

SHIFTS IN U.S. EXPORT CONTROLS FORCE CHANGES UPON COMMERCIAL SATELLITE MANUFACTURERS AND SPACE LAUNCH PROVIDERS

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Abstract

The U.S. Congress' mandated shift of satellite export licensing responsibilities from the Department of Commerce to the Department of State earlier this year has caused changes in the business planning methods of commercial satellite manufacturers and space launch providers.

This paper traces the legal framework which has developed in the United States over the past decade. This development unfurled against a background of public policy and national security concerns, intertwined with competitive and jurisdictional pressures. The recently released report of the House Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China (known as the Cox Committee Report) concluded that data transfers by U.S. satellite manufacturers harmed U.S. national security. This pronouncement culminated in the stiffening of export licensing procedures through the National Defense Authorization Act of 1999, which returned export control responsibilities over commercial satellites to the Department of State.

The move of all commercial satellite export licensing authority to the Department of State is being watched closely by the commercial space industries.

Finally, this paper addresses ways in which companies in the space industry will have to conduct their business in light of new regulations to be both efficient and in compliance with the current U.S. export control regime.

Introduction

On March 22, 1999 the United States Department of State, Bureau of Political Military Affairs' Office of Defense Trade Controls ("ODTC"), under the general policy direction of the Under Secretary of State for Arms Control and International Security Affairs, released new regulations regarding the export licensing of communication satellites and technical data related to those satellites and launch vehicles. These regulations implement the requirements of Section 1513 of the National Defense Authorization Act of 1999 (P.L. 105-261) ("NDAA") and, as currently enforced, substantially effect the business practices of persons involved in the manufacture, export, temporary import, and brokering of defense articles and services related to

commercial satellites and space launch vehicles.

Export Policy 1988-1992

In 1988, President Reagan decided to permit the People's Republic of China ("PRC" or "China", for purposes of this paper) to launch U.S.-built commercial communications satellites. This decision was made in part to expand commercial relations with China, and to satisfy the growing demand of U.S. satellite builders to have domestic space launch choices. That year, the United States and China negotiated a bilateral technology safeguards agreement to help ensure that no significant missile or satellite technology was transferred to China. The following year, the countries signed an agreement under which China agreed to charge prices for launch services that are in line with those prices charged by other competitors for launch services and to launch nine U.S.-built satellites to geostationary orbit over the next five years.

From 1988 through 1992, all U.S.-built communications satellites were licensed by the Department of State under the Arms Export Control Act, as amended, (22 USC 2778, et. seq.) (the "Act"), which has been in effect since 1968. The Act specifically authorizes the President to control the export and import of "defense articles and defense services," such as arms, ammunition and implements of war, to protect U.S. national security and foreign policy. The Department of State administers the Act through ODTC by having implemented the International Traffic in Arms Regulations ("ITAR"). The ITAR contains a list, called the "Munitions

List" or "USML," of equipment and articles considered to be arms, ammunition or implements of war. Military and commercial satellites (USML Category XV) and launch vehicles (USML Category IV) have been on the Munitions List for many years. In addition, technical data related to satellite and launch vehicle design, development, manufacture, and operations are also on the Munitions List and regulated under ITAR. These controls extend to all technical data and assistance areas, including the integration of satellites to their launch vehicles.

Following the June 1989 student demonstrations and subsequent military intervention by the Chinese government in Tiananmen Square, President Bush imposed export sanctions on China. Soon thereafter, in February 1990, the U.S. Congress passed the Tiananmen Square sanctions law (P.L. 101-246) to curtail or suspend programs and activities, including satellite launches, with the PRC. These sanctions, however, were waived over the next two years by President Bush for the export of three U.S.-built satellites to be launched from China.

