



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Under Secretary for Industry and Security**  
Washington, D.C. 20230

**Statement of**

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**Before the House Foreign Affairs Committee**

**Hearing Entitled, “Combatting the Generational Challenge of CCP Aggression”**

**February 28, 2023**

Chairman McCaul, Ranking Member Meeks, members of the Committee, thank you for inviting me to testify today on the work of the Department of Commerce’s Bureau of Industry and Security, or BIS, with regard to the People’s Republic of China (PRC or China).

Since this is a new Congress and there are new members on the Committee, allow me to briefly introduce BIS and describe our tools and role in the U.S. national security architecture.

I will then provide an overview of our existing export control policies toward the PRC, including an update on the work we have done as part of the comprehensive and ongoing review of our export control policies toward the PRC.

**BIS Responsibilities**

BIS advances U.S. national security and foreign policy interests by administering and enforcing an effective export control system. Essentially, our primary goal is to prevent malign actors from obtaining or diverting items, including sensitive technologies, for unauthorized purposes, to protect our national security, advance our foreign policy objectives, and maintain our leadership in science and technology, which itself is a national security imperative.

In addition to export controls, BIS has responsibility for the following: (1) participating in reviewing foreign investments and acquisitions in the United States through the Committee on Foreign Investment in the United States (CFIUS); (2) reviewing risks posed by foreign adversaries with respect to information and communications technology or services; (3) analyzing the U.S. industrial base; and (4) administering industrial compliance provisions of certain arms control and disarmament treaties.

While all of these functions are important, I am going to focus primarily on BIS’s role administering and enforcing export controls. We execute this mission by imposing appropriate controls on exports, reexports, and transfers (in-country) of items subject to our jurisdiction, which include lower-capability military items, dual-use items (i.e., those items having both commercial and military or proliferation applications), and predominantly commercial items.



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BIS also controls certain activities of U.S. persons when they support activities involving weapons of mass destruction (WMD) or military-intelligence end uses and end users. Finally, we have authority to seek criminal and administrative penalties, when appropriate, for violations of our export controls.

BIS controls are tailored to impose export license requirements based on the sensitivity of the item to be exported, the country of destination, the parties in the transaction, and the end use of the item. Some license requirements apply worldwide, including to our allies. Other license requirements apply more narrowly to a select group of countries, parties, or end uses.

BIS develops and applies licensing policies that will apply to the export of items, destinations, parties, or end uses involved in the application. Some applications are reviewed on a case-by-case basis. Other applications are reviewed with a presumption of denial, or in the case of Russia and Belarus, with a policy of denial. Approval of an export license application is a conclusion by BIS and its interagency partners that the transaction is consistent with both the stated licensing policy and our national security and foreign policy objectives.

Nearly all BIS actions, including licensing decisions and Entity List designations, are taken in collaboration with our interagency partners—the Departments of Defense, State, and Energy. In Fiscal Year (FY) 2022, BIS processed more than 40,000 license applications. In the select instances where there is disagreement among the agencies on whether to approve the license, there is an established process for any agency to initiate further escalation from the working level to the Assistant Secretary level, and higher, for review. During FY 2022, approximately only 1.1% of all applications submitted were appealed to the Assistant Secretary level. None were appealed to the Cabinet level or to the President, which would be the next steps in escalating a dispute. While the agencies may have different perspectives on individual cases, we all bring helpful expertise to the process and can reach accommodation on almost all applications. And when we cannot, the interagency review and escalation process forces us to bring our best arguments to the table to help shape U.S. export control policy.

To enhance the effectiveness of BIS controls, we also work closely with allies and partners. As the Export Control Reform Act of 2018 (ECRA) makes clear, export controls are most effective when applied by the United States in concert with international partners. If we impose unilateral controls targeting specific countries or entities, but suppliers exist in other countries that can backfill orders to those targets with comparable items, then we will not achieve our objectives because the target of our unilateral action would still receive the items of concern. This scenario risks harming U.S. technological innovation and leadership. As a result, BIS has to ensure that licensing decisions and regulatory amendments are made with a holistic assessment of these issues and their impact on national security.

