SEMI Global Advocacy Office
1200 G Street, NW Suite 325
Washington, DC 20005

www.semi.org

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Re: Interim Final Rule - Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification (October 7, 2022) {RIN 0694-AI94}

Introduction

SEMI thanks the U.S. Department of Commerce, Bureau of Industry and Security (BIS) for its leadership and maintaining a productive dialogue with SEMI and its members. We welcome the opportunity to provide the following comments to the process of refining and providing clarity to the rules issued on October 7, 2022.

Established in 1970, SEMI is the leading global industry association that works to advance the business of the electronics manufacturing supply chain. SEMI has over 2,500 members worldwide, including more than 530 American companies, and represents the full range of U.S. semiconductor companies, including designers, equipment makers, materials producers, and subcomponent suppliers.[i] While SEMI's membership includes many large companies, more than 85 percent of SEMI members are considered small or medium-sized businesses. Our member companies are the foundation of the $2 trillion electronics industry. This vital supply chain supports 350,000 high-skill and high-wage jobs across the United States.[ii]

Semiconductors are the building blocks of the modern economy, making possible the countless devices on which we rely. The United States currently possesses market and technological leadership in the manufacturing technology, equipment, and materials that enable semiconductor production. This advantage is afforded by superior intellectual property, which is paramount for the electronics manufacturing supply chain.

General Comments

On October 7, 2022, the U.S. Department of Commerce's Bureau of Industry and Security (BIS) issued a rule amending the Export Administration Regulations (EAR) to expand export controls on China-destined semiconductor and supercomputer items. The rule, titled "Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification", changes the Commerce Control List (CCL) to add certain semiconductor manufacturing and other semiconductor items and advanced computing items which are now subject to new Regional Stability (RS) controls when destined for China; expands the scope of foreign-produced items subject to the EAR through revisions to and addition of Foreign Direct Product Rules (FDPRs); imposes license requirements on certain China-origin technology exports;

introduces new end use and end user controls with respect to semiconductor manufacturing activities, semiconductor equipment manufacturing activities, and supercomputers; and restricts U.S. persons' activities with respect to development or production of certain high-performance integrated circuits (ICs) in China.

The CCL was revised to include ECCN 3B090, which controls certain semiconductor manufacturing equipment, and revised ECCNs 3D001 and 3E001 to control software and technology associated with the newly added ECCN 3B090. BIS also revised the heading of ECCN 3B991 to add reference to 3B090. ECCNs 3B090, 3D001 (for 3B090), and 3E001 (for 3B090) are controlled for RS reasons with respect to China.

While we have a shared interest in strengthening U.S. national security and better protecting U.S. intellectual property, we believe that any such policies must be narrow and tailored, multilateral, and based on stakeholder coordination, to match the realities of a highly specialized and globalized supply chain.

SEMI welcomes reports of an agreement between the United States, Japan and the Netherlands regarding semiconductor export controls, and looks forward to understanding the specifics of the agreement. The importance of multilateral controls, both to achieve a level playing field and promote effectiveness of the control, cannot be understated. Since the October 7 rule was not informed by broader industry and public input in advance, it appears to now be more challenging to adjust after fact.

If the U.S. government is not able to get allied governments to agree to comparable controls, BIS should adopt a licensing policy for such items that factors in foreign availability if for use with purely civil applications not otherwise prohibited.

Moving forward we ask BIS to prioritize involvement with industry on proposed regulations and provide ample opportunities for industry to inform the U.S. government on transactional concerns and regulatory burdens that may shape policy. This could include technical consultations and impact assessments from industry on global competitiveness, R&D and workforce issues, prior to publishing of any rules, to ensure clear regulatory language that translates national security aims into effective policy and regulation. Industry emphasizes the utility of a partnership between the U.S. and our allies on export control cooperation regarding list and end-use based controls and making export control practices more transparent for both government and industry.

Chinese semiconductor companies continue to develop advanced IC production capabilities. These companies had business continuity plans and had anticipated U.S. restrictions long before they were enacted on October 7, 2022. U.S. equipment companies have seen their market share erode in China for the past 2 years. This erosion has accelerated since the U.S. sanctions in October, with some companies and product lines reportedly experiencing as much as a 20% decline in market share in the past few months. The lost sales are destined for firms from countries that are not bound by the October 7, 2022 action. Unencumbered by the October 7 action, these firms may continue to sell advanced manufacturing equipment to China and are now able to invest these new revenue streams into R&D as they potentially overtake U.S. technological leadership.