President Bush also directed a review, in late 1990, to transfer regulatory jurisdiction over certain dual-use items (i.e., those having both military and commercial applications) from the Department of State's munitions list to the Department of Commerce. As a result of this review, in October 1992, the Department of State issued regulations transferring jurisdiction of purely commercial communications satellites to the Department of Commerce. These regulations also

defined nine militarily sensitive characteristics that, if included in a commercial communications satellite, warranted continued licensing control by the Department of State. These nine characteristics were identified as satellites provided with military capabilities, including: (1) an electronic anti-jamming capability; (2) large antennas; (3) intersatellite relay links; (4) baseband processing; (5) encryption devices; (6) radiation-hardened devices; (7) certain propulsion systems; (8) pointing accuracy; and, (9) kick motors for boosting the satellite into higher orbits.

Export Policy Under President Clinton

From 1993 to 1996, the Department of State issued licenses and required monitoring of the launches in all but three commercial satellite exports. These three were licensed by the Commerce Department as purely commercial communications satellites.

During the Bush Administration (1989-1993), the U.S. satellite export policy followed established interagency procedures for the review of dual-use export licenses. The Clinton Administration continued this policy until it undertook a thorough review of the regulatory procedures.

This review culminated in the issuance of Executive Order No. 12981 in December 1995 by President Clinton. The Order established strict timelines for export license application processing and created a dispute resolution process for denied applications. It also established new requirements for Commerce to refer

all license applications to the Departments of State, Defense, and Energy, and the Arms Control and Disarmament Agency. On-site monitoring by the Department of Defense also was required for all launches of U.S.-built satellites by non-U.S. launch providers.

By March 1996, President Clinton had determined that all commercial communications satellites should be under the jurisdiction of the Department of Commerce. The Commerce Department had argued in favor of this transfer by positing that communications satellites are intended for commercial end use and therefore should not be considered munitions.

Manufacturers of satellites also supported the jurisdictional change and favored transfer of all commercial communications satellites from the USML to the Commerce Control List ("CCL"). They argued that continuing to categorize the satellites as munitions would significantly damage their industry by perpetuating delays and uncertainties in the State Department's export licensing procedures. The satellite manufacturers also expressed concern that, under Department of State jurisdiction, the satellites were subject to missile technology and national security restrictions which could result in denial of exports and to prolonged delay for Congressional notifications. The Department of Commerce was viewed by the satellite makers as more responsive to business concerns since Commerce had clearly established time frames and greater predictability in their export licensing process.

By the end of the year, the Clinton Administration approved the transfer of jurisdiction over all commercial communications satellites from the State Department to the Commerce Department. At the time, even the Department of Defense supported the transfer because it believed that procedural changes would ensure that U.S. national security would not be jeopardized, since limits were established to avoid the disclosure of technical information about militarily sensitive parts and components. Limitations also were established for technical data related to the integration of the satellite to the launch vehicle (primarily, because this technology could improve the performance and reliability of ballistic missiles and warhead dispensers).

From this change in 1996 in export control jurisdiction until March 1999, the export licensing process for commercial communications satellites was further streamlined. In particular, U.S. companies could export complete commercial satellites under one license grant from the Department of Commerce, even if some components of the satellite incorporated military technology. (These same components, however, would require a State Department license if exported separately and not as part of the completed commercial satellite.) The Commerce Department assumed control over limited "form, fit and function" technical data necessary to attach the satellite to the launch vehicle, while the Department of State retained other export controls over sensitive technical data and USML items. For example, the State Department retained control over the export of all launch vehicles; technical data and

assistance effecting the design, development, manufacturing and operation for all satellites (military and commercial); and all technical assistance which may be provided to a launch provider, including any launch failure analysis.

The role of partisan politics, it can be argued, was instrumental in bringing about the most recent shift in the export of commercial satellites. By 1998, some Republican Party members in the House of Representatives and the Senate were pursuing multiple allegations that had the potential for major political embarrassment for President Clinton. Some of the charges involved China and the unauthorized transfer of sensitive technical data related to satellites and launch vehicles. The Republicans asserted that the Clinton Administration had "gone soft" on China, despite sales of missile technology to Pakistan and continuing human rights violations directed from Beijing.

The Cox Committee Report

In 1998, the House Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China, a bipartisan investigative committee, was formed in the U.S. House of Representatives under the chairmanship of Congressman Christopher Cox (R-CA) to review the enforcement of the export control laws.