BIS currently participates in four formal multilateral regimes, which are coordinating bodies for export controls in several critical areas—conventional arms and dual-use items, chemical and biological agents, nuclear-related items, and missiles and unmanned delivery systems. BIS is in constant communication with our international partners, and we have also formed additional



working groups with the European Union, Japan, Republic of Korea (South Korea), and Five Eyes (Australia, Canada, New Zealand, and the United Kingdom) partners.

BIS's mission continues to be critical to addressing ongoing national security threats from nation states—the PRC, Russia, Iran, and North Korea—as well as from terrorists and other non-state actors. We continue to be at the forefront of the U.S. response to Russia's illegal and unjust assault on Ukraine. We also continue to be closely involved in addressing one of our most consequential challenges – preventing sensitive U.S. technologies from getting into the hands of PRC entities that undermine our national security or foreign policy objectives.

### **Background on Current Export Controls for the PRC**

The PRC's challenge to U.S. national security and foreign policy interests is real. My north star at BIS as it relates to the PRC is to ensure we are appropriately doing everything within BIS's power to prevent sensitive U.S. technologies from getting into the hands of the PRC's military, intelligence, security services, or other parties that can divert or otherwise use U.S. sensitive technologies to undermine or erode U.S. technological leadership, enable human rights abuses, or engage in other activities that are contrary to our interests and values.

Export controls are one of the many tools that the Biden Administration is using to coordinate and respond to the PRC's destabilizing activities. BIS is using controls to address the PRC's military-civil fusion strategy, which seeks to divert dual-use or commercial technologies to military uses. BIS is also using controls to confront the PRC's military modernization, WMD development, human rights abuses, and destabilization efforts in the Indo-Pacific.

Addressing these concerns protects U.S. national security and advances our values and interests, as well as those of our allies and partners. This is a dynamic threat environment, and BIS is constantly evaluating existing authorities and thinking about how we can employ our tools to maximum effect.

BIS maintains comprehensive controls related to the PRC. This includes imposing license requirements for all military and spacecraft items under our jurisdiction; all multilaterally-controlled dual-use items; a large number of dual-use items with extensive commercial applications if the item is intended, entirely or in part, for a military end use or military end user in the PRC; and all items under our jurisdiction if the item is exported knowing it will be used in certain WMD programs or if it is intended, entirely or in part, for military-intelligence end uses or end users in the PRC.

In addition, BIS controls prohibit certain U.S. person activities that would support WMD-related activities or military-intelligence end use or end users in the PRC absent authorization. I would be remiss if I did not thank the Committee and others in Congress for enhancing these authorities as part of last year's National Defense Authorization Act. We are currently working to implement and exercise these expanded authorities.



To comply with BIS export controls, exporters need to understand the restrictions on the items they are seeking to export. Also, they need to understand the parties in their transactions, including intermediaries and the end user, as well as the end user's intended use of the item. If an exporter fails to comply with BIS restrictions, even unknowingly, they can still be held legally liable. In addition, if someone seeks to export controlled items or technologies without authorization, BIS—in conjunction with interagency and international law enforcement partners—has the ability to stop shipments.

I want to be clear that even as we pursue actions that protect U.S. national security and foreign policy interests, we are not interested in decoupling our economy from the PRC. As we continue to stand up for our core interests, the world's two biggest economies should continue to engage in legitimate commercial trade that does not impact U.S. national security or foreign policy interests.

In FY 2022, BIS and its interagency partners approved approximately 69.9 percent of license applications involving the PRC and denied or returned-without-action approximately 30.1 percent of such license applications. Approvals of any licenses involving the PRC are not loopholes in our controls. These applications are reviewed in coordination with interagency colleagues pursuant to the interagency-established licensing policies. Notably, license applications for the PRC had an average processing time of approximately 77 days, which was significantly longer than the average processing time of approximately 40 days for all cases.

