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## Japan Tightens Export Regulations on Advanced Semiconductor Manufacturing Equipment

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Japan's Ministry of Economy, Trade and Industry (METI) has updated its export regulations. The amendment increases the number of semiconductor equipment categories requiring export licenses from 10 to 33. Changes have also been made to the bulk export licensing system. These regulations apply to all countries, with specific procedures varying based on country grouping. This newsletter provides an overview of the amendment.

### I. Introduction to New Export Regulations

Japan's Ministry of Economy, Trade, and Industry (METI) is implementing new export regulations on advanced semiconductor manufacturing equipment. This move could significantly impact the semiconductor industry in countries (and regions) subject to stricter Japanese export regulations.

On March 31, 2023, METI released an amendment to the Ministerial Ordinance Specifying Goods and Technologies Pursuant to the Provisions of Attachment List No. 1 to the Export Trade Control Order and the Attachment List to the Foreign Exchange Order (MOSGT). This amendment will introduce new export regulations requiring a license prior to the export of advanced semiconductor manufacturing equipment. The public comment period ran from March 31 to April 29 and the new restrictions are expected to be implemented in July of 2023.

The new regulations apply to exports destined to any country and region. As background, in October 2022, the United States introduced a regulation to restrict the export of advanced chips and manufacturing equipment to China. This made it difficult for China to access advanced semiconductor technology. To strengthen the export regulations even further, the US requested Japan and the Netherlands to introduce similar restrictions, leading to both countries tightening their regulations.

### II. Overview of Japan's Export Control System

Japan's export control system is designed to regulate the export of goods and technologies that affect national security or foreign policy. The legal framework for Japan's export control system is complex and consists of a combination of primary and secondary legislation.

The basic law that provides the legal basis for export controls in Japan is the Foreign Exchange and Foreign Trade Act (FEFTA). Article 48-(1) of the FEFTA requires exporters to obtain an export license from the METI before exporting certain goods or technologies to certain countries.

However, the FEFTA does not specifically indicate the kind of goods or technologies to be regulated. Instead, a Cabinet Order, the Export Trade Control Order (ETCO) was promulgated under the FEFTA's mandate to establish the general framework of export controls. Attachment List No. 1 lists the controlled items and details of each such item are specified in the MOSGT, which is the order subject to change.

In addition, the METI has established several internal regulations for the specific handling of export control practices.

### **III. Summary of the Amendment and Its Key Points**

#### **(1) Expansion of Regulated Semiconductor Manufacturing Equipment**

Since there are already items listed in Attachment List No. 1 of the ETCO that regulate "Equipment for manufacturing or testing of semiconductor devices or materials, or components or accessories therefor", no changes to the FEFTA and the ETCO are envisioned. The METI is simply expanding the content of this article by amending the MOSGT so that it can also regulate some advanced semiconductor manufacturing equipment.

Under the current MOSGT, the ETCO only requires licensing for the export of 10 categories of semiconductor manufacturing equipment, while the amendment will increase that number 33. New items include manufacturing equipment used in the design, front-end, and back-end processes of semiconductor manufacturing, which is primarily equipment advantageous for the Japanese industry. We summarized the new items in the Appended Table of this newsletter.

As mentioned above, a license is required for the export of new items to all countries. In addition, transactions aimed at providing technology related to the manufacturing, development, and use of new items will also be regulated under the Foreign Exchange Order (FEO).

#### **(2) Revision of the Bulk Export License System**

Another key point of the amendment is the revision of the bulk export license system. In principle, an individual license is required for each single export of the controlled items. However, if the exporter has established its internal export control system and is capable of performing export control well under its own management, the exporter is allowed to get and use a "bulk license", which is a comprehensive license covering a certain scope of items without having to apply for separate licenses

for each individual export. There are five types of bulk licenses, three of which are relevant with respect to the amendment.

Type	Description
(i) General Bulk License	A system that comprehensively permits such operations as exporting of relatively low sensitivity goods/technologies to certain combinations of destinations and items, limited to the countries (Group A) set forth in Appended Table 3 of the ETCO
(ii) Special General Bulk License	A system that comprehensively permits such operations as exporting of relatively low sensitivity goods/technologies to certain combinations of destinations and items, including to countries other than those set forth in Appended Table 3 of the ETCO, with the requirement of an export compliance program.
(iii) Specific Bulk License	A system that comprehensively permits such operations as exporting to the same counterparty with an ongoing business relationship

For the newly added semiconductor manufacturing equipment, (i) General Bulk Licenses or (ii) Special General Bulk Licenses will be issued for the exports destined to "Group i-1" countries (so-called "Whitelist" countries, including the United States), and (ii) Special General Bulk Licenses will also be issued for the exports destined to "Group to-2" countries. It is expected that the export of target items to these countries will be widely accepted, due to the political and economic trust between these countries and Japan.

On the other hand, exports destined to "Group to-3" countries (such as China) are not entitled to (i) General Bulk License and (ii) Special General Bulk License but only entitled to (iii) Special Bulk License, which is allowed for "the same counterparty with an ongoing business relationship". If a (iii) Special Bulk License is not granted for exports to "Group to-3" countries (such as China), individual licenses are required, so whether a (iii) Special Bulk License is granted and how individual licenses are handled becomes a crucial matter.

