BY ORDER OF THE COMMANDER
AIR FORCE SPACE COMMAND

AIR FORCE SPACE COMMAND
INSTRUCTION 10-1204

1 JUNE 2006

Operations

SATELLITE OPERATIONS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 10-12, ***Space***, Air Force Instruction (AFI) 10-1201, ***Space Operations*** and United States Space Command Policy Directive (UPD) 10-39, ***Satellite Disposal Procedures*** (UPD 10-39 is being updated to a Strategic Command Directive (SD))**,** by establishing guidance and procedures for satellite operations and disposal. It applies to Headquarters Air Force Space Command (HQ AFSPC) and all subordinate units utilizing dedicated satellite control assets or common use and/or unique resources of the Air Force Satellite Control Network (AFSCN), except for Royal Air Force (RAF) Telemetry and Command Squadron (TCS), Oakhanger. This instruction applies to Air National Guard (ANG) and Air Force Reserve Command (AFRC) units with satellite control responsibilities. Submit changes to HQ AFSPC/A3F, Global Space Operations Division, 150 Vandenberg St., Ste 1105, Peterson AFB CO 80914-4250. If there is a conflict between this instruction and unit, contractor or other major command publications, this instruction applies. Maintain and dispose of records created as a result of prescribed processes in accordance with Air Force Records Disposition Schedule (RDS) which may be found on-line at **https://afrims.amc.af.mil**.

The previous Air Force Space Command Instruction (AFSPCI) 10-1204, dated 1 September 1998, was rescinded in 2001. The rationale was that the direction provided by this document was encompassed in other Air Force Pamphlet (AFPAM), AFI, UPD and numbered AF instructions. A review found this not to be the case and AFSPCI 10-1204 is being updated and reissued to provide Major Command (MAJCOM) direction on satellite operations to subordinate units. All references to USSPACECOM have been deleted and replaced with USSTRATCOM. USSTRATCOM references are subject to change pending final operational structure decision by Commander, United States Strategic Command (CDRUSSTRATCOM).

1. Air Force Space Command (AFSPC) Responsibilities. AFSPC provides satellite control support to various Department of Defense (DoD), National and civil agencies and is responsible for organizing, training and equipping the satellite control infrastructure. The AFSPC/CC provides operations policy and guidance to the Numbered Air Forces (NAFs), Centers, and Space Wings (SWs) through the HQ AFSPC/A3.

1.1. **Directorate of Manpower and Personnel (HQ AFSPC/A1):** Acts as focal point for manpower issues for Space Operations Squadrons (SOPS) and Space Warning Squadrons (SWS).

1.2. **Directorate of Air, Space and Information Operations (HQ AFSPC/A3):**

1.2.1. Develops and provides command doctrine, policy, requirements and guidance for satellite telemetry, tracking and commanding (TT&C); operation and command and control (C2) of the Air Force Satellite Control Network (AFSCN) and dedicated AFSPC satellite control resources; configuration control and reporting.

1.2.2. Provides resource management to include funding advocacy for operations, maintenance, modernization and new programs.

1.2.3. Establishes training and standardization evaluation policy and guidance IAW AFSPCI 10-1202, ***Crew Operations***, and AFSPCI 36-2202, ***Mission Ready Training, Evaluation and Standardization Programs***.

1.2.4. Ensures standardization across the command for implementation of command policies and requirements.

1.2.5. Maintains System Operations Protection Guides (SOPG) for each operational AFSPC space program, including satellite control networks.

1.2.6. Develops policy and guidance for MAJCOM testing of satellite systems and second oversight [Space Innovation and Development Center (SIDC) provides primary oversight] of MAJCOM Operational Testing (OT) of space systems IAW AFSPCI 99-101, ***Operational Test and Evaluation (OT&E) for Space and Intercontinental Ballistic Missile Systems***.

1.2.7. Develops, reviews and modifies Designed Operational Capability (DOC) statements.

1.2.8. Develops Functional and Enabling Concepts in support of operations.

1.2.9. Develops program specific Memorandums of Agreement (MOA) with non-AFSPC system operational management agencies responsible for individual satellite programs.

1.2.10. Reviews monthly Status of Resources and Training System (SORTS) reports for changes in unit capabilities and readiness and provides assistance to units as required.

1.2.11. Prepares and sends Status of Air Force Assets (classified) messages to Space and Missile Systems Center/Comptroller (SMC/FM) each fiscal quarter.

1.2.12. Manages newly delivered systems from Initial Operating Capability (IOC) to Final Operational Capability (FOC), and through end of system life. AFSPC/A3, per input from A3 divisions responsible for space systems, recommends FOC to AFSPC/CC/CV.

1.2.13. Advocates for necessary resources to allow operational units to support upgrade or implementation of new systems, while continuing to conduct legacy missions.

1.3. **Directorate of Logistics and Communications (HQ AFSPC/A4/6):**

1.3.1. Establishes maintenance data collection policy and procedures.

1.3.2. Establishes maintenance status and inventory reporting policy and procedures.

1.3.3. Establishes system maintenance criteria to support mission requirements (i.e., ground-based hardware and software).

1.3.4. Establishes computer and communications management policy and guidance.

1.3.5. Implements configuration control procedures for satellite communications systems.

1.3.6. Establishes sustainment policy and procedures for hardware and software supporting mission requirements.

1.3.7. Establishes procedures for collecting and evaluating communications systems metrics pertaining to hardware and software. Uses this data to advocate upgrades, changes and enhancements to mission equipment.

1.3.8. Establishes and manages the policy and procedures for the communications planning tools supporting the Control Segment of the Milstar and follow-on Extremely High Frequency (EHF) Satellite Communication (SATCOM) systems.