### **Entity List and Military End User (MEU) List**

The Entity List is one of the tools that BIS uses to identify foreign parties that we have imposed license requirements on based on specific and articulable facts that indicate that they have been, are, or are at significant risk of becoming involved in activities contrary to U.S. national security or foreign policy interests. We continually assess available open-source, proprietary, and classified information, in coordination with interagency partners, for adding new parties to the list.

Generally, when a party is added to the Entity List, anyone seeking to export, reexport, or transfer items under Commerce jurisdiction to a listed party must first seek a license to do so from Commerce. As with other license applications, those applications are reviewed by the Departments of Commerce, State, Defense, and Energy. License applications for most entities on the Entity List are subject to a presumption of denial, regardless of the sensitivity of the item to be exported.

For those entities not subject to a comprehensive presumption of denial, the Entity List provides clear policies on the types of items and transactions that may be approved on a case-by-case basis. Thus, companies are likely to only submit license applications for proposed export transactions qualifying for case-by-case review rather than those subject to a presumption of denial.



Currently, BIS has over 639 PRC-based parties on the Entity List – over 155 of those added during the Biden Administration. These parties have been added for a variety of reasons ranging from supporting the PRC’s military modernization and WMD programs, to supporting Iran’s WMD and military programs, to facilitating human rights abuses in Xinjiang. These parties include those involved in artificial intelligence, surveillance, biotechnology, and quantum computing.

BIS also maintains the Military End-User (MEU) List. The parties identified on the MEU List have been determined by the U.S. Government to be “military end users,” and represent an unacceptable risk of use in or diversion to a “military end use” or “military end user” in China, Russia, Burma, Cambodia, or Venezuela. The MEU List identifies foreign parties that are prohibited from receiving certain items with clear military applications unless the exporter secures a license.

### **Unverified List/End-Use Checks**

In addition to the Entity List and MEU List, BIS also maintains the Unverified List (UVL), which includes parties for which we cannot verify their *bona fides* (*i.e.*, legitimacy and reliability to participate in export transactions). An end-use check is a physical verification of a party to an export transaction and the disposition of U.S. items received. BIS conducts both pre-license checks to inform the licensing process, as well as post-shipment verifications to confirm the final disposition of exports. In FY 2022, BIS conducted approximately 1,151 end-use checks in approximately 54 countries, where approximately 75 percent of checks were considered favorable. In the other cases, BIS reviewed the parties for enforcement action or added parties to the Entity List or the UVL.

When a party is added to the UVL, no license exceptions can be used to export to these parties. Further, if we receive a license application for a party on the UVL, BIS will require a pre-license check before issuing a decision on the application.

BIS made additional revisions to the UVL policy to enhance its effectiveness in 2022, which I will describe later.

### **Enforcement**

We know that the PRC is determined to advance its military capabilities by illicitly acquiring U.S. technology. BIS’s enforcement team is dedicated to preventing this from happening by leveraging our criminal and administrative investigative tools, as well as regulatory actions, like the Entity List and UVL, to enforce our export control rules.

During FY 2022, BIS Office of Export Enforcement (OEE) investigations led to the convictions of nine individuals and businesses involving the PRC, which resulted in approximately 152 months in prison, approximately \$185,500 in criminal fines, and approximately \$719,927 in restitution. And in FY 2021, approximately 66 percent of criminal penalties and approximately



40 percent of administrative penalties were levied related to export violations involving the PRC, totaling almost \$6 million, as well as resulting in approximately 226 months of incarceration. In addition to monetary penalties, BIS also has a powerful administrative tool to deny export privileges.

### **Update on PRC Export Control Review**

In July, when I last testified before this Committee, I publicly announced that I had directed a comprehensive review of our export control policies related to the PRC.

Since then, BIS has taken multiple significant actions to update our export control approach to the PRC, both as part of the review as well as actions already in process at the time of my announcement.