The Cox Committee also was formed as a result of allegations that the lax enforcement of the existing U.S. export laws had resulted in illicit exports of critical technology without appropriate governmental oversight or review. One

of the concerns investigated was whether U.S. national security had been compromised by the participation of U.S. manufacturers and missile experts in the launch failure investigations for launch events involving Long March rockets. Among its various findings, the unclassified report of the Cox Committee, released on May 25, 1999, concluded that:

- In 1993 and 1995, the Hughes Electronics Corporation wrongly provided information on rocket fairings and showed China how to improve the design and reliability of its Long March rockets.
- In 1996, Hughes Electronics Corp. and Loral Space and Communications Ltd. improperly revealed design and reliability improvements for the guidance system used in the Long March rockets.
- Dividing the licensing responsibilities for satellites between the Departments of State and Commerce permitted the loss of U.S. technologies to China.
- Physical security for U.S. satellites at Chinese launch sites was inadequate and allowed China to exploit numerous opportunities to obtain valuable, non-public design and manufacturing information about major satellite subsystems.
- U.S. export policies relying on corporate self-policing to prevent technology losses had not accounted for the risks posed by inherent corporate conflicts of interest, as urgent business priorities compete

with national security interests for the attention of corporate management.

Earlier this year, on January 3, 1999, the Cox Committee sent 38 recommendations to President Clinton and Congress. Some have already been implemented. The following is a summary of some of the recommendations effecting satellite launches:

- The US should insist that China adhere fully to the Missile Technology Control Regime (MTCR) and all applicable guidelines.
- The Executive Branch should initiate new legal requirements to report to Congress on technology transfers that raise proliferation concerns.
- The satellite export control provisions of the Fiscal Year 1999 Defense Authorization Act should be aggressively implemented.
- The Department of State should have sole export licensing authority over all satellites.
- The Department of State should have sufficient personnel and resources to process satellite export licenses and applications in a timely fashion. Exporters should be informed about the progress of their applications and have access to dispute resolution procedures.
- Congress should pass corrective legislation so satellite manufacturers are not disadvantaged in such collateral areas as tax credits.

- The Department of Defense should give high priority to recruiting, training, and maintaining a staff dedicated to monitoring foreign launches, and establishing and monitoring technology control plans.
- The Department of Defense, not satellite companies, should be responsible for security at foreign launches.
- The Department of Defense should ensure continuity of service by monitors – from satellite marketing through launch and if necessary, failure analysis. The Department of Defense should make service as a monitor an attractive career opportunity.
- The Department of Defense monitors should log all information authorized for transmission to China, including copies of documents transmitted. Such information should be transmitted quickly to the Departments of State and Commerce and the CIA.
- Export controls should be applied to communications involving insurers, as well as satellite manufacturers and purchasers.
- Congress should pass legislation to encourage further the expansion of U.S. launch capacity and stimulate competition.

The Committee also asserted that it is in the national security interest of the U.S. to discourage commercial exports to China, while protecting against the export of militarily sensitive

technologies. To that end, the Committee recommended that:

- The Export Administration Act, which had lapsed in 1994, should be reenacted with higher penalties for violations.
- A mechanism should be established to update on a continuing basis the technologies and items that are of greatest national security concern.
- With respect to those technologies of greatest concern, licensing procedures should be modified to provide for longer review periods and require a consensus by all reviewing agencies.
- For technologies that are not of greatest national security concern, current licensing procedures should be streamlined for greater transparency, predictability, and certainty.
- The Defense Production Act of 1950 should be amended to require all U.S. companies that conduct national security-related business to notify the Committee on Foreign Investment in the U.S. (“CFIUS”) of any planned merger, acquisition, or takeover by a foreign entity or a U.S. entity controlled by a foreign entity.

The End of Commerce’s Satellite Export Control Authority

The transfer of jurisdiction to the Department of Commerce was short lived. Because of concerns raised in the U.S. Congress that the Commerce Department was not adequately

scrutinizing satellite export licenses, and because it was felt that the Department of Defense did not have an adequate role in the Department of Commerce licensing process, Congress required in the NDAA that the licensing responsibility for commercial communications satellites be transferred back to the Department of State.