1.3.9. Establishes policy and procedures for obtaining supplies and materiel if the method of support established by the acquisition process is organic.

1.4. **Directorate of Plans and Requirements (HQ AFSPC/A5):**

1.4.1. Develops and processes or manages all appropriate command operational capability requirements documents, (e.g., Mission Needs Statement (MNS)/Initial Capabilities Document (ICD), Operational Requirements Document/Requirement Correlation Matrix (ORD/RCM), Capabilities Development Documents (CDD)/Capability Production Documents (CPD), etc.).

1.4.2. Incorporates all MAJCOM space capability requirements into specific requirements documents (ICD/ORD/CDD/CPD/MNS or AF IMT 1067, **Modification Proposal**) as appropriate.

1.4.3. Supports Air Force Operational Test and Evaluation Center (AFOTEC) and MAJCOM-conducted Operational Test and Evaluation (OT&E).

1.4.4. Ensures future satellite designs include a disposal capability pursuant to the operational regime and disposal requirements outlined herein.

1.4.5. Manages newly delivered USAF space mission systems until Initial Operational Capability (IOC), after which responsibility is transferred to HQ AFSPC/A3.

1.4.6. Advocates for Space Wing (SW) to be provided fully resourced system prior to IOC including test systems, training, hardware, and personnel.

1.4.7. Advocates for SW to be provided fully resourced system at IOC, including operational equipment, training systems, Instructional System Design (ISD) compliant deliverables, and executable sustainment programs.

1.4.8. Validates and approves new program requirements, deficiencies and Improvement and Modernization (I&M) requirements provided by the Wings.

1.5. **Directorate of Strategic Plans, Programs, Analyses, Assessments, and Lessons Learned (HQ AFSPC/A8/9):**

1.5.1. Provides advocacy and planning for space system capabilities leading to requirement validation and system acquisition and modification.

1.5.2. Acts as focal point for program objective memorandum advocacy and submission.

1.5.3. Acts as focal point for international policy and foreign disclosure for satellite operations.

1.5.4. Acts as focal point for unit activation/deactivation, Program Plans, basing and realignment issues.

1.6. **Directorate of Financial Management and Comptroller (HQ AFSPC/FM):**

1.6.1. Develops the command financial plan based on inputs from HQ AFSPC directorates and subordinate units.

1.6.2. Distributes available funding to subordinate units in accordance with command priorities.

1.7. **Directorate of Safety (HQ AFSPC/SE):**

1.7.1. Develops, processes or manages all appropriate command mishap prevention instructions including system safety and developmental/operational test safety.

1.7.2. Incorporates all MAJCOM space safety requirements into specific requirements documents (ICD/ORD/CDD/CPD/MNS or AF IMT 1067, Modification Proposal) as appropriate.

1.7.3. Responsible for safety assessments of taskings to 14AF, Space and Missile Systems Center (SMC), Space Innovation and Development Center (SIDC) and SWs for each space system supported or operated by AFSPC.

1.7.4. Develops and maintains safety procedures and criteria for supporting Operations Review Boards (ORBs).

1.7.5. Provides safety assessments for disposal recommendations to AFSPC/CC for satellites that no longer serve an operational role.

1.7.6. Develops safety assessments for operational concepts for Collision Avoidance (COLA), Radio Frequency Interference (RFI) reporting and resolution, and defensive counterspace efforts.

1.7.7. Supports development and maintenance of collision avoidance procedures. Coordinates with subordinate units on close approaches and conjunction assessment.

1.8. **Fourteenth Air Force (14 AF/CC):**

1.8.1. Translates theater space support requirements into mission support priorities for allocation of satellite command and control resources. Provides operational guidance to Space Wings (SWs) pertaining to prioritization of satellite command and control in support of theater operations, routine and emergency satellite relocation, operational status changes and disposal actions.

1.8.2. Responsible for operational taskings to the SWs for each space system supported or operated by AFSPC.

1.8.3. Develops procedures and criteria for convening Operations Review Boards (ORB).

1.8.4. Provides notice of Satellite Control Authority (SCA) transfers to the AFSPC Command Center. Provides written notice of SCA transfers, when appropriate, to HQ AFSPC/A3, 150 Vandenberg St., Ste 1105, Peterson AFB CO 80914-4170.

1.8.5. Makes disposal recommendations to AFSPC/CC for satellites that no longer serve an operational role.

1.8.6. Develops operational concepts for all systems operated and maintained, including ground mobile assets (e.g., Milstar Ground Mobile (GM)-3, Defense Support Program Mobile Ground System (DSP MGS), etc.) in their contingency role describing deployment and support issues.

1.8.7. Develops operational concepts for COLA, RFI reporting and resolution, and defensive counterspace efforts.

1.8.8. Ensures tactics, techniques, and procedures, mishap prevention and space system safety, and policies are standardized among like operational wings.

1.9. **Space Wings (SW/CC):**

1.9.1. Develop and submit financial plans to AFSPC/FM, and identify capability shortfalls and requirements to AFSPC/A5.

1.9.2. Plan for and provide, per individual mission/program Program Requirements Documents (PRDs), continuous satellite operations at all levels of conflict.

1.9.3. Ensure compliance with operational reporting requirements.

1.9.4. Review, approve and execute maintenance programs in compliance with maintenance policies.

1.9.5. Identify, review, approve, prioritize and forward deficiencies, improvement and modernization requirements and new mission capability requirements to HQ AFSPC using the chain of command.

1.9.6. Support HQ AFSPC planning and resourcing of units performing legacy missions, space system upgrades, and operating new Command and Control (C2) and satellite systems.