### ***New Controls Related to Advanced Computing and Semiconductor Manufacturing***

The most significant action was our rule released on October 7, 2022, that imposed new controls on the PRC related to advanced computing and semiconductor manufacturing, which are both force-multiplying technologies essential to military modernization.

As National Security Advisor Jake Sullivan noted in a September 2022 speech, the strategic environment we are in today necessitates a new approach on export controls—particularly on technologies that are absolutely critical to national security such as advanced logic and memory chips. For those technologies, we must move away from our previous approach of maintaining “relative” advantages over competitors, and instead seek to prevent them from obtaining certain absolute levels of capability that pose national security risks.

One area that clearly illustrates the national security and foreign policy concerns we are seeking to address with an October 7, 2022, rule ([87 Fed. Reg. 62186](#)) is the PRC’s efforts to develop and employ supercomputers and advanced Artificial Intelligence (AI) for military, including WMD-related, applications.

The [2021 Final Report of the National Security Commission on AI](#) described AI as “the quintessential ‘dual-use’ technology,” noting that “AI technologies are the most powerful tools in generations for expanding knowledge, increasing prosperity, and enriching the human experience.” The Commission went on to say: “The ability of a machine to perceive, evaluate, and act more quickly and accurately than a human represents a competitive advantage in any field—civilian or military.”

The most powerful computing capabilities – namely large-scale AI models and very powerful supercomputers, which are built on advanced semiconductors—present U.S. national security concerns because they allow the People’s Liberation Army (PLA) to use AI to significantly improve the speed and accuracy of military decision making, planning, and logistics. They can also be used for cognitive electronic warfare, radar, signals intelligence, and jamming, and they



can improve calculations in weapons design and testing, including for WMD. These capabilities can also create foreign policy concerns when they are used to support applications like facial or gait recognition surveillance systems for human rights abuses. The PLA in particular has been open about how it views AI as critical to its military modernization efforts.

These are the national security and foreign policy considerations on which the advanced computing portion of the rule is based.

With respect to advanced computing, BIS made three changes.

First, BIS implemented targeted restrictions on specific chips, and items containing such chips, that can be used in advanced computing and artificial intelligence applications. Through a new Foreign Direct Product (FDP) Rule, BIS also applied these controls to foreign-made chips and PRC chip designs meeting the relevant parameters.

Second, BIS implemented controls for chips and other items that will be used in or for supercomputers in the PRC or supercomputers destined for the PRC. Through another new FDP Rule, this control also applies to certain foreign-made items when destined for PRC supercomputers, including foreign-made semiconductors.

Third, BIS expanded the scope of controls for 28 PRC entities previously on the Entity List that are involved in supercomputer-related activities. These parties are now subject to the Entity List FDP Rule that restricts the entities' ability to obtain foreign-produced chips and other items. BIS added additional PRC entities under this FDP Rule in December 2022.

Much of the rationale for the advanced computing changes also applies to the new controls related to semiconductor manufacturing. Advanced semiconductors are key to developing advanced weapon systems, exascale supercomputing capabilities, and AI capabilities.

With respect to semiconductor manufacturing, BIS made three main changes.

First, BIS implemented new PRC-wide restrictions on exports of certain manufacturing tools essential for high-end chip production, regardless of the end user.

Next, BIS also imposed restrictions on the export of any U.S. tools or components to a PRC semiconductor fabrication facility that is capable of advanced logic or memory chip production. For these advanced fabrication facilities, we also imposed a license requirement on U.S. persons providing support to those entities.

Finally, we imposed controls on items that will be used to develop or produce indigenous semiconductor manufacturing equipment in the PRC.

These changes are designed to address concerns related to the production of advanced semiconductors. These controls are not intended to stop production of legacy semiconductors,



and these controls are not tools of economic protectionism. They are national security and foreign policy tools.

### ***Updates to the Unverified List and Completion of End-Use Checks in the PRC***

On October 7, 2022, we also released a separate rule ([87 Fed. Reg. 61971](#)) making clear in our regulations (Export Administration Regulations, or EAR) that if a sustained lack of cooperation by a foreign government effectively prevents BIS from verifying the *bona fides* of a party located in their country, then that party could be moved from the Unverified List to the Entity List. Simultaneously, we added 31 PRC parties to the Unverified List because end-use checks had not been completed for those parties.