In addition, the handling of bulk licenses for transactions aimed at providing technology related to the use of new items follows the same rules as new items. On the other hand, for technology related to the design and manufacture of new items, only (iii) Special Bulk Licenses are allowed for all countries other than "Group chi" (such as North Korea).

Please see a summary of the licensing system in the following table. "General", "Special General", and "Special" refer to "General Bulk License", "Special General Bulk License", and "Special Bulk License", respectively.

	Group i-1 ("Whitelist" countries, including the US)	Group to-2	Group to-3 (Such as China)	Group chi (Such as North Korea)
Export of New Items	General or Special General	Special General	Special	N/A
Technology Related to The Design and Manufacture of New Items	Special	Special	Special	N/A
Technology Related to The Use of New Items	General or Special General	Special General	Special	N/A

## IV. Takeaways

In conclusion, for international companies engaged in exporting or importing targeted semiconductor products from Japan, it is crucial to carefully verify the eligibility and procedures for obtaining either bulk or individual export licenses. This should be done by considering factors such as the destination of the product, end-users, intended use, and the existence of ongoing business relationships with importers and/or end-users.

To ensure that there are no disruptions in continuous import and export activities or transactions, it is highly recommended for these companies to actively engage in open and constructive discussions with the METI through exporters or authorized representatives such as lawyers. Establishing a strong communication channel will facilitate the navigation of the new regulatory landscape, enabling companies to adapt to the changes and adhere by the compliance rules.

By taking these measures, companies can continue to foster and expand their global partnerships while complying with Japan's new semiconductor export regulations.

[Appended Table]

List of the Newly Regulated Items	
1	Equipment for manufacturing pellicles (limited to those especially designed for equipment used to manufacture integrated circuits using extreme ultraviolet).
2	Among the step and repeat method or step and scan method align and expose equipment for wafer processing using photo-optical method, the light source wavelength of which is 193 nanometers or more, and the value obtained by multiplying the exposure light source wavelength expressed in nanometers by 0.25, then dividing that value by the numerical aperture is 45 or less
3	Equipment designed for applying, depositing, heating or developing resists compounded to be used in equipment used to manufacture integrated circuits using extreme ultraviolet light
4	Equipment designed for dry etching that falls under any of the following: (hereinafter omitted)
5	Equipment designed for wet etching wherein the etch selectivity ratio of silicon germanium to silicon is 100 times or more.
6	Among equipment designed for anisotropic etching where the ratio of the depth to the etching width exceeds 30 times with respect to dielectric materials, and capable of forming shapes with dimensions with the width less than 100 nanometers, those that fall under all of the following: (hereinafter omitted)
7	Among semiconductor manufacturing equipment, film deposition equipment that falls under any of the following: (hereinafter omitted)
8	Equipment designed for forming a metal layer in a vacuum environment or in an inert gas environment of 0.01 pascals or less, and that falls under all of the following: (hereinafter omitted)
9	Equipment designed to form a metal layer in a vacuum environment or in an inert gas environment of 0.01 pascals or less, and that falls under any of the following: (hereinafter omitted)
10	Equipment designed to form a ruthenium layer using organic metallic compounds while maintaining the substrate temperature of the wafer exceeding 20 degrees centigrade and less than 500 degrees centigrade
11	Spatial atomic layer deposition devices (limited to those having a wafer support base with a rotational axes) which fall under any of the following: (hereinafter omitted)
12	Equipment for films forming at a temperature exceeding 400 degrees centigrade and less than 650 degrees centigrade or equipment for films forming by accelerating a chemical reaction with radicals generated in a space different from the space where the wafer is installed, and designed to form films containing silicon and carbon that fall under all of the following: (hereinafter omitted)
13	Equipment designed to form a multilayer reflective film for use in masks (limited to those especially designed for equipment

	used to manufacture integrated circuits using extreme ultraviolet) by ion beam deposition or physical vapor phase growth methods
14	Equipment designed for epitaxial growth of silicon (including those with carbon added) or silicon germanium (including those with carbon added) that falls under all of the following: (hereinafter omitted)
15	Equipment designed to form a plasma film on carbon hard masks with a thickness exceeding 100 nanometers and a stress of less than 450 megapascals.
16	Equipment designed to form a tungsten film (fluorine atoms less than 10 to the 19 power per cubic centimeter) by atomic layer deposition methods using plasma or chemical vapor phase growth methods
17	Equipment designed to form a low-dielectric layer with relative permittivity of less than 3.3 using plasma in a space (of less than 25 nanometers in width and more than 50 nanometers in depth) between metal interconnects so that no gap is created.
18	Annealing equipment that operates in a vacuum environment of 0.01 pascal or less and that falls under any of the following: (hereinafter omitted)
19	Equipment designed to remove polymer residues and a copper oxide film in a vacuum environment of 0.01 pascals or less, and to enable the deposition of copper
20	Equipment having a plurality of chambers or stations designed for pre-treatment of removing surface oxides by a dry process or designed for removing surface contaminants by a dry process
21	Sheet type wet cleaning apparatus having process for performing drying after surface modification of wafer
22	Mask blanks for equipment used to manufacture integrated circuits using extreme ultraviolet or equipment designed to test patterned masks for such equipment
23	Pellicles specially designed for equipment used to manufacture integrated circuits using extreme ultraviolet light

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