1.9.7. Implement the configuration control program to ensure compliance with HQ AFSPC and Headquarters Air Force Materiel Command (AFMC) directives and/or agreements. Develop operational configuration control procedures.

1.9.8. Develop procedures to interface with satellite mission users/operators and other external agencies.

1.9.9. Ensure operational procedures and policies are standardized among like operations units.

1.9.10. Implement operations security (OPSEC) procedures according to AFPD 10-11, ***Operations Security***.

1.9.11. Develop supporting plans to 14 AF Operations Plans (OPLAN).

1.9.12. Delegate SCA to appropriate units for day-to-day operations.

1.9.13. Ensure units relinquishing SCA provide the expected transfer duration, current spacecraft operational configuration, schedule of planned supports and other spacecraft maintenance activities, operational documentation as required and 24-hour points of contact for engineering and technical assistance to the accepting squadron or organization.

1.9.14. Ensure gaining and losing units record date and time of SCA transfers and names of authorizing officials in permanent operations logs. Forward SCA notification to 14 AF.

1.9.15. Develop supporting plans and procedures for COLA and RFI conflicts including coordination, resolution, and reporting.

1.9.16. Supplement this instruction with local instructions as necessary.

1.10. **Space and Missile Systems Center (SMC/CC):**

1.10.1. Develops/acquires and tests new space systems capabilities before turnover to AFSPC operational units.

1.10.2. Provides sustainment and depot level maintenance of space systems operations hardware and software In Accordance With (IAW) Integrated Weapon System Management (IWSM).

1.10.3. Provides technical advisors, as required, to support satellite and launch operations.

1.10.4. Conducts Research, Development, Test & Evaluation (RDT&E) satellite operations.

1.10.5. Provides transportable assets to support space systems operations, including factory compatibility testing.

1.10.6. Provides test and calibration support for on-orbit assets (e.g., Camp Parks Communications Annex (CPCA)).

1.10.7. Supports transition of RDT&E space assets to operational units as required and end of life test support.

1.10.8. Provides expertise and resources for development and testing of new satellite control ground systems (e.g., Center for Research Support).

1.10.9. Coordinates with HQ AFSPC and SW to ensure SW units required to support new space system tests and development have the necessary resources to support test and development efforts.

1.10.10. Develops and submits financial plans to AFSPC/FM and identify new program requirements to AFSPC/A5.

2. Command, Control and Management. The Unified Command Plan (UCP) establishes USSTRATCOM as the functional unified command for space. Commander, USSTRATCOM (CDRUSSTRATCOM) has Combatant Command (COCOM) authority of all space forces assigned and attached. CDRUSSTRATCOM has delegated Operational Control (OPCON) for assigned space forces to Joint Functional Component Commander, Space and Global Strike (CDR JFCC SGS). Tactical control (TACON) of space forces is executed by the Commander, Joint Space Operations (CDRJSO). The 14 AF/CC is dual-hatted with the role of CDRJSO, and executes TACON through the 14 AF Air and Space Operations Center (AOC), which has been assigned the Joint Space Operations Center (JSpOC) mission. The SWs will execute space operations to fulfill mission requirements, as directed by 14 AF/CC or CDRJSO.

3. Operations. AFSPC's satellite control mission is to provide pre-launch; launch, deployment and early orbit checkout; anomaly resolution; operational TT&C; mission operations; end-of-life operations and disposal support to all assigned space systems.

3.1. **Normal Operations.** The SWs will develop procedures for the following:

3.1.1. Operate space systems, including satellite vehicle (SV) and associated satellite control assets, according to Higher Headquarters (HHQ) direction.

3.1.2. Perform pre-launch SV command and telemetry compatibility checkout. Provide additional support for all planning efforts leading to launch phase.

3.1.3. Provide mission readiness assessment to Spacelift Commander (SLCC) for all SW activities and resources supporting launch operations.

3.1.4. Support launch operations as required, including tracking and monitoring the SV while attached to the launch vehicle through boost and operations checkout. Assume SCA from the launch SW or SMC and control the SV through deployment and early orbit checkout.

3.1.4.1. Assume SCA from the launch wing or SMC at different points during launch or test and checkout depending on the satellite program requirements. Refer to individual satellite program requirements.

3.1.5. Conduct on-orbit Telemetry, Tracking and Commanding (TT&C) operations to evaluate SV status and conduct payload operations as required. These activities include prescribed command and control, tracking, telemetry readouts, mission data recovery, repositioning maneuvers and station keeping functions throughout the useful life of the SV.

3.1.6. Develop procedures to monitor the status of each subsystem and maintain and analyze available SV telemetry throughout the useful life of each SV. Analyze data to detect trends, degradation or anomalies and develop procedures and recommend changes to minimize the effects of anomalies.

3.1.7. (50 SW) Provide AFSCN Common User Network services and support to Air Force, DoD, National Aeronautics and Space Administration (NASA), Civil and other authorized users. Plan and execute user access to network assets (e.g., processors, communications, antennas).

3.1.8. Develop tactics, techniques, and procedures consistent with user requirements.

3.1.9. Conduct space system anomaly and trend analysis in accordance with HQ AFSPC/A3 direction and System Program Office (SPO) Orbital Operations Handbooks (OOH).

3.1.10. Develop tactics, techniques, and procedures for detecting and characterizing indications of potential hostile action taken against space systems (i.e. ground, communications and space segment). Identify actions that can be taken to mitigate effects of an attack.

