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Operations

**TECHNOLOGY SAFEGUARD MONITORING
FOR FOREIGN LAUNCHES OF US
COMMERCIAL SATELLITES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 10-12, *Space*. It establishes the procedures, policy, and responsibilities for Air Force management of technology safeguard monitoring operations conducted by Air Force Space Command (AFSPC), Air Force Materiel Command (AFMC) and Air Intelligence Agency (AIA) during the planning and execution of foreign launches of US-built commercial satellites. It applies to AFSPC, AFMC, and AIA and defines responsibilities of involved Department of Defense (DoD) agencies. It implements direction contained in the President's policy directives authorizing specific foreign launches of US-built commercial satellites, Department of State export license provisos for each satellite program, and international agreements directed at minimizing technology transfer during the interactions required to plan and conduct these launches.

SUMMARY OF CHANGES

This issuance aligns the instruction with AFPD 10-12, *Space*.

1. Objectives of Technology Safeguard Monitor Program:

1.1. Objectives. The technology safeguard monitor program has two primary objectives.

1.1.1. The first objective is to support the US non-proliferation policy for space and missile technology (derived from the Missile Technology Control Regime), the International Traffic in Arms Regulations, and the US Munitions List.

1.1.2. The second objective is to encourage free and fair trade while maintaining the US commercial space launch industry's competitive edge in the international commercial space market, derived from the *Commercial Space Launch Act and National Space Policy Directives*.

1.2. Task Summary. The major DoD task areas include: (1) developing and coordinating provisos on export licenses for US-built space hardware being exported for processing and launch; and (2) monitoring technical interchanges, and processing and integration activities with the foreign launch

providers to limit the transfer of satellite design and manufacturing and launch processing philosophies and technologies.

2. Organizational Roles and Responsibilities:

2.1. Defense Technology Security Administration (DTSA). The DTSA roles are: (1) development and coordination of export license provisos; (2) development and coordination of Technology Safeguard Implementation Plans and related documents; (3) providing schedule information, authority, and training for Air Force monitors; (4) coordinating applicable travel arrangements for Air Force monitors; and (5) providing real-time guidance from the United States in response to monitors' requests while in foreign countries.

2.1.1. Export License Provisos. The US Department of State manages the export licensing process for items on the *US Munitions List*. For these items, including satellite hardware, the Department of State coordinates with DTSA to develop and coordinate provisos on these export licenses. DTSA is responsible for the following specific tasks:

2.1.1.1. In response to company requests for export licenses for items on the *US Munitions List*, DTSA develops and leads coordination through DoD of provisos specifying restrictions, limitations, and special conditions for export.

2.1.1.2. DTSA sends coordinated DoD proviso inputs to the Office of Munitions Control at the Department of State.

2.1.1.3. Department of State approves license provisos and resolves conflicts among recommendations from various government agencies. Once Department of State approves and issues the export license with its attendant provisos, DTSA's plan development role begins.

2.1.2. Technology Safeguard Implementation Plans. To outline the plan for enforcing the provisos on the export license, DTSA performs the following specific tasks:

2.1.2.1. For each satellite program with an export license, DTSA develops and leads coordination of a government Technology Safeguard Implementation Plan, obtains SECDEF signature, and forwards the plan to the US company holding the export license.

2.1.2.2. DTSA develops, coordinates, and obtains signatures on any required Memoranda of Agreement with foreign governments to document their intent to comply with the export license provisos and Technology Safeguard Implementation Plan.

2.1.2.3. DTSA sends the approved Technology Safeguard Implementation Plan to the US company holding the export license, the involved foreign governments, HQ USAF/XOF, and HQ AFSPC/DO.

2.1.2.4. As required by the export license provisos, DTSA oversees development and coordination of the plan documents (derived from the Government's Technology Safeguard Implementation Plan) produced by the US company holding the export license. These company-developed plan documents typically include a Technology Control Plan specifying documentation control procedures outside the United States, a Debris Recovery Plan outlining mishap recovery procedures, and a Transportation Plan specifying management of the controlled hardware and documentation during shipment to and from the foreign launch site.

2.1.2.5. Once the US satellite builder has developed these documents, DTSA leads inter-

agency review of these company-developed plans with the Department of State.