Specific Comments:

15 CFR 744.23(a)(2)(iii) The "development" or "production," of integrated circuits at a semiconductor fabrication "facility" located in the PRC that fabricates integrated circuits meeting any of the following criteria:

(A) Logic integrated circuits using a non-planar transistor architecture or with a "production" technology node of 16/14 nanometers or less;

(B) NOT AND (NAND) memory integrated circuits with 128 layers or more; or

(C) Dynamic random-access memory (DRAM) integrated circuits using a "production" technology node of 18 nanometer half-pitch or less; or

Even if the item-specific controls in ECCN 3B090 are adopted by the governments of Japan, the Netherlands, and other allies, the controls will still be largely ineffective unless international partners adopt similar end use controls to those in new EAR sections 744.6(c)(2) and 744.23(a)(2)(iii), (iv), and (v). Without international partners adopting controls similar to those in 744.6(c)(2), engineers and others who are not U.S. persons working for non-U.S. companies will be able to (unlike U.S. persons and U.S. companies) service and otherwise support without an export license the development or production of integrated circuits at facilities in China that develop or produce covered advanced node semiconductors. In addition, without the allies adopting controls similar to those in section 744.23(a)(2)(iii) and (iv), such non-U.S. persons and companies will be able to (unlike U.S. persons and U.S. companies) export to China without a license from their countries otherwise unlisted commodities, software, and technology for use in producing covered advanced node semiconductors.

It will be necessary to harmonize end-use controls with U.S. allies even if there is successful plurilateral adoption of controls on lists of specific tools. Considerable development and production in China of advanced node semiconductors will still be able to occur with existing equipment, Chinese-made equipment, and the other uncontrolled items with the benefit of know-how and services non-U.S. persons can provide.

We therefore request that the U.S. government should do everything possible to convince the allied governments to adopt their own form of "is informed" end use controls over their citizens and countries for the same end uses. Again, we welcome the reported agreement with Japan and the Netherlands. If a substantial gap remains between the current U.S. controls and those adopted by U.S. allies within the next few months, BIS should adopt a temporary licensing policy that would authorize the provision of such services and exports by U.S. persons for civil applications and if not otherwise prohibited by the EAR.

As part of the Nuclear Nonproliferation Act of 1978, the United States created legal requirements in the early 1980s to impose licensing requirements on (i) otherwise uncontrolled activities by U.S. citizens and (ii) the export of otherwise uncontrolled items by informing U.S. citizens that such activities and exports could support the design, manufacture, or use of nuclear weapons in any country other than listed friendly states. As part of the Enhanced Proliferation Control Initiative (EPCI) [iii] in the early 1990's, the United States extended this legal authority to otherwise uncontrolled activities and exports that could support the development or production of weapons of chemical or biological weapons, or missiles capable of delivering weapons of mass destruction (WMD), in any designated country or by any designated end-user. In subsequent years, the U.S. convinced most allied states and all the multilateral WMD and missile nonproliferation regimes to require similar controls.

Although EPCI is a decades-old initiative that was the basis for authorities in US and allied export control regulations to impose licensing obligations for the provision of services and exports involving otherwise uncontrolled items, no allied country has similarly informed its citizens that support for advanced node semiconductor development or production in China could per se support the development or production of WMD. Thus, assuming that the allied governments have the legal authority to impose comparable licensing obligations through their "is informed" processes, the key issue is whether these governments have the political will and evidence from the U.S. Government or otherwise to impose such controls.

US Government Needs Allied Controls for US Controls to be Effective.

In light of the existence of Dutch, Japanese, and other allied laws and comparable authorities, the US Government should do everything it can to convince the allies to use their own authorities to impose the comparable controls on their citizens, companies, and exports for the same reasons BIS imposed controls under sections 744.6(c)(2) and 744.23(a)(2)(iii) and (iv). The only way for BIS's WMD-related policy objectives to be effective is for the allies to impose the same controls over their citizens and exports. The services and items affected by the new sections 744.6(c)(2) and 744.23(a)(2)(iii) and (iv) controls are, by definition, not specific to any particular type of advanced node semiconductor widely available outside the United States. Indeed, section 744.6(c)(2) applies exclusively to movement of foreign-made items that are not subject to the EAR or any other country's lists of export-controlled items.

