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EXPORT CONTROLS

Issues Concerning Sensitive Stealth-Related Items and Technologies

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Mr. Chairman, Members of the Committee:

I am pleased to be here today to discuss our report on export controls over certain low observable technologies and items.¹ We believe our work highlights a larger issue regarding the challenges the Department of Defense (DOD) faces as it pursues a strategy of maintaining technologically superior forces by increasing reliance on dual-use technologies.

DOD's dual-use strategy is designed to increase the commercial use of defense technologies and apply leading-edge commercial technologies to military needs. In pursuing this strategy, DOD cites the need to take advantage of efficient, market-driven production processes and the more rapid product development cycles found in key commercial sectors such as electronics. By tapping into the efficiencies and pace of innovation found in these commercial sectors, DOD hopes to ensure that its defense technologies and systems keep pace and allow DOD to maintain the superiority and affordability of U.S. military forces.

The challenge to DOD in maintaining technologically superior weapon systems in this dual-use environment is that these technologies may become available to potential U. S. adversaries. The government's export control system has always been faced with the difficulty of balancing the legitimate need for and benefits of U.S. exports, while ensuring national security interests are protected. My testimony today will provide an example of one technology area--low observables or "stealth"--which illustrates the difficulty of maintaining this balance.

We focused our work on one aspect of stealth technology--radar signature reduction. Specifically, we examined (1) how export controls over stealth technology and related commodities are split between the State Department's U.S. Munitions List (USML) and the Commerce Control List (CCL), (2) the impact of shared jurisdiction over stealth-related items, and (3) whether current referral procedures allow DOD to review all militarily sensitive stealth exports.

In short, our work shows that licensing jurisdiction over the stealth-related technologies and items we examined is shared and ill-defined. This unclear jurisdiction may lead to inappropriate exports of this militarily sensitive technology. We also found that under current interagency referral practices, DOD does not review most license applications in stealth-related control categories processed by the Department of Commerce. I will discuss each of these issues in a little more detail.

BACKGROUND

The U.S. export control system is divided into two regimes, one for munitions items under the Arms Export Control Act (AECA) and one for dual-use items under the Export Administration Act (EAA). The Department of State controls munitions items through its Office of Defense Trade Controls and establishes the USML, with input from DOD. The Department of Commerce,

¹Export Controls: Concerns Over Stealth-Related Exports (GAO/NSIAD-95-140, May 10, 1995).

through its Bureau of Export Administration, controls dual-use commodities (e.g., machine tools) and establishes the CCL. In general, the ability to deny export licenses for dual-use items controlled on the CCL is more constrained than the broad denial authority afforded by the controls over items on the USML. Thus, at the heart of the issue of how militarily sensitive commodities such as stealth should be controlled is the question: on which list and under which authority should they be controlled?

Low observable technology illustrates the competing objectives of the existing export control system for key dual-use technologies in two ways: (1) the United States has a substantial lead in low observable technologies and items over the rest of the world that translates into a critical combat advantage and (2) there are civil applications for some low observable technologies and materials that make it difficult to control the commodities' dissemination and retain U.S. leadership in the field.

JURISDICTION OVER STEALTH-RELATED COMMODITIES IS SHARED BY STATE AND COMMERCE AND ILL-DEFINED

We found that materials used for stealth have civil and military applications and are controlled on both the CCL and the USML. However, the lines of jurisdiction over stealth-related items between the two control lists are not clearly defined.

On the USML, stealth-related commodities are primarily controlled in two general categories. In addition to these two categories, stealth-related items are controlled under several other categories when the technology is incorporated as part of a system or an end-item. For example, fighter aircraft that incorporate stealth features are controlled under the category for aircraft. The CCL controls stealth-related exports under seven export commodity control numbers. These categories are listed in more detail in attachment I. Because some export control classification numbers cover a broad array of items, an undetermined number of the exports classified under these numbers may not be related to stealth.

State and DOD officials acknowledge that the descriptions in the CCL and the USML covering stealth-related items and technology do not clearly define which stealth-related exports are controlled by which agency. More importantly, State and DOD officials also agree that the lines of jurisdiction should be clarified to ensure that militarily significant items are appropriately reviewed and controlled. The Commerce Department believes that jurisdiction over stealth-related commodities and technology was already clarified during an interagency review process known as the "rationalization exercise" in 1991. Some stealth-related commodities were examined during the course of this exercise, but our work shows that problems of overlapping jurisdiction remain. Further, we believe that unclear jurisdiction has led to problems in Commerce's licensing of sensitive stealth-related commodities.