2.1.3. Technology Safeguard Monitor Training. DTSA is responsible for the following:

2.1.3.1. DTSA will provide copies of all appropriate documentation related to each mission requiring Air Force monitors to the Air Force office of primary responsibility, HQ AFSPC/DOP, 150 Vandenberg Street, Suite 1105, Peterson AFB CO 80914-4230.

2.1.3.2. DTSA will provide schedule information and formally task the Air Force (through HQ AFSPC) to provide monitors for any technical interchange meetings with foreign representatives required to build these company-developed plans.

2.1.3.3. DTSA will provide schedule information and formally task the Air Force (through HQ AFSPC/DOP) to provide monitors for foreign launch campaigns. (See paragraph 3.4. for a brief description of **launch campaign**.)

2.1.3.4. To support the Air Force's provision of qualified monitors, DTSA will provide a current copy of their *US Government User Guide* (generic technology safeguard monitor training) along with specific training, as required for unique program characteristics, for each technical interchange meeting (TIM) and launch campaign.

2.1.3.5. Following each TIM or launch campaign Air Force monitors will debrief DTSA and DTSA will update and maintain their *US Government User Guide* based on this information.

2.1.4. Limited Travel Arrangements:

2.1.4.1. Country Entry Requirements. DTSA will interface with the US satellite companies and the foreign launch provider to obtain invitation letters for US Government monitors traveling to the foreign launch provider country for TIMs and launch campaigns. This invitation is a prerequisite for obtaining an entry visa from the applicable foreign embassy.

2.1.4.2. Services in Kind Arrangements. DTSA will ensure that foreign governments or US companies holding export licenses agree to allow rotation of Air Force monitors according to Air Force plans. DTSA will ensure that US companies holding export licenses agree to arrange for Air Force monitors to receive the following **services in kind** directly while supporting TIMs and launch campaigns: (1) commercial airline tickets, passage on chartered flights, including non-reserved flights in the foreign country with cash-on-site requirements, and any other required travel (e.g., rail, rental car, etc.); (2) hotel rooms en route and at temporary duty locations, including TIM locations and launch sites; and (3) meals at hotels, meeting locations, and launch sites.

2.1.4.3. Other Direct Expenses. DTSA will ensure that US satellite companies reimburse the US Government for all direct expenses incurred by the US Government in providing technology safeguard monitor support.

2.1.5. Real-Time Guidance:

2.1.5.1. Initial Technical Interchange Meeting for New Program. For the first TIM associated with each new program, DTSA will provide one monitor, along with at least one Air Force monitor, to establish the ground-rules with all involved agencies. DTSA may provide one or two monitors at subsequent TIMs, as necessary, to accompany the two normally assigned Air Force monitors to work technology safeguard issues.

2.1.5.2. Contact List. In conjunction with the pre-travel training briefing, DTSA will provide each monitor with a phone list of appropriate contacts within the launch provider's country, within the US satellite company, within any involved foreign governments, and within DTSA. DTSA will make real-time determinations on technology safeguard questions in response to monitor requests while participating in TIMs or launch campaigns.

2.2. Headquarters, US Air Force Director of Forces (HQ USAF/XOF). HQ USAF/XOF provides Air Force direction and resources to the participating MAJCOMs. Specifically, HQ USAF/XOF will:

2.2.1. Provide formal direction to AFSPC, AFMC and National Air Intelligence Center (NAIC) (AIA) outlining the scope of involvement in monitoring foreign launches carrying US satellite technology.

2.2.2. Advocate POM requests from AFSPC, AFMC, and NAIC (AIA) for manpower and funding resources required for continued Air Force support of the technology monitor role.

2.3. Headquarters, Air Force Space Command (HQ AFSPC):

2.3.1. HQ AFSPC is the lead agency within the Air Force responsible for managing the provision of qualified, trained, properly equipped Air Force technology safeguard monitors for foreign launches carrying US satellite technology. Responsibilities include: (1) tasks related to this lead role; (2) arranging monitor training; (3) making travel preparations; and (4) requesting and managing resources required for this monitoring role.

2.3.1.1. Lead Role Responsibilities:

2.3.1.1.1. Define qualifications for technology safeguard monitors, solicit qualified monitors from HQ AFSPC, HQ AFMC, satellite system program offices, and AFSPC launch base field units; maintain a pool of qualified technology safeguard monitors.