3.2. **Contingency Operations.** The SWs will develop procedures to conduct contingency operations for the following:

3.2.1. Operate and correct malfunctioning SVs and ground systems consistent with technical guidance provided by the SPOs, responsible or authorized external agencies and SV and ground system contractors. The procedures will address correcting or mitigating the impact of failures, including "safing" the SV (i.e., ensuring the SV does not further damage itself). These procedures will also include actions aimed at maximizing on orbit SV capabilities while minimizing risk to SV health. All anomalies will be evaluated for indications of intentional hostile action as part of the initial response to resolve the anomalies.

3.2.2. Use of SVs to maximize support to tactical and strategic units in the event of hostilities interrupting routine capability to meet mission requirements.

3.2.3. Establish threat and intrusion detection procedures. Perform routine analysis of space systems telemetry to detect and report suspected or actual space system Electromagnetic Interference (EMI) in a timely manner. The defensive counterspace efforts will significantly contribute to situational awareness and resource protection.

3.2.4. Establish collision avoidance procedures. Identify close approaches and coordinate with Space Control Center (SCC)/1st Space Control Squadron (SPCS) for conjunction assessment. Determine Course of Action (COA) and implement approved COA as directed by 14 AF.

3.3. **Backup Satellite Control.** Provide continuity of operations for SV control in accordance with the AFSPC CONOPS for Satellite Operations, Appendix C "Backup Operations," in the event of natural or man-made disasters at the primary Satellite Operations Centers (SOC).

3.3.1. Backup control capabilities (telemetry, tracking and commanding (TT&C) for satellite platforms, payloads and scheduling) will be established and function until primary control capabilities are restored following these guidelines:

3.3.1.1. This capability includes the necessary communication links, TT&C, maneuverability, reconfiguration, launch operations (Global Positioning System (GPS) only) and anomaly resolution actions. Backup Satellite Operation Centers (BSOCs) are not intended to mirror the full capability of the primary operation centers. However, backup communication links should have the same capability as the primary communication link.

3.3.1.2. Given the loss of the primary operations facility or communications link, backup resources will assume responsibility for conducting routine operations, anomaly resolution and/or contingency operations. Although the actual responsiveness required will vary with specific mission requirements, procedures and data bases must be ready to implement with sufficient responsiveness to preclude lasting impact to mission capability. Facilities must be able to sustain indefinite operations for reconstitution time of the primary space operation center(s).

3.3.1.3. Geographical separation should be sufficient to prevent simultaneous degradation to both a prime and backup capability that could degrade mission capability from the occurrence of a man-made or natural threat event (e.g. terrorist attack, tornado, earthquake, etc.).

3.3.2. Backup communication control node capabilities of the Air Force Satellite Control Network (AFSCN) will be established and function until primary control node communications capabilities are restored following these guidelines:

3.3.2.1. Provide for full primary and additional communications services to assure operator connectivity to all elements within the ground segment of the Satellite Control Network.

3.3.2.2. Given the loss of the primary control node facility, backup control node communications must be maintained in a "Hot' condition able to immediately assume responsibility for conducting TT&C, anomaly resolution and/or contingency operations.

3.3.2.3. Geographical separation should be sufficient to prevent simultaneous degradation to both the prime and backup Operational Control Nodes that could degrade mission capability from the same man-made or natural threat (e.g. single point of failure, severe weather, terrorist attack or earthquake).

3.3.3. While not required, it is desirable for backup capabilities to be organic AFSPC units in order to take advantage of the synergy gained from mutual support.

3.3.4. Wings will develop tactics, techniques and procedures to describe a complete vision of satellite control backup capability.

3.3.5. HQ AFSPC/A3 will develop designed operational capability (DOC) statements for each backup control capability IAW AFI 10-201, ***Status of Resources and Training Systems***, and an annex to the Concept of Operations for Satellite Operations Mission, on backup satellite control.

3.4. **Satellite Disposal.** The objective of satellite disposal is to reduce the potential for spacecraft collisions and frequency interference, to mitigate the creation of additional space debris and to open orbital slots to newer SVs. Therefore, de-orbiting or removing a non-mission capable satellite from its operational orbit and placing it into an established disposal region is of paramount importance. As a satellite approaches the end of its operational life, each SW will ensure every satellite maintains its disposal capability. This includes assured commanding and sufficient fuel to reach the disposal region. All efforts and actions will be geared towards the objective of de-orbiting or removing a satellite from an operational orbit to an orbit of non-interference. This instruction shall also be used as guidance for disposal of Research and Development (R&D) satellites. Authority to dispose of satellites over which CDRUSSTRATCOM exercises Combatant Command (COCOM) is outlined in Chairman Joint Chiefs of Staff Instruction (CJCSI) 6250.01B and Presidential Decision Directive (PDD) National Security Council (NSC)-48/National Science & Technology Council (NSTC)-8, ***National Space Policy***. AFSPC/CC makes disposal decisions for satellites that no longer serve an operational role and USSTRATCOM makes disposal decisions for satellites that have an operational role. **See Attachment 2.**

3.4.1. **HQ AFSPC/A3/SE:** Will coordinate on all recommended disposal actions prior to the SW taking any disposal actions.

3.4.2. **14 AF:**

3.4.2.1. Acts as Satellite/SATCOM System Expert (SSE) for DSP, GPS and Milstar. Approves criteria for identifying satellites as non-mission capable, and forwards the criteria to USSTRATCOM through HQ AFSPC. Coordinates with Space and Missile Defense Command/Army Strategic Command (SMDC/ARSTRAT), Wideband Consolidated SSE, for identifying wideband satellites, Defense Satellite Communications System (DSCS), Global Broadcast Service (GBS), and Wideband Gapfiller Satellites (WGS) as non-mission capable.