UNCLEAR JURISDICTION MAY LEAD TO INAPPROPRIATE EXPORTS

In 1994, Commerce approved two applications to export a high-performance, radar-absorbing coating. The details of one of these applications were reported in a major trade publication. As reported, the export application described the high performance claims for the product and indicated that the material would be used for a cruise missile project headed by a German company. The article also noted that the radar frequencies this stealth coating seeks to defend against include those employed by the U.S. Army's Patriot antimissile system. Commerce also granted a license to export the same commodity to another country for use on a commercial satellite.

Commerce approved both of these applications in fewer than 10 days and, under referral procedures, did not refer these applications to either DOD or State. However, even if Commerce had referred the applications and State and DOD recommended that the applications be denied, it would have been difficult to do so as long as the commodity remained under Commerce's authority. A key Commerce official told us that under its regulations, Commerce probably could not have denied the two applications to export the radar absorbing coating.

The stealth-related coatings would have been shipped overseas except that the trade publication article caught the attention of DOD and State officials. Prior to the material being shipped, State performed a commodity jurisdiction review to determine whether the stealth coating actually belonged under the USML.² On the basis of State's review, which included consultation with both DOD and Commerce, State ruled that the radar-absorbing coating was under the jurisdiction of the USML. The license applications were resubmitted to State and, because State and DOD were unable to obtain adequate information on the exact performance characteristics of the product from the exporter, the applications were not approved.

Although DOD and State have not verified the exact capabilities and military sensitivity of this product, these export licenses illustrate the problems of unclear jurisdiction over stealth-related exports. Unclear jurisdiction over stealth-related commodities increases the likelihood that militarily sensitive stealth technology will be exported under the generally less restrictive Commerce export control system.

We recommend that the Secretary of State, with the concurrence of the Secretary of Defense and in consultation with the Secretary of Commerce, clarify the licensing jurisdiction between the USML and the CCL for all stealth-related commodities and technologies with a view toward ensuring adequate controls under the AECA for all militarily sensitive stealth-related items. It is

²Commodity jurisdiction reviews are undertaken when there is a question about which agency controls the export of a commodity. State, in consultation with the exporter, DOD, Commerce, and other agencies, reviews the characteristics of the commodity and determines whether the item is controlled under the USML or the CCL.

important to note that our work focused on only one aspect of stealth -- radar signature reduction technology. Low observable technology has many other aspects, including technologies for reducing infrared, acoustic, electromagnetic, and visual signatures and counter-low observable technologies. According to military service officials, any executive branch review and clarification of jurisdiction over low observables should include an examination of whether there is overlap in these other areas of signature reduction and detection.

Now, let me turn to DOD's and State's role in reviewing proposed exports of stealth technology and related items.

DOD AND STATE ARE NOT SEEING MOST COMMERCE STEALTH-RELATED LICENSES

We found that the majority of applications to Commerce for the export categories related to stealth are not sent to DOD or State for review. Between fiscal years 1991 and 1994, 15 out of 166 applications under the seven export commodity control numbers related to stealth were referred to either DOD or State for review (see attachment II). As I mentioned earlier, because some export control classification numbers cover a broad array of items, some of the export applications classified under these numbers may not be related to stealth. Because of the difficulties posed in sharing Commerce licensing information with DOD technical experts, we were unable to thoroughly analyze the data to determine precisely how many of the 166 cases clearly involved stealth technology.

Why doesn't DOD or State see most of these applications? Commerce referral procedures for the seven stealth-related categories require applications to be sent to either DOD or State for review only when certain conditions are met that depend on the reason for control. The seven control categories we examined cover items controlled on the CCL for either national security reasons (which are tied to the former Soviet Union and East Bloc nations) or missile technology reasons (which are tied to a list of 25 countries of missile proliferation concern). (See attachment III.) It is important to note that these referral procedures are based, in part, on agreements between Commerce and DOD.

In general, commodities controlled by Commerce for national security reasons are referred to DOD only if they are going to certain designated countries.³ National security controls are designed to prevent exports to these countries. Consequently, exports of commodities controlled for national security reasons going to other destinations are generally not restricted, and Commerce does not refer such applications to DOD.

Applications for exports of commodities controlled for missile technology reasons are referred by Commerce only if they meet two key tests. First, the description of the export must fit the

³In addition, Commerce refers to DOD applications involving certain exports going to a special list of countries (mainly countries that support terrorism).

definition of missile technology items as described in the Annex to the Missile Technology Control Regime.⁴ Second, the export must be going to a country considered to be of concern for missile technology proliferation reasons.⁵

These referral practices lead to some seemingly inconsistent results. Applications for potentially sensitive uses of stealth-related commodities such as military radomes, ships, military aircraft, and cruise missiles were not sent to DOD or State for review. (See attachment IV for examples.) License applications for materials to produce golf club heads, computer housings, and leisure goods were sent to DOD largely because of the country to which they were being exported.