2.3.1.1.2. Establish team composition and a monitor rotation schedule for each TIM and launch campaign. Coordinate with AFMC and appropriate field units to account for primary mission constraints, and task personnel from the pool to act as monitors for specific TIMs and launch campaigns.

2.3.1.2. Training Responsibilities:

2.3.1.2.1. Distribute orientation-level monitor training materials (e.g., DTSA's *US Government User Guide*) to monitors well in advance of travel to participate in TIMs or launch campaigns.

2.3.1.2.2. Distribute appropriate mission-specific documentation to monitors well in advance of the TIM or launch campaign.

2.3.1.2.3. Arrange training meetings and briefings from DTSA, AFOSI, and AIA to properly train and orient monitors before interfacing with foreign launch representatives and US companies.

2.3.1.3. Travel Preparations:

2.3.1.3.1. Ensure travelers have official passports and valid visas for entry into the foreign countries they will visit.

2.3.1.3.2. Ensure travelers have required immunizations for travel to the particular region of the world where the TIM or launch campaign will take place.

2.3.1.3.3. Ensure each unit makes standard and appropriate travel arrangements for each monitor.

2.3.1.3.4. Create, process, and send foreign clearance request messages IAW the DoD Foreign Clearance Guide.

2.3.1.4. Equipping Monitors:

2.3.1.4.1. Maintain and distribute to all monitors a list of appropriate items for foreign travel.

2.3.1.4.2. Ensure each monitor team has access to a personal computer to record daily log entries.

2.4. HQ AFMC and AIA:

2.4.1. Nominate Monitors. AFMC and AIA will provide qualified monitors for the pool maintained by HQ AFSPC and support their assignment to particular TIMs and launch campaigns. HQ AFSPC evaluation of the requirements for the specific monitoring task and DTSA and unit recommendations are the basis for monitor selection.

2.4.2. Ensure Training Attendance. AFMC and AIA will ensure their monitors are present for the required briefings, training sessions, TIMs, and all phases of the launch campaign, as assigned by AFSPC, within primary mission constraints.

2.5. AIA Orientation Briefings. AIA will provide orientation briefings to Air Force monitors as requested by HQ AFSPC. AIA briefs Air Force monitors on which areas of satellite and launch processing technology the foreign launch providers are most interested in obtaining from US satellite companies. Upon return from foreign launch sites, Air Force monitors will debrief AIA on foreign launch capability status and interests. AIA will present foreign technology baseline briefings to include: (1) missile, launch vehicle, and satellite systems; (2) technology deficiencies; (3) technology transfer priorities; and (4) past practices.

2.6. AFOSI Pre- and Post-Travel Briefings. AFOSI will brief Air Force monitors on the hostile intelligence threat they are likely to encounter while performing their duties.

3. Specific Technology Safeguard Monitor Tasks :

3.1. Technology Safeguard Monitors. Before and during TIMs, technology safeguard monitoring duties focus on controlling the disclosure of technical information related to US satellite design, testing, processing, and performance through documentation and discussion. During launch campaigns, monitor duties involve information control to include documentation review and control of discussions during meetings, operations oversight, and ensuring the adequacy of the US company's physical security measures.

3.2. Developing Documents from Export License Provisos. While DTSA has the lead role in developing and coordinating top-level, Government-developed documents (i.e., the export license provisos and Technology Safeguard Implementation Plan), Air Force monitors associated with each specific program will review and provide inputs to DTSA on behalf of the Air Force to help DTSA create and refine these documents.

3.3. Technical Interchange Meetings (TIM). Typically, TIMs focus on developing the company's specific technology safeguard plans (derived from the Government's Technology Safeguard Implementation Plan), Interface Control Documents, and coordinating launch base support.

3.3.1. Air Force monitors will attend all TIMs between US satellite builders and foreign country representatives to facilitate and verify their compliance with international memorandums of agreement, export license provisos, and the Government's Technology Safeguard Implementation Plan. Monitors may make real-time judgments on whether to allow the company to release information during meetings or decide to call DTSA for advice.

3.3.2. Before and after TIMs, monitors will review all documentation the US company proposes for disclosure to the foreign launch provider. Monitors will review all documentation prior to the meetings and provide recommendations to DTSA. DTSA will provide the official US Government response to the company's request for approval.