In addition, special export controls and approvals were implemented as requirements for launching U.S. satellites from or by countries other than NATO or major non-NATO allies of the U.S. The NDAA also requires mandatory licensing for launch failure investigations.

Pursuant to the NDAA, special export controls also are required for launch of U.S. satellites from or by countries other than NATO or major non-NATO allies of the U.S. The Act also requires mandatory licensing for launch failure investigations. Though the Commerce Department may be better suited for dealing with commercial satellite sales and exports because its licensing process is transparent and relatively quick, the Department of State has implemented procedures with no deadlines imposed and which often require Congressional notification.

The consequence of this chain of events is that the export controls in the U.S. have been tightened. The State Department's rigorous review system has contributed, according to various representatives of the U.S. space industry, to the annual loss of one billion dollars in sales, as customers may prefer to steer clear of the Department of State's red tape and take their business elsewhere. Export licenses have been

denied or severely constricted in situations in which routine approval would have been granted in the past. The processing of export license applications also has slowed to a crawl, with greater scrutiny being given to each application by the under-funded and under-staffed ODTC.

The New Department of State Export Regulations

In general, the ITAR restricts the export of Munitions List items, including technical data, unless a license has been obtained from ODTC prior to the export. In addition, discussions or services involving technical data require a special prior authorization which can be granted only if the parties submit a Technical Assistance Agreement ("TAA") to ODTC for review and approval by various offices within the Department of State, as well review by other U.S. government agencies such as the Department of Defense ("DOD"), NASA and branches of the military.

The new regulations, made effective on March 15, 1999, amended the ITAR (title 22 of the Code of Federal Regulations, parts 121 and 124) by re-designating commercial communications satellites and expanding the scope of items controlled on the Munitions List in several respects:

- All satellites (except the International Space Station) are now subject to ITAR;
- All ground stations for tracking, telemetry and control ("TT&C") of satellites are subject to ITAR;

- The definition of satellite components, parts, and accessories has been expanded to include: satellite fuel, ground support equipment, test equipment, payload adapter or interface hardware, replacement parts, and non-embedded solid propellant orbit transfer engines, and
- The definition of “technical data” under the ITAR has been expanded to include (for the first time): technical data provided to the launch provider on form, fit, function, mass, electrical, mechanical, dynamic, environmental, telemetry, safety, facility, launch pad access, and launch parameters, as well as interfaces for mating and parameters for launch.

The practical consequences of the expansion of the definition of technical data is that virtually any discussion between a U.S. launch services customer and a non-U.S. launch services provider must be covered by an approved TAA.

Special export controls also have been initiated by ODTC for the launch of U.S.-origin satellites and components from or by nationals of countries other than members of NATO (i.e., Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Turkey, the United Kingdom and the United States) or major non-NATO allies (i.e., Australia, Egypt, Israel, Japan, Republic of Korea, New Zealand, Jordan and Argentina).

These special export controls include the requirement that any application for a launch license must be accompanied by a

Technology Transfer Control Plan (“TTCP”) approved by the Department of Defense and an encryption technology control plan (“ETCP”) approved by the National Security Agency.

The TTCP must require any U.S. person or entity involved with the export to notify the Defense Department in advance of all meetings and interactions with any non-U.S. person that is a party to the export. Furthermore, the U.S. parties to the license must arrange and pay for the arrangements for Defense Department personnel monitoring the technical discussions and activities; satellite processing and launch activities; activities relating to launch failure delays, investigations and analyses; and all other aspects of the launch, including the review of all documents to be exported.

The TTCP generally provides a detailed description of the procedures to be used for shipping the satellite -- to ensure that only U.S. personnel have access to the satellite at all times -- and outlines the internal control procedures the U.S. entity will follow to prevent the disclosure of technology, except as may be authorized for the integration to the launch vehicle. The plan includes requirements for the presence of Department of Defense monitors from the Defense Threat Reduction Agency (“DTRA”) at technical meetings with officials of the importing entity. These requirements are intended to ensure that no technical information is exchanged that would improve foreign missile or re-entry vehicle dispensing capabilities.