3.4.2.2. Requests, through HQ AFSPC/A3 and SIDC to develop and manage any end-of-life tests or other test activities prior to satellite disposal, as required.

3.4.2.3. Declares satellites non-mission capable once a satellite meets approved criteria and forwards a disposal recommendation to AFSPC/CC. At a minimum, the recommendation will include the disposal criteria that are being met, means of disposal, and the projected date of disposal.

3.4.2.4. Develops and provides USSTRATCOM and HQ AFSPC/A3 with a plan of action and timeline for satellite disposal to include end-of-life testing requirements as required, test and checkout and disposal orbit or other disposal means, and any safety considerations.

3.4.2.5. In the case of an emergency situation where the decision process for the safe disposal of a satellite must be expedited, request immediate disposal from USSTRATCOM; include

Joint Staff/J6 and J3 for Military Satellite Communication (MILSATCOM) programs. Information copy HQ AFSPC/A3F on all messages.

3.4.3. **Space Wings:**

3.4.3.1. Place satellites designated for disposal in a position (slot/plane/orbit) of non-interference with existing systems or de-orbit. SWs will consider operational orbit contamination, radio-frequency interference and future constellation development. The guidelines do not preclude any end-of-life testing deemed necessary either prior to de-orbit, or prior to or following the boost into a disposal orbit.

3.4.3.1.1. Properly safing the bus and all payloads is a critical step in the disposal process. The SWs will deplete all spacecraft fuel to the maximum extent possible, disable all spacecraft battery charging systems, stabilize the spacecraft in a neutral thermal flight mode (slow spin for most) and, when appropriate, disable transmitters. Safing the satellite takes precedence over all other disposal actions.

3.4.3.1.2. Shall remove non-mission capable vehicles from operational orbits in accordance with UPD 10-39, ***Satellite Disposal Procedures***. UPD 10-39 is being updated to a Strategic Command Directive (SD).

3.4.3.2. Develop and forward program-specific disposal criteria for non-mission capable satellites to 14 AF for approval. As a minimum, these criteria will include on-board fuel estimate, fuel consumption, fuel requirements for disposal actions, the ability of the bus to support the payloads, payload capability and capacity (including secondary payloads), vehicle command/control capability, vehicle power capacity, disposal maneuver requirements, and operational safety considerations. For satellites that will deorbit, provide an analysis detailing probability, make-up and size of any object surviving reentry. AFSPC SSEs will develop and forward program specific disposal criteria after coordination with other platform and payload operations users, to USSTRATCOM.

3.4.3.3. Monitor satellite capability criteria as part of normal operations.

3.4.3.4. Submit specific deorbit or post-maneuver vectors to 14 AF before disposal for approval of reentry locations and/or orbital safety screening for possible conjunctions.

3.4.3.5. Joint Space Operations Center (JSpOC) will be contacted in an emergency situation where the decision process for the safe disposal of a satellite must be expedited.

4. R&D System Transition. Emerging technologies allow us opportunities to quickly acquire advanced technology sensors, satellites, intelligent subsystems and threat avoidance systems on R&D space and ground systems. All systems capability assessments, transitions, integration and sustainment will follow an accelerated acquisition process utilizing a five-step approach: Data collection, Decision, Planning, Implementation and Operation. Decisions to transition these systems will be made by HQ AFSPC/A3 based on validated requirements not met by existing systems, funding availability, and any limitations. All agencies are empowered to identify potential R&D systems to HQ AFSPC/A3. Once operational, new systems will follow established (traditional) acquisition, integration, program management and testing standards (when applicable).

4.1. **HQ AFSPC/A3:**

4.1.1. Assesses requirements and evaluates viability of proposed R&D system to fulfill operational requirements.

4.1.2. In conjunction with the SW, develops a transition plan to integrate command and control systems to the assigned space wing and develop crew training, evaluation and operational procedures in preparation for normal operations.

4.1.3. Coordinates with 14 AF and SMC to transition new systems, components or capabilities to operations.

4.1.4. Allocates funding and identifies funding requirements through system life cycle prior to system acceptance. Ensures new taskings are within the scope of the intended unit's DOC statement. If required, amends DOC statement. Ensures new systems are sustainable through logistics and maintenance infrastructure.

4.1.5. With coordination from AFSPC/JA, performs legal assessment (space treaty, environmental, etc.) on proposed system to preclude inheritance of problems and AFSPC liability.

4.1.6. Develops transition plan to include test and evaluation, and mishap prevention and/or system safety requirements.

4.1.7. Prepares custody documentation to record transfer and/or acceptance of hardware and software.

4.1.8. Ensures availability of appropriate command, control and system integration documents to support transition of new systems, components and capabilities.

4.1.9. Develops or acquires appropriate Interface Control Documents (ICD) to support new systems, components and capabilities.

4.1.10. Identifies system requirements, e.g., hours of support required per day, specialized payload requirements, scheduling requirements, ground system equipment configurations, disposal criteria, etc.

4.1.11. Coordinates transition plan of new system with losing agency (SMC, Missile Defense Agency [MDA], etc.) prior to delivery to 14 AF.

4.1.12. Certifies new system data processing and products for integration into established, mission certified processing systems (as required).

4.1.13. Requests HQ AFSPC/A1M assistance to validate manpower requirements at least two years prior to and in line with the command's budget submission for the year of transition to the new system, components or capabilities.

4.1.14. Recommends use of existing operations units and resources to perform Operational Testing of R&D assets.

4.1.15. Coordinates with AETC for training and throughput requirements.

4.2. **HQ AFSPC/A5:**

4.2.1. Develops and processes all appropriate command operational capability requirements documents for Advanced Concept Technology Demonstrations (ACTDs) and Advanced Technology Demonstrations (ATDs).