3.3.3. To help ensure continuity among all the monitors assigned to a satellite program, each monitor must submit a complete trip report to HQ AFSPC/DOP, 150 Vandenberg Street, Suite 1105, Peterson AFB, CO 80914-4230 within 10 work days after returning from each TIM. Trip reports must highlight all technology safeguard concerns raised during the meeting and must include a copy of all documentation exchanged between the US company and the foreign launch providers.

3.4. Launch Campaigns. A launch campaign is the period during which a launch site and a launch vehicle are prepared for a launch. This typically includes the delivery of the vehicle stages to the launch site, booster assembly, payload integration, and all other activities leading to launch.

3.4.1. Air Force monitors will be present during all phases of the launch campaign, beginning with securing the foreign facilities to be used in processing the US satellite hardware, through all aspects of hardware shipment outside the US, including contingency shipments. They provide oversight for all satellite processing activities, including countdown, launch, and receipt of initial on-orbit checkout information at the launch site.

3.4.2. Air Force monitors will ensure US design and manufacturing technology for ITAR and USML items is not compromised and that US satellite companies supply the foreign launch agents with the absolute minimum information necessary required to process and integrate boosters and satellites, and to launch the satellite. To accomplish this, monitors will provide the following:

3.4.2.1. Information Control. Monitors will control all technical discussions, approve all technical communications (e.g., telephone or Fax) to the US, and approve all documentation before release to ensure the US company does not disclose unauthorized technical information to the foreign launch provider.

3.4.2.2. Operations Oversight. Monitors will oversee all operations requiring foreign representatives to have visual or physical access to US controlled hardware, and ensure the US company takes appropriate measures to minimize the amount of technical information the foreign launch provider gains from this interaction.

3.4.2.3. Physical Security. Monitors will inspect, approve, and monitor the US company's physical security procedures for control of hardware and documentation during transportation and processing in the foreign country.

3.4.3. Monitors must verify that the US company has a coherent strategy and a detailed, documented, well-understood plan for every aspect of interaction between the US satellite company and the foreign launch providers, including thorough inventory lists of controlled documents and hardware in the foreign country.

3.4.4. The lead monitor for each launch campaign must maintain a complete daily log of events during the launch campaign. This daily log must include records of each meeting between the US company and the foreign launch provider, highlighting all decisions affecting technology security.

3.4.5. The lead monitor will report processing status and plans, along with technology safeguard problems and recommendations, to DTSA and HQ AFSPC at least once per week during the launch campaign.

3.4.6. The lead monitor will work directly with the US company's program manager to resolve technology safeguard problems. If a problem remains unresolved, the lead monitor may interact directly with the foreign launch providers to reach resolution. The lead monitor may send written memos to the US company's program manager or to the foreign launch providers' representatives to resolve technology security problems. However, in no case will any monitor co-sign any document with a foreign representative. The lead monitor will keep DTSA/TSP and the US embassy (and local consulates, if applicable) informed of all technology security problems and final resolution. The lead monitor must maintain complete, detailed, written records of all actions related to resolving technology security problems.

3.4.7. Within 45 days of returning to the US, each monitor must forward a copy of their paid travel voucher to DTSA/TSP, Room 210, 400 Army Navy Drive, Arlington, VA 22202.

4. Resource Requirements:

4.1. Manpower. To support this program while minimizing impacts to primary Air Force unit missions and to ensure sufficient flexibility to support monitoring mission requirements, HQ AFSPC will identify two to five qualified technology safeguard monitors for each satellite program, depending on the program's scope, complexity, and duration. HQ AFSPC will draw from the monitor pool to staff the monitor team with a mix of skills (i.e., acquisition, operations, foreign capabilities) and prior monitoring experience.

4.1.1. For each launch campaign (typically five to eight weeks), HQ AFSPC will ensure that two to four monitors are present at the launch site at all times. To accomplish this, HQ AFSPC will assign one lead monitor to remain at the foreign launch base for the duration of the mission, and will typically form two teams of two monitors each to accompany the lead monitor. Each team of two will be at the foreign launch site for about five weeks (nominally), plus a week of travel time for each team (counting both legs of the trip).