The Export Control Reform Act of 2018 (ECRA) requires BIS to work to get allied cooperation on end use controls. Our request is made not just on the basis for the need to get plurilateral harmonization on controls for the sake of effectiveness, it is also a statutory requirement. Specifically, Congress codified BIS's authority to impose end use controls in section 4812(a) of ECRA, by stating that, in order to carry out the policies of ECRA, "the President shall control- (1) the export, reexport, and in-country transfer of items subject to the jurisdiction of the United States, whether by United States persons or by foreign persons; and (2) the activities of United States persons, wherever located, relating to specific- (A) nuclear explosive devices; (B) missiles; (C) chemical or biological weapons; (D) whole plants for chemical weapons precursors; (E) foreign maritime nuclear projects; and (F) foreign military intelligence services." The next ECRA section, section 4812(b)(3), explicitly requires the President, when exercising such end use authorities, to "seek to secure the cooperation of other governments and multilateral organizations to impose control systems that are consistent, to the extent possible, with the controls imposed under subsection (a)."

In addition, ECRA requires that any controls imposed under section 4812, which include end use controls, "must be evaluated on an ongoing basis . . . to avoid negatively affecting [US] leadership in the science, technology, engineering, and manufacturing sectors, including foundational technology that is essential to innovation." ECRA § 4811(3). Congress recognized that "export controls applied unilaterally to items widely available from foreign sources generally are less effective in preventing end-users from acquiring those items." ECRA § 4811(4)

In light of the foregoing comments, our request is that the U.S. Government be willing to grant licenses for 3B090 items if plurilateral controls are not imposed within the next few months. We request that such licenses be granted, with all necessary conditions, if the applicant can demonstrate that (i) there are no military end users or listed entities involved; and (ii) the tools or other 3B090 items will be used to develop or produce semiconductors that are not of the type identified in the new rule.

Our rationale is that none of the controls imposed by the creation of new ECCN 3B090 will limit for long the export to China of such equipment because companies in the Netherlands, Japan, South Korea, and others are now or will soon be able to produce such equipment and export it to China without a license under their countries' export control rules. This is so because there are several companies in these and other countries that are experienced and capable competitors with the ability to develop and produce quickly every one of the types of the tools in 3B090 and most other types of equipment used in the impacted fabs.

When a market need is created for a new tool, such as through the imposition of a unilateral U.S. control, there is economic incentive to modify existing product lines or create whole new tools to fill the gap. The U.S. does not have a monopoly on the ability to create semiconductor development, production, inspection, or metrology equipment. Evidence of this broad conclusion is that most, if not all, fab customers already source equipment from both U.S. and non-U.S. competitors. Continued unilateral controls will divert *billions* of dollars in sales to competitors unencumbered by the October 7 action that would have otherwise gone to the original U.S. companies. Competitors unencumbered by the October 7 action will then be in a position to use a percentage of such sales to invest in their domestic research and development initiatives. .

15 CFR 744.23(a)(2)(iv) The "development" or "production" of integrated circuits at any semiconductor fabrication "facility" located in the PRC, but you do not know whether such semiconductor fabrication "facility" fabricates integrated circuits that meet any of the criteria in paragraphs (a)(2)(iii)(A) through (C) of this section.

Here and in 744.23(a)(2)(iii), there is confusion regarding the proper tense of the rules and if the language as written includes aspirational production and development in the future. BIS should clarify whether "fabricates" applies in the context of a fab that has plans for future advanced node production or whether the rule applies to current advanced node production only.

If the relevant international partners do not adopt controls comparable to those in section 744.23(a)(2)(v), non-U.S. companies will continue to be able to export without a license to China any type of otherwise uncontrolled commodity, software, or technology for use in developing or producing any type of semiconductor production equipment, or related parts, components, software, or technology. The absence of any such allied controls will defeat the apparent purpose of section 744.23(a)(2)(v), which is to limit the ability of semiconductor production equipment companies in China from using non-Chinese-made parts, components, software, and technology to develop and produce semiconductor production equipment.

15 CFR 744.23(a)(2)(v) The "development" or "production" in the PRC of any "parts," "components," or "equipment" specified under ECCN 3B001, 3B002, 3B090, 3B611, 3B991, or 3B992

A priority remains immediate multilateral or plurilateral alignment with the allies on the end-use controls in 744.23(a)(2)(v) and controls comparable to those now applicable to U.S. persons in sections 744.6(c)(2) 744.23(a)(2)(iii) and (a)(2)(iv) if national security objectives are to be realized. Without harmonization on the end-use controls, China will source equipment from foreign competitors, resulting in ceded market share and added revenue for foreign competitors that will outfit the targeted fabrication lines, thus undermining U.S. national security objectives. To align on a proposed list of tooling – without multilateral or plurilateral support on the end-use controls – will result in the design-out of U.S. content entirely. For example, there are producers outside the U.S. with the capacity to develop the tools in 3B090 and new tools needed over time to outfit fabs.