Our point here is not that Commerce or DOD has violated any agreed to referral procedures. Rather, our point is that current referral procedures do not permit DOD, State, and Commerce to ensure that export licenses for potentially militarily sensitive stealth technology are properly reviewed and controlled.

Our report recommends that the Secretary of Commerce revise current licensing referral procedures for stealth-related items that remain on the CCL to ensure that Commerce refers all export applications for stealth-related commodities and technology to DOD and State for review, unless the Secretaries of Defense and State determine their review of these items is not necessary. In commenting on a draft of our report, Commerce stated that the executive branch has drafted an executive order that would give the relevant agencies the authority to review all dual-use license applications. We have not seen the draft executive order, but if properly constructed and implemented, such authority should improve the review of sensitive exports by DOD and State.

Mr. Chairman, that concludes my statement. I will be pleased to answer any questions that you or other committee members may have.

⁴The Missile Technology Control Regime is an international arrangement reflecting the adoption by the United States, in common with the governments of Canada, France, Germany, Italy, Japan, Spain, the United Kingdom, and 17 other countries, of national export control policies designed to limit the proliferation of missiles capable of delivering weapons of mass destruction (i.e., nuclear, chemical, and biological weapons).

⁵Under the terms of the Enhanced Proliferation Controls Initiative, items not on the Missile Technology Control Regime Annex may be referred if Commerce believes the items are destined for a missile project of concern.

**USML AND CCL CONTROL CATEGORIES APPLICABLE
TO STEALTH-RELATED COMMODITIES**

Portions of USML Categories That Are Applicable to Stealth-Related Commodities

USML category	Portion related to stealth
XIII (e)	Concealment and deception gear, including paints
XIII (j)	Signature measurement gear, signature materials and treatments, and signature control design methodology
Various	Stealth items incorporated as parts of various weapon systems

Portions of CCL Entries Applicable to Stealth-Related Commodities

ECCN ^a	Portion related to stealth
1C21	Materials and coatings for reduced observables, i.e., stealth technology, for applications usable in missile systems and subsystems
1D23	Software specially designed for the development, production, or use of items controlled by 1C21 and 1C01
1E23	Technology for the development, production, or use of items controlled by 1C21
1C01	Materials specially designed for use as absorbers of electromagnetic waves or intrinsically conductive polymers
1E01	Technology for the development or production of equipment or materials controlled by 1C01
1E02	Technology for the installation, maintenance, or repair of materials controlled by 1C01
6B08	Pulse radar cross-section measurement systems and specially designed components

^aExport control classification number.

APPLICATIONS AND REFERRALS FOR ECCNS RELATED TO STEALTH

ECCN ^a	Category description	Applications FY91-FY94	Referred to DOD or State
1C21	Materials for reduced observables (i.e., stealth technology) including structural materials and coatings	28	3
1D23	Software specially designed for the development, production, or use of items controlled by 1C21, 1C01 and other categories	0	0
1E23	Technology for development, production, or use of items controlled by 1C21 and nine other categories	24	5
1C01	Materials designed as absorbers of electromagnetic waves or intrinsically conductive polymers	12	0
1E01	Technology for the development or production of equipment or materials controlled by 1C01 and 18 other categories	95	6
1E02	Technology for the installation, maintenance, or repair of items controlled by 1C01 and other categories	5	1
6B08	Pulse radar cross-section measurement systems and specially designed components	2	0
	Total	166	15

Note: Because export categories are broad, an undetermined number of the 166 applications classified under these seven categories do not have direct relevance to stealth technology.

^aExport control classification number.

**REASONS FOR CONTROL ON CCL
FOR STEALTH-RELATED COMMODITIES**

ECCN ^a	Description	Basis for control on commerce control list
1C21	Other materials for reduced observables	Missile technology concern
1D23	Software for 1C21 and 1C01	Missile technology concern
1E23	Technology for 1C21	Missile technology concern
1C01	Materials designed as absorbers	Missile technology concern and national security concern
1E01	Technology for 1C01	Missile technology concern and national security concern
1E02	Repair items for 1C01	National security concern
6B08	Pulse radar measurement equipment	National security concern

^aExport control classification number.