Department of Defense monitors at the launch site are required to ensure that the physical security over the U.S.-origin

commercial satellite is maintained and to observe any on-site technical meetings between the U.S. and non-U.S. entities. To stem the transfer of missile or satellite technology, the Defense monitors perform their work in China, Russia and Kazakhstan under the terms of bilateral technology safeguards agreements. These agreements prohibit the transfer of technical data and the provision of technical assistance by U.S. companies (and prevents the other participants from seeking such data or assistance) and requires that launch services be monitored by U.S. government officials. Additional government controls may be exercised over technology transfers through conditions placed on export licenses issued by the respective governments.

The new regulations also impose mandatory licenses for exports to insurance providers and underwriters. As a result, all exports of technical data must receive prior licensing approval, and no exemptions are applicable in the case of insurance. Furthermore, no re-transfer of technical data may take place without the specific, prior approval of the Department of State.

Ramifications of the New U.S. Export Regulations on the Space Industry

The practices and procedures of the commercial space industry will require change to conform with these new ITAR requirements. In particular, Technical Assistance Agreements (“TAA”) must be submitted to the State Department and approved before U.S.-origin technical data on any given commercial satellite project can be exported from the United States. The parties to those TAA’s also

must commit to obligations that they will not retransfer any technical data to parties not included in the TAA. Special attention will have to be given to how information related to material changes are covered by the TAA and by the practices of the parties to the TAA. Participants must be careful, in particular, to avoid sharing information with analysts and insurers related to failures of parts and components common to multiple projects unless such exchanges have been previously authorized.

Participation in the information flow resulting from failure investigations also will require close examination. The Act requires mandatory licensing of launch failure investigations. Given the time pressures for the investigation results and the processing time of TAAs submitted to ODTC, advance planning for post-launch failures may need to begin well before the satellite is mated to its launcher.

Maxims for the Exchange of Information

While implementation issues are resolved and approved TAAs are in place for a given satellite project, manufacturing and launch service participants should bear in mind the following ITAR maxims:

- U.S. participants cannot send technical data to non-U.S. participants without a prior license.
- Non-U.S. participants who receive technical data pursuant to an approved TAA or license cannot share or discuss U.S. origin technical data with other persons without the

express approval of the U.S. Department of State.

- U.S. participants cannot engage in foreign launch or satellite failure investigations without an approved TAA and the results of that investigation cannot be shared with non-U.S. participants without prior approval by the U.S. Department of State.
- In the event of a launch failure, U.S. participants cannot submit claims to non-U.S. insurers and underwriters that contain U.S. origin technical data without the prior approval by the U.S. Department of State.
- U.S. participants should plan for a failure investigation in advance by submitting a TAA at least six months prior to launch.

Conclusions

It is stating the obvious that regulations governing the export of satellites and launch vehicles are important to protect the interests of national security, but could be improved in some manner. How to improve the rules is a much more complex problem, presenting significant challenges to the export control processes. For example, because the ITAR amendment involved a foreign affairs function, it was not subject to the normal U.S. administrative law procedures which allow for a public comment period prior to the adoption of final rules, nor is the Department required to take into consideration the comments of interested parties in adopting its regulations.

However, ODTC and DTRA have been open in the past (and every indication is that this will continue for the present) to engage in dialogue with the commercial space industry, and have been willing to find workable solutions to the export problems the industry may face.

Finally, while it may be important for the United States government to ensure that no technology is transferred that may improve other nations' indigenous ballistic missile and satellite capabilities, it is important to raise the concerns of the commercial space industry before the Congress (which has legislated these regulatory changes); to work with the offices and agencies that are empowered with implementing the export control system; and to make it as efficient as possible for the government and the commercial space industry.

For now, the commercial space industry must prepare for inevitable delays and uncertainties it will face in the U.S. export licensing process, and account for this new regulatory framework in the course of business planning.