With this regulation change, Assistant Secretary for Export Enforcement Matthew S. Axelrod also issued an implementation [memo](#) on October 7, 2022 explaining that if we do not get cooperation in scheduling end-use checks within 60 days of making a request, entities may be placed on the UVL. Once placed on the UVL, a host government has an additional 60 days to schedule an end-use check. If the lack of cooperation persists, the entity may be placed on the Entity List.

As a result of this regulation change, we noticed improvement in cooperation, specifically with the resumption of end-use checks scheduled. Following our actions authorizing the potential movement of parties from the UVL to the Entity List, BIS completed end-use checks at 28 entities in November and December 2022, which resulted in the removal of 25 PRC parties from the UVL. This cooperation continues in 2023, but we are continuing to monitor cooperation closely and future delays will result in application of our October 7 implementation memo related to moving parties from the UVL to the Entity List.

### ***Additions to the Entity List***

The Entity List remains a powerful tool to inform exporters about specific parties that have been or pose a risk of being involved in activities that are contrary to U.S. national security or foreign policy interests.

Since I last appeared before this committee, we have placed 53 additional PRC entities on the Entity List. This included entities that are or have close ties to government organizations that support the PRC military and defense industry; entities that have acquired or attempted to acquire U.S.-items in support of the PRC's military modernization, including hypersonic weapons development or design and modelling of vehicles in hypersonic flight; entities at risk of diverting items to other parties already on the Entity List; entities enabling the PRC's human rights abuses in the Xinjiang Autonomous Region; entities enabling the procurement of U.S.-origin items for use by Iran's Islamic Revolutionary Guard Corps; entities that have supported or continue to support Russia's military; and one entity that facilitated the illegal export of U.S.-origin electronics to Iran for use in the production of military unmanned aerial vehicles and missile systems.





Earlier this month, we also added six PRC entities to the Entity List for supporting the People's Liberation Army's (PLA) aerospace programs, including airships and balloons and related materials and components.

We will continue to work with our interagency colleagues, leveraging available open source, proprietary, and classified information, to identify parties of concern warranting addition to the Entity List.

### ***Section 1758 Technology Controls***

BIS continues to work with interagency partners to identify and establish controls on emerging and foundational technologies essential to U.S. national security pursuant to section 1758 of ECRA. The provision did not mandate the creation of new or different lists—technologies identified and controlled pursuant to section 1758 are added to the existing Commerce Control List.

Several controls that BIS has finalized or put forward since I last testified, while not specifically directed at the PRC, will have the effect of impeding the PRC's ability to obtain these section 1758 technologies. The new controls include semiconductor-related technologies for substrates of ultra-wide bandgap semiconductors and Electronic Computer-Aided Design software specially designed to develop integrated circuits with Gate-All-Around Field-Effect Transistor (GAAFET) structure, which is key to scaling chips to 3 nanometers and below.

We also added new controls for Pressure Gain Combustion technology, which has the extensive potential for terrestrial and aerospace applications (including rockets and hypersonic systems), and we finalized new controls for the four naturally occurring, dual-use marine toxins (specifically, brevetoxins, gonyautoxins, nodularins, and palytoxin).

BIS also released an advanced notice of proposed rulemaking seeking public comments on the potential uses of automated peptide synthesizers to assess whether such technology could provide the United States or our adversaries with a qualitative military or intelligence advantage and to ensure that the scope of any controls that may be implemented would be effective and minimize the potential impact on legitimate commercial or scientific applications.

Just a few weeks ago, the Bureau hosted a conference on Brain-Computer Interface (BCI) technology to gain a better understanding of this technology as part of our ongoing review of BCI technologies.