We therefore respectfully request that BIS adopt a temporary licensing policy that would factor in foreign availability for exports of items that would not require a license to export but for new section 744.23(a)(2)(v) until and unless allies adopt similar controls. If this request cannot be granted, then, at a minimum, we respectfully request BIS to edit the control so that it does not apply to exports to China of items for use in developing or producing otherwise uncontrolled items that would be for use (i) outside of China in countries not subject to embargoes or (ii) for the benefit of companies operating in the U.S. needing items developed or produced for activities in China not subject to export controls, such as the production or development of mature node semiconductors. We make this request because, based on a review of the policy objectives stated in the preamble, there is no evidence that BIS intended the rule to have an impact on the production of covered equipment for use outside of China or that would otherwise benefit U.S. companies.

Additionally, this rule does not appear to directly target the development or production of advanced integrated circuits or supercomputers and has far broader implications beyond such advanced technologies. Unlike §744.23(a)(2)(iii-iv), (a)(2)(v) does not tie directly to the policy objective of preventing the development or production of advanced integrated circuits and supercomputers. We would have expected that the natural progression of the rule to have included something along the lines of "[t]he "development" or "production" in the PRC of any "parts," "components," or "equipment" specified under ECCN 3B001, 3B002, 3B090, 3B611, 3B991, or 3B992 (the "Specified ECCNs") *where such "parts," "components," or "equipment" are destined for the end-use described in §744.23(a)(2)(iii)*." This additional language would require a link between the item in the Specified ECCNs to the development or production of the targeted advanced technologies. As presently drafted, a license is apparently required (under a policy of denial) to export items to PRC end-users that are developing or producing equipment that is not (or not capable of) being used in advanced semiconductor or supercomputer manufacturing, but nonetheless falls into the specified ECCNs.

The language restricts export of items that will be used in the development or production in the PRC of "parts," "components," or "equipment" specified under the Specified ECCNs, yet the export of the actual "parts," "components," or "equipment" to the PRC specified under some of the Specified ECCNs is not similarly restricted. It is difficult to understand why the export of an item used in the development or production of a 3B991 item would be restricted, but the export of a 3B991 item would not be restricted (unless of course that 3B991 item was being used as described in §744.23(a)(2)(iii-iv) or in another applicable end-use restriction).

The inclusion of 3B991 as a Specified ECCN has also unintentionally broadened the impact of the rule. 3B991.b includes "[e]quipment "specially designed" for the manufacture of semiconductor devices, integrated circuits and "electronic assemblies", as follows, and systems incorporating or having the characteristics of such equipment". The additional 'catch-all' language at the end of 3B991.b arguably broadens 3B991.b to include equipment that may have characteristics similar to semiconductor manufacturing equipment, but are not actually used (or capable of being used) in semiconductor device manufacturing, such as smaller R&D tools or tools being used in non-semiconductor or non-supercomputer applications. We would ask BIS to provide clarity as to why the rule should restrict exports of "parts", "components" or "equipment" for the development or production of these types of equipment that are not related to semiconductor device manufacturing.

The policy of denial with respect to the license of exports restricted by the rule and the lack of any general licenses will be ineffective and harmful with respect to basic items that have myriad uses and

are readily available outside of the U.S. Many basic items that are used in the development or production of "parts," "components," and "equipment" specified under the Specified ECCNs have many uses outside of the development and production of semiconductor equipment. Further, such items are readily available outside of the U.S. The export restrictions contained in the rule will not therefore have a significant impact on PRC end-users' ability to obtain these products, rather it will simply hurt U.S. industry in supplying such products into the PRC marketplace.

BIS has also not provided specific guidance on what level of due diligence would be sufficient for industry to conduct in exporting to PRC end-users. Without specific guidance industry will have greatly differing responses to the rule and the types and levels of due diligence conducted. For instance, it is unclear whether it would be sufficient to have a PRC end-user certify that the exported item will not be used in "the "development" or "production" in the PRC of any "parts," "components," or "equipment" specified under ECCN 3B001, 3B002, 3B090, 3B611, 3B991, or 3B992."

We also seek BIS's confirmation that no license would be required for exports, reexports, or transfers (in-country) of items subject to the EAR and are intended for use in photomask manufacturing in the PRC because photomasks, even if specified in 3B001 or 3B991, are not captured within the end-use scope of 15 C.F.R. § 744.23(a)(2)(v).