4.1.2. For each TIM, HQ AFSPC will assign two monitors from among those scheduled to participate in the launch campaign for that satellite program.

4.2. Funding. With services in kind arrangements in place with each satellite exporter, funding requirements will be minimal. Each monitor's unit will provide funding for: (1) TDY travel and per diem for training and debriefing trips to DTSA, NAIC (AIA), and AFOSI locations; (2) family separation allowances (when TDY exceeds 60 days); (3) per diem when US satellite companies do not provide meals as **services in kind**; and (4) incidental travel expenses (e.g., parking at or mileage to and from airports). DTSA will ensure US satellite companies reimburse the US General Treasury for

all TDY expenses incurred by technology safeguard monitors. To assist DTSA, each monitor must forward a copy of their paid travel voucher directly to DTSA/TSP highlighting all direct expenses associated with the TDY in addition to the **services in kind** provided by the US satellite company.

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Attachment 1

GLOSSARY OF ACRONYMS AND TERMS

TIM--Technical Interchange Meeting. Discussions between US satellite companies and foreign launch providers or foreign customers for the US satellite, where both sides discuss mission planning, system performance, satellite to booster interfaces, launch base operations, or other technical information related to the prelaunch processing or launch operations for the satellite program; typical duration is several days.

DTSA--Defense Technology Security Administration.

MTCR--Missile Technology Control Regime. A non-binding multi-national agreement (not a treaty) to limit proliferation of missile-related technology to other nations. The United States, Russia, and China are all signatories.

USML--*US Munitions List*. Section 121 of the International Traffic in Arms Regulation, listing US military hardware restricted from export without proper controls and limitations.

ITAR--International Traffic in Arms Regulation. A Department of Defense publication explaining rules on exporting military hardware.

AFOSI--Air Force Office of Special Investigations.

Attachment 2

HISTORY OF POLICY DEVELOPMENT

A2.1. Policy Development on Chinese Launches. In September 1988, President Reagan approved export of up to nine US-built commercial satellites for launch in the People's Republic of China, through 1994. At that time the President will reevaluate the policy. In October 1988, the Secretary of Defense accepted responsibility for: (1) technology and physical security training of US satellite companies exporting satellites for launch; (2) oversight of technology security in China and the United States; and (3) the technology safeguard monitoring role to verify that both the US company holding the export license and the foreign launch provider are complying with the Department of State export license provisos limiting technology transfer.

A2.2. Policy on Development on Russian Launches. In October 1992, the President approved the export of the US-built INMARSAT 3 satellite for launch by Russia, on an exception basis. In the spring of 1993, the US Trade Representative negotiated an agreement with Russia to allow their controlled entry into the world's commercial space launch market. Basic rules include: (1) up to eight Russian launches of US-built commercial satellites between 1993 and 2000; (2) not more than two Russian launches per year; and (3) a lower limit on Russian launch service pricing, requiring their bids to be within 7.5 percent of the next lowest bid from a US or European commercial launch provider. This agreement also allows for case-by-case treatment of Russian bids for launches of US-built satellites in the emerging market segment using low earth orbit for a variety of applications.

A2.3. Defense Technology Security Administration (DTSA). In September 1991, ASD(ISP) requested the Secretary of the Air Force assume management responsibility related to the technology safeguard monitor role, including developing export license provisos and Technology Safeguard Implementation Plans. However, SAF/AQS recommended DTSA retain responsibility for developing export license provisos and implementation plans, because both require coordination with the Department of State, Department of Commerce, and other Washington DC area agencies.

A2.4. US Air Force. In January 1992, DTSA, SAF/AQ and SAF/SN agreed that HQ AFSPC would coordinate overall Air Force technology safeguard monitor activities. The agreement directed AFSPC and AFMC to identify, train, and equip qualified technology safeguard monitors for future satellite programs. The National Air Intelligence Center (NAIC), Air Intelligence Agency (AIA), has subsequently agreed to also provide technology safeguard monitors. Since Aug 90, AFSPC has identified groups of technically qualified officers for monitor duties, developed and conducted orientation and training sessions, equipped technology safeguard monitors before trips to foreign space launch bases, and coordinated monitor assignments with DTSA, AFMC Space and Missile Systems Center (SMC), and NAIC (AIA) to support Chinese and Russian launches of US-built commercial satellites.