**SELECTED APPLICATIONS REFERRED AND
NOT REFERRED BY COMMERCE**

Selected Applications Referred by Commerce

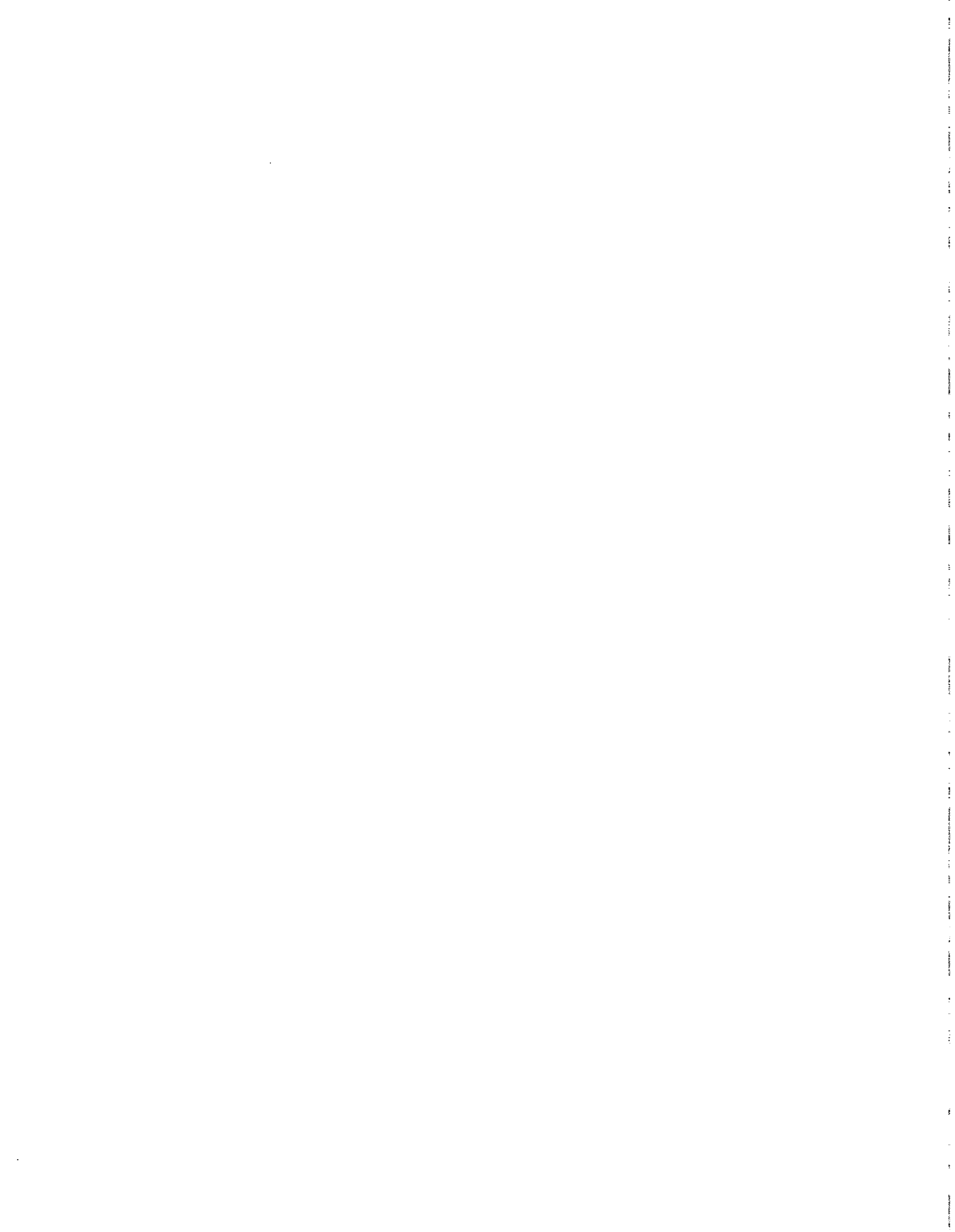
ECCN ^a	Commodity	End use	Region
1C21	Material and coatings for reduced observables (i.e., stealth technology)	Golf club heads	East Asia
1C21	Material and coatings for reduced observables (i.e., stealth technology)	Computer housings, leisure goods	East Asia
1E01	Technology for the production or development of materials designed for use as absorbers	Manufacturing data on composite structures for civil aircraft	East Asia

Selected Applications Not Referred by Commerce

ECCN ^a	Commodity	End use	Region
1C21	Material and coatings for reduced observables (i.e., stealth technology)	Reduction of radar cross-section on ship applications	Middle East
1C21	Material and coatings for reduced observables (i.e., stealth technology)	Cruise missile	Western Europe
1C21	Material and coatings for reduced observables (i.e., stealth technology)	Radome on military aircraft	Western Europe
6B08	Pulse radar cross-section measurement systems	Test military aircraft	Middle East

^aExport control classification number.

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