4.2.2. Consolidates MAJCOM space system capability requirements into specific ACTD or ATD proposals, as appropriate.

4.2.3. Supports Air Force Research Laboratory or Space Battle Lab conducting demonstrations.

4.2.4. Provides advocacy for space system ACTD and/or ATD requirements and funding.

4.2.5. Coordinates with 14 AF to transition ACTD/ATD leave behind systems, components or capabilities to operations.

4.3. **HQ AFSPC/SE.**

4.3.1. Provides advocacy for space safety requirements and funding.

4.3.2. Assesses risk of introducing R&D data into established, mission-certified processing systems.

4.4. **14 AF:**

4.4.1. Provides criteria for operational assessment and viability of proposed R&D system to HQ AFSPC.

4.4.2. Provides assessment of proposed R&D system's ability to meet USSTRATCOM requirements levied on HQ AFSPC.

4.4.3. Supports Operational Testing to assess the impact of accepting the R&D asset.

4.4.4. Ensures new systems, components or capabilities are integrated into wartime missions and taskings.

4.4.5. Declares operational and notifies USSTRATCOM through HQ AFSPC.

4.5. **Space Innovation and Development Center (SIDC):**

4.5.1. Provides technical assessment of proposed R&D system viability and Operational Testing as required to support operational acceptance decisions.

4.5.2. Supports integration into the gaining unit.

4.5.3. Determines compatibility and assesses risk of introducing R&D data into established, mission-certified processing systems.

4.6. **Space Wings:**

4.6.1. Develop crew operations procedures and appropriate Operations Instructions (OIs). Ensure units develop and manage operations, training, standardization, evaluation and crew force management programs as required to support the new space systems, components or operational capability, IAW AFSPCI 10-1202, ***Crew Operations*** and AFSPCI 36-2202, ***Mission Ready Training, Evaluation and Standardization Programs.***

4.6.2. Identify manning, funding and resource requirements for operating new systems.

4.7. **Space and Missile Systems Center:**

4.7.1. Operates R&D assets until either mission termination or transfer to an operational unit.

4.7.2. Provides technical support during the transfer of R&D assets to operational units.

4.7.3. Provides logistics support and support to turnover requirements development before RDT&E funding and schedule are exhausted.

5. Capability Assessment. System Capability (SYSCAP) is a continuous assessment of the capability of a system or program to perform its mission. Operational Capability (OPSCAP) is a continuous assessment of the capability of the major components of a system or program to perform the mission. SYSCAP and OPSCAP assessments support real-time planning and serve as a measure of system capability. Each SW will develop specific criteria to define mission degradation and SYSCAP/OPSCAP status changes. 14 AF/A3 is the final approval authority for these criteria. Submit reports IAW AFI 10-206 and AFI10-206_AFSPCSUP1, ***Operational Reporting***.

6. Constellation Sustainment. Constellation Sustainment Assessment Teams (CSAT) will review on-orbit constellation status for the DMSP, DSP, GPS, DSCS, SBIRS, WGS, Advanced Extremely High Frequency System (AEHF) and Milstar programs. CSATs will convene at least semi-annually, prior to the Current Launch Schedule (CLS) Review Board (CLSRB), and review the Space Launch Manifest and CLS, examine the health of operational constellations (including possible disposal actions), ensure user requirements are satisfied and forecast launch requirements. CSATs will forward satellite reconfiguration, constellation repositioning, and launch replenishment recommendations to 14 AF for review. 14 AF/CC approves, or forwards for approval, reconfiguration and repositioning recommendations through HQ AFSPC to USSTRATCOM and issues launch schedule recommendations to the CLSRB. The CLSRB approves or disapproves the launch schedule recommendations and the decision is reflected in the revised CLS. Teams will also convene on an as-needed basis in response to contingencies.

6.1. **Membership.** Most CSATs are chaired by 14 AF and will be comprised of members from HQ AFSPC, 14 AF, SWs, the SOPS and/or SWS providing TT&C and mission support, the supporting Space Launch Squadron (SLS), mission users and other interested agencies as required. Wideband systems (DSCS/WGS) CSATs are co-chaired by ARSTRAT and 14 AF.

6.2. **Responsibilities.** Responsibilities outlined in this instruction cover overall CSAT management and chairmanship. Specific responsibilities (e.g., secretariat, tracking of Action Items, etc.) will be defined in roles and responsibilities documents developed for each CSAT.

6.2.1. HQ AFSPC/A3 participates as a member in DMSP, DSP, GPS, DSCS, WGS, AEHF and Milstar system CSATs; presents constellation replenishment recommendations for COCOM constellations using the Operational Generalized Availability Program (OPGAP) model.

6.2.2. 14 AF/A3 organizes and co-chairs CSAT for DMSP, DSP, GPS, AEHF and Milstar systems.