### ***Enforcement Actions Related to the PRC***

I cannot discuss law enforcement sensitive information or discuss any cases that may still be in process, but I can assure you that credible allegations of violations of our rules by PRC-based



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entities are investigated promptly, thoroughly, and effectively and if appropriate, penalties are imposed by BIS.

While investigations can be complex and take time to reach resolution, since I last testified before the Committee, we have taken or contributed to a number of administrative and criminal enforcement actions related to the PRC.

I would like to highlight a few noteworthy actions exemplifying our enforcement work against the PRC.

In January of this year, BIS issued a 10-year denial of export privileges to Ge Song Tao based on his previous export-related conviction and sentencing in U.S. District Court. Ge used his company, Shanghai Breeze, and contacts with Fan Yang, a U.S. Naval Anti-Submarine Warfare Officer, to illegally export maritime combat rubber raiding craft and engines to China. Agents confirmed during the investigation that the boats were financed and destined for the PRC's PLA Navy. The investigation also revealed the boats and engines were to be reverse engineered and mass produced for the PRC military. The combat rubber raiding craft ordered by the PRC were equipped with engines that can operate using gasoline, diesel fuel or jet fuel. These vessels and multi-fuel engines are used by the U.S. military and can be launched from a submarine or dropped by an aircraft. No comparable engine is manufactured in China. All told, four individuals were convicted and sentenced to a combined total of 123 months confinement.

In January of this year, BIS also worked with the Department of Justice to obtain a guilty plea by Tao Jiang, the president and owner of Broad Tech System, Inc., a California-based electronics distribution company for violations of ECRA. Jiang admitted to a federal judge in Providence, Rhode Island, that he and his company participated in a conspiracy to conceal information from the U.S. Department of Commerce and from U.S. Customs and Border Protection as part of a scheme to illegally export chemicals for use in semiconductor manufacturing from a Rhode Island-based company to an Entity Listed company in the PRC with ties to the PRC's military. The intended recipient of the shipment, a state-owned entity in Nanjing, China, mainly engages in the manufacturing of electronic components and the research, development, and production of core chips and key components in the PRC's military strategic early warning systems, air defense systems, airborne fire control systems, manned space systems, and other national large-scale projects. Sentencing in this case is scheduled for April 2023.

These cases demonstrate how BIS's Export Enforcement team leverages both administrative and criminal enforcement authority and interagency partners to address diversions of advanced technologies, like semiconductors, marine engines, and satellite and rocket prototypes, that support China's military modernization efforts.

In addition, on February 16, 2023, BIS jointly announced with the Department of Justice the formation of a Disruptive Technology Protection Strike Force. This group will work to protect U.S. advanced technologies from being illicitly acquired and used by nation state adversaries to support: (1) their military modernization efforts designed to overcome our military superiority;



or (2) their mass surveillance programs that enable human rights abuses. As part of this effort, strike force cells will be stationed in the twelve American cities where we have field or regional offices, supported by an interagency intelligence cell in Washington, D.C.

Each operational cell consists of agents from the OEE, the Federal Bureau of Investigation, Homeland Security Investigations, and an Assistant U.S. Attorney, who will use all-source information (open source, proprietary, and classified) to pursue investigations and impose criminal and/or administrative penalties as appropriate.

The PRC remains a huge focus of our enforcement efforts, and we will continue to prioritize this work in the coming year.

### **Conclusion**

I appreciate the opportunity to testify today on BIS's export controls related to the PRC.

I'm proud of the work that BIS has done to contribute to the United States efforts to advance U.S. national security and foreign policy interests. We view this work as fundamentally bipartisan, and we believe in working on a bipartisan basis to promote our mission and ensure it is adequately resourced.

Our work—like my ongoing review of our export control policies—continues. The PRC remains a complex challenge in the competition between democracies and autocracies.

We will continue to assess the effectiveness of our controls to address national security and foreign policy concerns related to the PRC and analyze whether the current threat landscape requires new action—and BIS stands ready to employ regulatory and enforcement tools, with allies and partners and unilaterally as necessary.

I thank the Committee for its partnership and support and look forward to your questions.