As understood, photomasks are not "parts," "components," or "equipment", as those terms are defined in Part 772 of the Export Administration Regulations ("EAR"). Therefore, photomasks are not "parts," "components," or "equipment" specified under the Export Control Classification Numbers ("ECCN") 3B001 or 3B991 within the end-use scope described in 15 C.F.R. § 744.23(a)(2)(v). Further, we understand that the intent of the rule is to limit the advancement of China's indigenous semiconductor industry by restricting, among other things, exports related to manufacturing machines or related parts and components, rather than items such as photomasks.

Inconsistencies of end use scope

We recommend BIS clarify the definition of end-use scope and reconcile it with how BIS interprets the end use scope of EAR Section 744.23(a)(2)(v). Specifically, we seek clarification as to when a license would be required to export an item subject to the EAR if the item would be incorporated into a 3B991 item (not subject to the EAR) by a third party OEM in a third country, and then the OEM sends the 3B991 item to a China-located manufacturer of Category 3 items.

There are at least two points that favor a narrower reading of the end use scope of EAR Section 744.23(a)(2)(v), such that a license is not required in this scenario. First, EAR Section 744.23(a) does not expressly state that the end use scope includes the end use of the item into which the exported item is incorporated. This is in contrast to the foreign direct product ("FDP") rules which expressly include "incorporated into" language as part of the end use scope. See, e.g., EAR Sections 734.9(h)(2)(i) (advanced computing FDP rule) (applies to items "destined to the PRC or will be incorporated into any 'part,' 'component,' 'computer,' or 'equipment' not designated EAR99 that is destined to the PRC") and 734.9(i)(2)(ii) (supercomputer FDP rule) (applies to items that will be used in the design, etc. of a supercomputer located in or destined to the PRC or "incorporated into, or used in the 'development,' or 'production,' of any 'part,' 'component,' or 'equipment' that will be used in a 'supercomputer' located in or destined to the PRC."). Thus, when BIS wanted to regulate items into which an item subject to the EAR was incorporated, it expressly referenced such incorporation in the regulatory text.

Second, a broader interpretation of EAR Section 744.23(a)(2)(v) arguably would be inconsistent with BIS's current interpretation of EAR Section 744.23(a)(2)(iii). As noted, BIS interprets EAR Section 744.23(a)(2)(iii) to mean that the end use of the exported EAR item is the end-use of the OEM's item into which it is incorporated, e.g., at an advanced node fab. A broad interpretation of EAR Section 744.23(a)(2)(v) would be inconsistent with this interpretation of the exported item's end use. In other words, the exported item's end use cannot be both the end use of the item into which it is incorporated (as BIS appears to interpret EAR Section 744.23(a)(2)(iii)) and the "production" (e.g., "manufacture", "assembly (mounting)") of the Category 3 item into which it is incorporated. An item arguably can only have one end use.

Immediate and continued relief for multinational corporation fabrication facilities

It is our understanding that the US Government did not intend to create material impediments to the stable supply of equipment and support necessary for continued and regular development and production of ICs. Therefore, unless allies adopt similar controls, industry requests long-term relief from BIS for activities necessary to maintain current production by multinational corporations headquarted in U.S. and allied countries with operations in China, either in the form of a general license with an extended validity period of 5 years to respond to supply and demand forecasting, or an overhaul of the policy to provide ongoing relief from individual licensing requirements for items that are intended for ultimate end-use by (1) entities in Country Groups A:5 or A:6, or (2) returning to the U.S.

Multinational corporations in Country Group A:5 and A:6 are generally subject to a permissive grouping in terms of licensing policy and license exception usage due to membership in the multilateral export control regimes and strong export control systems, we believe these considerations should factor into a policy revision alleviating the burden of a case-by-case review standard for their activity in China. A policy change allowing permanent relief for the development and production of ICs by multinational corporations in China would enable industry to streamline licensing activity and focus compliance efforts transactions of greater concern, such as performing the necessary due diligence related to indigenous entities in China to ensure their item or activity is only for an unrestricted fabrication.

Industry's concern with the multinational case-by-case review licensing policy is that it opens that door for individual agency policy imperatives that are not transparent to industry. This leads to interagency debates that slow down licensing and cause backlogs in the process. Our rationale for permanent relief in the form of a policy revision is that individual license requirements for U.S. and multinationals does not achieve the national security objective to hamstring indigenous development but does disrupt supply chains and forecasting. A license requirement for multinationals is a competitive disadvantage for U.S. companies as our competitors are under no similar obligation. If license applications for companies that provide critical support to the development and production of ICs are not granted or are delayed there would be, within days, massive and unprecedented disruptions to the global supply chains for commercial ICs.