7. Reports. Accomplish reports IAW AFI 10-206 and AFI 10-206, AFSPC SUP1, ***Operational Reporting.***

8. Forms/IMTs Adopted: AF IMT 1067, **Modification Proposal**

C. DONALD ALSTON, Brig Gen, USAF
Director of Air, Space and Information Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 10-11, ***Operations Security***

AFPD 10-12, ***Space***

UPD 10-39, ***Satellite Disposal Procedures***

AFI 10-201, ***Status of Resources and Training Systems***

AFI 10-206, ***Operational Reporting***

AFI 10-206_AFSPCSUP1, ***Operational Reporting***

AFI 10-1201, ***Space Operations***

AFSPCI 10-1202, ***Crew Operations***

AFSPCI 36-2202, ***Mission Ready Training, Evaluation and Standardization Programs***

PDD NSC-48/NSTC-8, ***National Space Policy***

AFSPCI 99-101, ***Operational Test and Evaluation (OT&E) for Space and Intercontinental Ballistic Missile Systems***

CJCSI 6250.01B, ***Satellite Communications***

Abbreviations and Acronyms

14 AF—14th Air Force

A3—Director of Air, Space and Information Operations

A3F—Global Space Operations Division, Directorate of Air, Space and Information Operations

ACTD—Advanced Concept Technology Demonstration

AEHF—Advanced Extremely High Frequency System

AFOTEC—Air Force Operational Test and Evaluation Center

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFSCN—Air Force Satellite Control Network

AFSPC—Air Force Space Command, Air Component to US Strategic Command

ARSTRAT—Army Strategic Command

ATC—Advanced Technology Demonstration

BSOC—Backup Satellite Operations Center

C^2—Command and Control

C^3I—Command, Control, Communications and Intelligence

CDD—Capabilities Development Document

CDRUSSTRATCOM—Commander, USSTRATCOM

CI—Configuration Item

CJCSI—Chairman Joint Chiefs of Staff Instruction

CLS—Current Launch Schedule

CLSRB—Current Launch Schedule Review Board

CMOC—Cheyenne Mountain Operations Center

COA—Course of Action

COCOM—Combatant Command

COLA—Collision Avoidance

CPCA—Camp Parks Communications Annex

CPD—Capability Production Document

CSAT—Constellation Sustainment Assessment Team

DISA—Defense Information Systems Agency

DMSP—Defense Meteorological Satellite Program

DOC—Designed Operational Capability

DSCS—Defense Satellite Communications System

DSP—Defense Support Program

DSP MGS—Defense Support Program Mobile Ground System

EHF—Extremely High Frequency

EMI—Electromagnetic Interference

FLTSAT—Fleet Satellite

FLTSATCOM—Fleet Satellite Communication

FOC—Final Operational Capability

GBS—Global Broadcast Service

GM-3—Ground Mobile unit number 3

GPS—Global Positioning System

GPS TGA—Global Positioning System Transportable Ground Antenna

HHQ—Higher Headquarters

ICD—Initial Capabilities Document

ICD—Interface Control Documents

I&M—Improvements and Modernization

IOC—Initial Operational Capability

IPO—Integrated Program Office

IWSM—Integrated Weapon System Management

JSpOC—Joint Space Operations Center

MDA—Missile Defense Agency

MILSATCOM—Military Satellite Communication

MILSTAR—Military Strategic and Tactical Relay

MNS—Mission Need Statement

MOA—Memorandums of Agreement

MUOS—Mobile User Objective System

NAF—Numbered Air Force

NASA—National Aeronautic and Space Administration

NNSOC—Naval Network and Space Operations Command

NPOESS—National Polar-orbiting Operational Environmental Satellite System

NSC—National Security Council

NTSC—National Science & Technology Council

OI—Operating Instruction

OPCON—Operational Control

OPGAP—Operational Generalized Availability Program

OPLAN—Operations Plan

OPSCAP—Operations Capability

OPSEC—Operations Security

ORB—Operational Readiness Board

ORD—Operational Requirements Document

OT&E—Operational Test and Evaluation

PDD—Presidential Decision Directive

RAF—Royal Air Force

RCM—Requirements Correlation Matrix

R&D—Research and Development

RDT&E—Research, Development, Test and Evaluation

RFI—Radio Frequency Interference

SATCOM—Satellite Communication

SBIRS—Space Based Infrared System

SCA—Satellite Control Authority

SCC—Space Control Center

SD—Strategic Command Directive

SIDC—Space Innovation and Development Center

SLCC—Spacelift Commander

SLS—Space Launch Squadron

SMC—Space and Missile Systems Center

SMDC—Space and Missile Defense Command

SOC—Satellite Operations Center

SOPG—System Operations Protection Guide

SOPS—Space Operations Squadron

SORTS—Status of Resources and Training System

SPCS—Space Control Squadron

SPO—System Program Office

SSE—Satellite System Expert

SV—Satellite Vehicle

SW—Space Wing

SWS—Space Warning Squadron

SYSCAP—Systems Capability

TACON—Tactical Control

TCS—Telemetry and Command Squadron

TGA—Transportable Ground Antenna

TT&C—Tracking, Telemetry and Commanding

UFO—Ultra High Frequency Follow-on

UHF—Ultra High Frequency

USSTRATCOM—United States Strategic Command

WGS—Wideband Gapfiller System or Wideband Gapfiller Satellites

Terms

Air Force Satellite Control Network (AFSCN)—An operational National resource that provides global support for launch and on-orbit operations to DoD and classified space systems, RDT&E space systems and other assigned space programs. The network supports space systems mission performance and routes low data rate mission data, if assigned, to military and other national security users.

Anomaly—An unexpected or unplanned condition or event affecting the space, ground or communications segment that does not meet system performance parameters.

Combatant Command (COCOM)—Non-transferable command authority established by Title 10, United States Code, Section 164, exercised only by commanders of unified combatant commands. COCOM is the authority of a Combatant Commander to perform those functions of command over assigned forces involving organizing and employing command and forces, assigning tasks, designating objectives and giving authoritative direction over all aspects of military operations, joint training and logistics necessary to accomplish the mission assigned to the command. COCOM provides full authority to organize and employ commands and forces as the Combatant Commander considers necessary to accomplish assigned missions.

