having on companies worldwide. BIS's recent changes to its public comment process, which allow companies to submit both public and business confidential information that will not be published, now lower the risk that companies can provide technical and other business proprietary information to better inform BIS's future rulemaking. BIS will accept public comments on its 2023 Amendments until December 17, 2023.

* * *

We work every day to help companies apply complex export controls to their business operations and to build compliance and licensing strategies to address export controls in integrative and business savvy ways. We also regularly work with clients to monitor and filing public comments and to develop briefings that better inform BIS's policies and licensing decisions. We welcome the opportunity to support you.

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[1] Dep't of Comm. Bureau of Ind. and Sec., Export Controls on Semiconductor Manufacturing Items Interim Final Rule (Oct. 17, 2023) (hereinafter "SME IFR"); Dep't of Comm. Bureau of Ind. and Sec., Implementation of Additional Export Controls: Certain Advanced Computing Items (Oct. 17, 2023); Dep't of Comm. Bureau of Ind. and Sec., Supercomputer and Semiconductor End Use; Updates and Corrections Interim Final Rule (Oct. 17, 2023) (hereinafter "AC/S IFR").

[2] Most of changes made to licensing requirements in the 2023 Amendments apply to exports, re-exports, and transfers (in country). For ease of reference, we refer to all three

types of shipments as “exports” in this alert, and will only specific re-exports or transfers when an amended regulation applies to fewer shipment types.

[3] Press Release, U.S. Dep’t of Comm. Bureau of Ind. and Sec., “Commerce Strengthens Restrictions on Advanced Computing Semiconductors, Semiconductor Manufacturing Equipment, and Supercomputing Items to Countries of Concern” (Oct. 17, 2023), https://www.bis.doc.gov/index.php/component/docman/?task=doc_download&gid=3355.

[4] *Id.*

[5] *Id.*

[6] 15 C.F.R. § 742.6.

[7] 15 C.F.R. § 744.23.

[8] 15 C.F.R. §§ 742.4(a)(4), 742.6(a)(6)(i) (as of Nov. 17, 2023). BIS uses the long formulation “Group D:1, D:4 and D:5 countries, when the countries are not also specified in Group A:5 and A:6” in several places in the 2023 Amendments. As of today, there are only two countries, Cyprus and Israel, that appear in Groups A:5 or A:6 and also on any Group D list. Accordingly, we use the short hands “(excluding Cyprus)” when referring to targeted arms embargoed destinations and “(excluding Cyprus and Israel)” when referring to the broader targeting of Group D countries, throughout this alert. Please note that the Country Group lists are subject to revision. A full list of the Country Groups can be found in Supplement No. 1 to Part 740 of the EAR, linked here.

[9] The Export Administration Regulations (“EAR”) use Supplement No. 1 to 15 CFR Part 740 to identify groups of countries which are subject to different licensing policies based on United Nations sanctions, U.S. national security and foreign policy grounds, or as a result of their participation in different international treaties and other export control and non-proliferation focused plurilateral agreements. Supplement No. 1 is used not only to define licensing requirements, but also eligibility for different EAR license exceptions. Importantly, country groupings are nonexclusive and certain countries can appear in more than one group which complicates BIS’s efforts easily identify the subsets of countries to which different regulatory provisions apply.

[10] *See* 15 C.F.R. Part 740, Supplement No. 1.

[11] Some of the countries identified in Country Group D:5 are under United Nations-mandated arms embargoes.

[12] *See* SME IFR 54.

[13] *Id.*

[14] 15 C.F.R. § 744.6(c)(2)(i) (as of Nov. 17, 2023).

[15] 15 C.F.R. § 744.6(c)(2)(iii) (as of Nov. 17, 2023).

[16] 15 C.F.R. § 744.23(a)(5) (as of Nov. 17, 2023).

[17] 15 C.F.R. § 744.23(a)(3) (as of Nov. 17, 2023).

[18] See 15 C.F.R. Part 740, Supplement No. 1 for a full list of destinations within Country Groups A:5 and A:6.

[19] Supplement No. 1 to Part 736(d)(2) (as of Nov. 17, 2023).

[20] SME IFR 6-7, 70.

[21] BIS defines performance density as Total Processing Performance ("TPP") divided by "applicable die area." TPP is "2 x 'MacTOPS' x 'bit length of the operation', aggregated over all processing units on the integrated circuit." The applicable die area for the ECCN 3A090 measurement 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.

[22] 15 CFR §§ 734.9(h), (i) (as of Nov. 17, 2023).

[23] 15 C.F.R. § 746.2 (as of Nov. 17, 2023). Expanding the requirement that previously applied only to China and Macau.

[24] AC/S IFR 68.

[25] 15 CFR § 742.6(a)(10) (as of Nov. 17, 2023).

[26] 15 CFR § 740.8 (as of Nov. 17, 2023).

[27] 15 CFR § 740.8(a)(2) (as of Nov. 17, 2023).

[28] 15 CFR § 740.8(a)(1) (as of Nov. 17, 2023).

[29] Supplement no. 1 to part 736(d)(2) (as of Nov. 17, 2023).

[30] *Id.*

[31] *See* SME IFR, *supra* note 1, 51.

[32] AC/S IFR, Topic 62.

[33] AC/S IFR, Topic 61; *see also* SME IFR, Topic 51.

[34] Supplement No. 3 to Part 732.

[35] AC/S IFR, Topic 48; BIS, FAQs for Interim Final Rule, https://www.bis.doc.gov/index.php/documents/product-guidance/3181-2022-10-28-bis-faqs-advanced-computing-and-semiconductor-manufacturing-items-rule-2/file.

[35] AC/S, Topic 53.

[36] AC/S IFR, Topic 53.

[37] Supplement No. 1 to Part 734.

[38] *See* AC/S IFR, Topic 47.

[39] *See* SME IFR, Topic 49.

[40] SME IFR, Topic 49.

[41] SME IFR, Topic 23.

[42] SME IFR, Topic 23; AC/S, Topic 47.

[43] SME IFR, Topic 23.

[44] 15 C.F.R. § 772.1.

[45] SME IFR, Topic 63.

[46] 15 C.F.R. §746.6(c)(2) (as of Nov. 17, 2023).

[47] SME IFR, Topic 58.

[48] SME IFR, Topic 60.

[49] *Id.*

[50] *Id.*

[51] SME IFR, Topic 62.

[52] 15 C.F.R. § 734.9(h) (as of Nov. 17, 2023). BIS specifically exempts companies located in Cyprus and Israel through its exclusion note on Group A:5 and A:6 countries.

[53] *See* AC/S IFR, 100.

[54] BIS, Foreign-Produced Direct Product (FDP) Rule as it Relates to the Entity List §736.2(b)(3)(vi) and footnote 1 to Supplement No. 4 to Part 744, updated October 28, 2021.

[55] The "Friend-shoring" concept first appeared in a speech by Secretary of the Treasury Janet Yellen to the Atlantic Council in April 2022. In that speech "friend-shoring" is described a form of trade integration that prevents countries from using their market position in key raw materials, technologies, or products to have the power to disrupt the U.S. economy or exercise unwanted geopolitical leverage. Janet Yellen, *Remarks by Secretary of the Treasury Janet L. Yellen on Way Forward for the Global Economy*, April 13, 2022.

[56] SME IFR 19.

[57] SME IFR 35.

[58] AC/S IFR 103-104.

[59] AC/S IFR 106.

[60] AC/S IFR 105.

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