Supplier Support

Among the end-use controls added to §744.23*, is "(v) The "development" or "production" in the PRC of any "parts," "components" or "equipment" specified under ECCN 3B001, 3B002, 3B090, 3B611, 3B991, or 3B992." See page 59 of Oct 7 IFR.*

We request an extension of relief authorizations for current suppliers and partners to provide items subject to the EAR necessary to continue current development and production of ICs at multinational manufacturing fabrication facilities impacted by the requirements in the EAR Interim Final Rule. This includes Chinese suppliers who are producing parts and components for use in the production of semiconductor manufacturing tools for U.S., multinationals and global subsidiaries. Such an authorization would permit multinationals headquartered in Country Group A:5, A:6 or the U.S., and their current suppliers and partners, to continue providing the items, by export, reexport or transfer (in-country), that would not have required a license but for the October 7, 2022 Interim Final Rule for up to five years of specified activity.

We request an extended relief authorization for multinational employees, contractors, and agents in China -- whether a U.S. person or foreign person-- acting on the multinational's behalf to ensure continuity of current multinational fabrication and related business operations in China. An extended relief period will relieve any burden that individual licensing requirements may cause on material impediments to the global supply chain of commercial semiconductors due to possible friction in interagency consensus on the "case-by-case" licensing policy for EAR99 items or those controlled for AT or RS reasons destined to local China suppliers for use in the production of ICs for return to multinational corporations headquartered in Country Group A:5, A:6 or the U.S. Before the existing supplier support relief authorizations expire in fall 2023, we would like assurances that reviewing agencies have reached a consensus on the "case-by-case" licensing policy for such items destined to local China suppliers for use in the production of semiconductor manufacturing tools for return to U.S. and multinational end-users.

Licensing Concerns

In the event individually validated licenses are required, industry encourages BIS to issue immediate guidance in the form of a published FAQ on unique application and submission requirements to clarify requirements on structuring applications and supporting documentation necessary to assuage concerns during the review process on technology level, customer, and compliance plans. This could include guidance such as structuring a bulk license to minimize the licensing burden and because BIS permits license applications for projected sales over the course of the validity period of a license.

Industry is already experiencing delays in licensing for applications submitted prior to publishing of the interim final rule. A handful of applications are currently logjammed with the interagency proposing conditions that are inconsistent with the Interim Final Rule. Over the course of the last year, technology roadmaps have moved forward in response to demand forecasting and remain within regulatory limits but lack of interagency consensus on technology redlines have resulted in proposed conditions limiting well beyond the now targeted levels. The lack of consensus, along with proposed conditions that go beyond and conflict with the targeted technology levels, impedes industry's ability to meet current and future semiconductor activity and demand.

The concern regarding a case-by-case review standard for multinational corporations is that it opens the door for individual agency interpretation that is not transparent to industry and may conflict with the larger policy. This occurred during the licensing review process related to Huawei and SMIC in the last administration. We hope the reviewing agencies will hold the same view and, where possible, provide clear guidance of what is required in the license applications up-front to remove as much friction from the process as possible. We encourage BIS to implement a collaborative mechanism by which industry can preempt any such gridlock as the interagency continues to implement the rule, such

as a forum to discuss proposed conditions that may conflict with USG policy *prior* to escalation.

The definition of "transfer (in-country)" should not cover in-country movements to effectuate repair services

The restrictions implemented pursuant to the [Semiconductor Rule] generally apply to exports, reexports and transfers (in country) of specified items. Section 734.16 of the EAR defines transfer (in country) as "a change in end-use or end-user of an item within the same foreign country." Part 772 of the EAR defines "End-user" as follows:

The person abroad that receives and ultimately uses the exported or reexported items. The end-user is not a forwarding agent or intermediary, but may be the purchaser or ultimate consignee.

In considering whether an in-country movement constitutes a change in end-user, we believe that an entity performing repairs or otherwise servicing an item is not an "end-user" as defined in Part 772 of the EAR. Specifically, the repair/service company is not the party that ultimately uses the item, but is instead taking an action on behalf of the user and specifically for the purpose of returning the repaired item to the user. Repair/service activities inherently involve the performance of a service <u>on</u> an item rather than the <u>use</u> of that item and therefore are properly viewed as an intermediate action to facilitate an item's intended end-use by its end-user.

Moreover, the repair/service company is neither a "purchaser" or "ultimate consignee" as these terms are defined in Part 772 of the EAR. As a service/repair company does not fall within the scope of an end-user under the EAR, temporary in-country movements to or from repair/service companies should not constitute a change in end-user. We request that BIS issue an FAQ on this.