Configuration Control—The systematic proposal, justification, evaluation, coordination, approval or disapproval and implementation of all approved changes in the configuration of Configuration Item (CI) after formal establishment of the baseline.

Naval Network and Space Operations Command (NNSOC)—NNSOC, following operational acceptance, has overall responsibility for the Fleet Satellite Communications (FLTSATCOM) system satellites. The Fleet Satellite Communication (FLTSATCOM) system includes, FLTSAT, Ultra High Frequency (UHF) Follow-on (UFO), and Mobile User Objective System (MUOS). Commander, NNSOC exercises system management responsibilities and operational control of the FLTSATCOM system satellites and payloads, through the Naval Satellite Operations Center, located at Point Mugu CA.

Operational Control (OPCON)—The authority to perform those functions of command over subordinate forces involving composition of those forces, assignment of tasks, designation of objectives and tactical and authoritative direction necessary to accomplish the mission. OPCON authority is exercised through component commanders and the commanders of established subordinate organizations.

Operational Turnover—The point in time for operational system responsibility and control of spacecraft systems transfers from the acquisition organization (i.e. SPO) to an operational unit (i.e. wing/squadron).

Research and Development (R&D)—A one-of-a-kind or few-of-a-kind space experiment system used to demonstrate/validate new technology; however, as designed, it is not intended for use in an operational capacity.

SATCOM Operational Manager—Lead organization responsible for day-to-day operations of a system. Normally designated as having primary responsibility for managing the system to maximize the satisfaction of user requirements.

Satellite Control Authority (SCA)—The authority to plan, schedule and perform satellite commanding.

Satellite/SATCOM System Expert (SSE)—The component or designated organization responsible for providing the technical planning and functions in support of the operational management of a specific satellite/SATCOM constellation.

Space Control Center (SCC)—The SCC is located within Cheyenne Mountain Operations Center

(CMOC) and coordinates USSTRATCOM space defense missions, AFSPC space surveillance and USSTRATCOM space surveillance. The SCC acts as the focal point for space defense, and space surveillance operations to ensure effective management of all space resources.

Space and Missile Systems Center (SMC) System Program Office (SPO)—The SPOs, located at Los Angeles AFB, design, develop and procure space and associated satellite control systems and are LDA for R&D and RDT&E systems. The SPOs provide technical advice and support, including Technical Advisors and other contractors, to the SW throughout the lifetime of their assigned satellite programs.

System Safety—The element of operational risk management that uses specialized engineering techniques to systematically identify, assess, mitigate, and communicate hazards to personnel and high-value equipment/activities. Systems safety includes, but is not limited to the following skills sets (i.e., Developing Preliminary Hazard List, Preliminary Hazard Analysis, Energy Flow/Barrier Analysis, Failure Modes Effects Analysis, Failure Modes Effects, Criticality Analysis, Fault Tree Analysis, Fishbone Failure Analysis, Combinatorial, Failure Probability Analysis, Event Tree Analysis, Cause-Consequence Analysis, Risk Acceptance and Strategy Selection in Technology Activities, Failure Information, Propagation Modeling, Assessment of Operating Procedures, Human Factors and Operator Errors, Weighted Scoring Decision Making, Sneak Circuit Analysis, and/or Probabilistic Risk Assessment).

Tactical Control (TACON)—The authority and responsibility to take the necessary action with unit assets to provide mission data and sensor management. SCA is inherent in TACON but may be delegated.

Attachment 2

DISPOSAL AUTHORITY, PROCESS, METHODS AND REGIONS

A2.1. Table A2.1. identifies the disposal authority, the disposal process and method for current AFSPC satellite programs.

Table A2.1. Disposal Authority, Process and Methods.

PROGRAM	DISPOSAL RECOMMENDATION AUTHORITY	DISPOSAL PROCESS	DISPOSAL METHOD
DMSP	NPOESS IPO	NPOESS IPO makes disposal recommendations to USSTRATCOM	Per paragraph **3.4.3.1.2.**
DSCS	DISA	DISA in coordination with SMC/MCW makes disposal recommendations to USSTRATCOM through SMDC/ ARSTRAT	Per paragraph **3.4.3.1.2.**
DSP	14 AF	14 AF makes disposal recommendations through AFSPC to USSTRATCOM for operational satellites. 14 AF makes disposal recommendations directly to AFSPC for non-operational satellites.	Per paragraph **3.4.3.2.**
GPS	14 AF	14 AF makes disposal recommendations through AFSPC to USSTRATCOM for operational satellites. 14 AF makes disposal recommendations directly to AFSPC for non-operational satellites.	Per paragraph **3.4.3.2.**

PROGRAM	DISPOSAL RECOMMENDATION AUTHORITY	DISPOSAL PROCESS	DISPOSAL METHOD
Milstar	14 AF	14 AF makes disposal recommendations through AFSPC to USSTRATCOM for operational satellites. 14 AF makes disposal recommendations directly to AFSPC for non-operational satellites.	Per paragraph **3.4.3.2.**
SBIRS	14 AF	14 AF makes disposal recommendations through AFSPC to USSTRATCOM for operational satellites. 14 AF makes disposal recommendations directly to AFSPC for non-operational satellites.	Per paragraph **3.4.3.2.**
WGS	SMDC/ARSTRAT	SMDC/ARSTRAT makes disposal recommendations to USSTRATCOM	Per paragraph **3.4.3.1.2.**
AEHF	14 AF	14 AF makes disposal recommendations through AFSPC to USSTRATCOM for operational satellites. 14 AF makes disposal recommendations directly to AFSPC for non-operational satellites.	Per paragraph **3.4.3.2.**