Due Diligence

We recommend BIS publish a list of "semiconductor fabrication facilities" that engage in covered "development" or "production" of logic, NAND, or DRAM integrated circuits.

"Production" is used multiple times in the new regulations and "production" under § 772.1 includes "testing." The Oct. 28 FAQ II. Q1 and II.A.1 in Section "II. Definitions" note that a facility for testing that does not alter the technology levels is not covered under "facility." It is unclear how industry can reconcile this guidance to determine what type of "testing" is covered under the "production" term included in § 744.23. It would be helpful if BIS could issue an FAQ clarifying that "testing" at the production stages of the relevant equipment or integrated circuit are covered in § 744.23, but "testing" at the end of the semiconductor manufacturing process that does not alter the technology levels is not covered for determining whether a facility is making the advanced nodes in § 744.23.

Further, it was noted during the public briefing held by Assistant Secretary Thea Kendler on Oct 13, 2022 that fabrication facility means a facility where production at specified levels occurs[iv]. How will "fabrication" be defined in 772.1 of the EAR? Is this limited to only the activity that influences the essential characteristics of the chip, i.e., the transistor?

Changes to the Entity List Foreign-Produced Direct Product Rule

The October 7 rule substantively changes the Entity List foreign-produced direct product rule ("the Entity List FDPR") by revising the first clause of paragraph (e)(1)(i)(B) of 15 C.F.R. § 734.9 ("the Major Component Provision") to remove the requirement that, to be subject to the EAR under the Major Component Provision, foreign-produced items must be the "direct product" of a complete plant or "major component" of a plant that is itself the "direct product" of U.S.-origin 'technology' or 'software."

BIS's proposed change to the Entity List FDPR Major Component Provision poses serious practical concerns for both industry and government. Industry has consistently raised with BIS that a regulation with such expansive reach would pose significant difficulty to companies that would be required to engage in extreme review of upstream supply chains to ensure compliance with the rule. Commenters on the original Entity List FDPR asked this very question to BIS, and BIS affirmatively stated that the rule addressed these concerns by applying only to the direct product of certain designated equipment. Manufacturers have meticulously planned and reviewed their manufacturing processes in reliance on this guidance. However, in an industry replete with lengthy and complex supply chains, this type of planning and review is reliant on a rule that is limited in scope and easily interpreted, both characteristics which BIS's Interim Final Rule eliminates.

The scope of review that this new rule requires is enormous, making it essentially impossible to determine how the rule applies to complex items with multiple assembly processes. Companies have highly complex manufacturing processes that often involve the purchase of certain parts or components from third-party manufacturers. The items purchased from these third-party manufacturers are typically hundreds, if not thousands, of steps and multiple countries removed from the actual manufacturing of a company's end products. Additionally, these third-party manufacturers do not openly disclose their manufacturing processes, the tools they use, or how those tools were designed. These factors will expose manufacturers to heightened risks of liability that even increased compliance expenditures cannot fully address, as the sheer breadth and opacity of the rule as revised will make it impossible to ever fully know whether a specified piece of equipment may have been used at some distant point in the supply chain. Again, we emphasize that this new rule would require a manufacturer to identify and classify all of the technology that was used at points in the supply chain far removed from them, i.e. to trace and classify all the technology that was used by upstream third parties to produce components of the manufacturer's products. This is not feasible for industry, and such a rule cannot be complied with.

Confirmation that (1) License Exception RPL covers transfers (in-country), or in the alternative that Section 740.2(a)(9) be expanded to authorize License Exception TMP; and (2) that Section 744.23(c) be revised to authorize, at least, the use of the limited scope of License Exceptions in Section 740.2(a)(9) for items lawfully exported or reexported prior to October 7, 2022.

License Exception RPL authorizes exports and reexports in support of one-for-one replacement and repair servicing activities. Specifically, Section 740.10(b) "authorize(s) the export and reexport to any destination, except for 9x515 or "600 series" items to destinations identified in Country Group D:5…of commodities and software that were sent to the United States or to a foreign party for servicing and replacement of commodities and software…" The exclusion of "transfer (in-country)" from the scope of Section 740.10 suggests that License Exception RPL would not cover in-country movements that constitute a transfer (in-country) as defined in Section 734.16.

However, BIS previously has stated publicly that "[i]f the license exception allows reexports, then it also allows in-country transfers, even if it doesn't specifically state that." Therefore, we request

confirmation from BIS that License Exception RPL covers exports, reexports and transfers (in-country) consistent with the statements made at the 2020 BIS Update Conference. Alternatively, we request that BIS expand the scope of License Exceptions available for Section 740.2(a)(9) to include License Exception TMP, specifically Section 740.9(a)(6) which authorizes exports, reexports and transfers (in-country) for inspection, test, calibration and repair.

Revision of Section 744.23(c) to permit the use of license exceptions specified in Section 740.2(a)(9) for items lawfully exported or reexported prior to October 7, 2022.

Section 740.2(a)(9) restricts the scope of license exceptions available for exports, reexports or transfers (in-country) to or within China of items controlled under 3A090, 3B090, 4A090 or associated software and technology in 3D001, 3E001, 4D090 and 4E001 as well as computers, integrated circuits or electronic assemblies that meet or exceed the performance specifications in 3A090 or 4A090. In relevant part, Section 740.2(a)(9) authorizes the use of License Exception RPL for items under these ECCNs, with certain specified limitations. On the other hand, Section 744.23 does not permit any license exceptions in relation to the end-use restrictions.

In some instances, items that were lawfully exported or reexported prior to October 7, 2022 and which would otherwise be eligible for repair pursuant to License Exception RPL and Section 740.2(a)(9), cannot be sent for repair or returned after repair without an export license from BIS. Therefore, we ask that BIS amend Section 744.23(c) to provide a limited scope of permissible license exceptions, which could align with the existing scope in Section 740.2(a)(9), that, at a minimum, would permit suppliers to provide repair services, consistent with License Exception RPL (and TMP), on items lawfully exported or reexported prior to October 7, 2022. As noted above, this change would not be required if BIS agrees that the definition of "transfer (in-country)" does not cover in-country movements to effectuate repair services.

Final Comment

The unilateral controls imposed by the U.S. on October 7, 2022 may temporarily slow the development of advanced IC manufacturing capability in China, but eventually these controls will not be successful. For nearly every advanced semiconductor manufacturing piece of equipment produced by U.S. companies, there is a non-U.S. alternative. In other words, if the U.S. Government fails at getting allies to impose comparable controls in the next several months, China could get the same tools to do advanced node work, just from non-U.S. companies.

Further, industry will be at severe long-term competitive disadvantage that will challenge U.S. innovation leadership. The Commerce Secretary recently emphasized supporting trade and investment in areas that do not threaten U.S. national security interests[v]– this would include the legacy market for semiconductors. It is vital to keep this market alive in China as it supports both American jobs and R&D to maintain the leading edge. Semiconductor equipment companies that are not bound by the October 7 action will be benefiting from the billions of dollars of sales revenue that U.S. companies would have received but for the new controls and will be investing a large percentage of that income to directly compete with U.S. innovation.

Currently, the U.S. is the leader in the semiconductor equipment industry, with 3 of the top 5 companies headquartered here in the U.S. Without equivalent multilateral controls, the U.S. is at serious risk of losing that technological leadership as the legacy market provides a reliable source of income that funds innovation.

This challenges the ability of the entire U.S. domestic semiconductor ecosystem to produce, in collaboration with their global suppliers, a wide range of capabilities that are critical to support the worldwide semiconductor supply chain. SEMI advocates for a refined and deliberate approach to the issuing of export controls in conjunction with industry and international partners. We want to continue to advance discussion and inform decision making on these strategic issues to ensure industry and government are working in tandem to build a resilient and robust global semi ecosystem. Further, we want to make sure that future policy adopted by the U.S. achieves the national security objectives as well as continuing U.S. supremacy at the leading edge; such leadership requires that United States remain competitive in global markets and for the U.S. to move in concert with our allies.

Thank you for the opportunity to comment on the rules and the process. We greatly appreciate all the work that BIS is doing.

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[i] "About SEMI," http://www.semi.org/en/About, January 2023. A full list of SEMI members can be found here: http://www.semi.org/en/Membership/MemberDirectory.

[ii] "Trade Policy," SEMI, http://www1.semi.org/en/trade-policy, January 2023.

[iii] The U.S. State Department summary of "catch-all" controls.: https://2009-2017.state.gov/strategictrade/practices/c43179.htm

[iv] https://www.bis.doc.gov/index.php/documents/product-guidance/3182-2022-10-28-bis-written-presentation-public-briefing-on-advanced-computing-and-semiconductor-manufacturing-items-rule/file

[v] Remarks by U.S. Secretary of Commerce Gina Raimondo on the U.S. Competitiveness and the China Challenge | U.S. Department of Commerce