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Operations

SPACE OPERATIONS

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This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 10-12, *Space*. It provides broad level instruction on the conduct of space operations to Air Force Space Command (AFSPC), Air Force Materiel Command (AFMC), Air Education and Training Command (AETC), Air Mobility Command (AMC), Air Force Special Operations Command (AFSOC), and Air Combat Command (ACC), Pacific Air Forces (PACAF), and United States Air Forces Europe (USAFE). Users should send comments and suggested improvements on an AF Form 847, **Recommendation for Change Publication**, through channels to HQ AFSPC/DOX, 150 Vandenberg Street, Suite 1105, Peterson AFB CO 80914-4250. Organizations at any level may supplement this instruction. Major commands (MAJCOM), field operating agencies (FOA), and direct reporting units (DRU) should forward one copy of their supplement to HQ USAF/XOFS, 1480 Air Force Pentagon, Washington DC 20330-1480 and HQ AFSPC/DOX. Other organizations will furnish one copy of their supplement to the next higher headquarters.

SUMMARY OF CHANGES

This is a new instruction that aligns with AFPD 10-12. It summarizes the missions associated with space operations and provides instructions to Air Force MAJCOMs to ensure space operations enhance air combat operations and strategic defense operations.

1. Space Operations Tasks. Major commands will execute the following tasks derived from the space operations directives established in AFPD 10-12. MAJCOMs will develop command level instructions as required to further delineate the command responsibilities and actions necessary to implement these tasks.

1.1. Air Force Space Command (AFSPC) Tasks. To meet the directives in AFPD 10-12, AFSPC will:

- Operate integrated early warning and surveillance networks to detect and report strategic and tactical ballistic missile launches, nuclear detonations (NUDETs), and space activity to US military and national command centers and theater CINCs as directed by USCINCSpace.

- Execute satellite control operations for DoD satellites and other government and commercial agencies to maintain orbital configurations as directed by USCINCSpace and National Command Authorities.
- Execute spacelift operations for DoD satellites and other government and commercial agencies to maintain required orbital configurations as directed by DoD Directive (DoDD) 3200.11, Major Range and Test Facility Bases, USCINCSpace, and National Command Authorities.
- Execute space-based offensive and defensive counterspace operations in accordance with theater Operational Plans (OPLAN), USCINCSpace, and Joint Forces Commander (JFC) tasking.
- Execute space-based combat support operations (secure satellite communications, navigation, environmental data, surveillance, missile warning, etc.) according to theater OPLAN, USCINCSpace, and JFC tasking.
- Provide Space Object Identification (SOI) data to USCINCSpace for the development of the DISOB in accordance with Defense Intelligence Agency (DIA) Manual (DIAM) 57-11-6.
- Serve as operations manager for the Military Satellite Communications (MILSATCOM) systems according to Chairman, Joint Chiefs of Staff (CJCS) Memorandum of Policy (MOP) 37
- Maintain and report the status of DoD space assets and capabilities according to AFD 10-12; AFI 21-108, Maintenance Management of Space Systems; and each system's Program Management Directive (PMD).
- Report the status of space-based combat support operations and counterspace operations to USCINCSpace and theater CINCs as directed in theater OPLANs.
- Oversee and implement national policy for commercial space launch operations in accordance with Assistant Secretary of the Air Force for Space (ASAF(SPACE)) 10 Feb 92 policy guidance and DoDD 3230.3, DoD Support for Commercial Space Launch Activities.
- Maintain, negotiate, and execute Air Force Commercialization Agreements with commercial operators using Air Force spacelift facilities according to ASAF(SPACE) 10 Feb 92 policy guidance and DoDD 3230.3.
- Operate a Space Warfare Center in accordance with PMD TEN1(1)/PE35174F to:
- Ensure space-based capabilities are included in military operational plans, exercises, tactic development, and actual operations.
- Simulate space-based combat support feeds to operational exercises and wargames.
- Perform modeling and trade-off analyses of proposed system modifications and force structure improvements to space-based systems.
- Evaluate the design of Air Force command and control and weapon delivery systems to ensure interoperability and compatibility for space-derived combat support information.
- Train AFSPC Forward Space Support in-Theater (FSST) teams to support theater OPLAN development and coordinate space support for the theater Joint Forces Air Component Commander (JFACC) during exercises and contingencies.
- Serve as HQ USAF's executive agent for implementing the Air Force TENCAP program in accordance with the TENCAP PMD TEN1(1)/ PE27247F to:

- Demonstrate technical and procedural methods of exploiting existing national capabilities in support of air combat operations.
- Identify design changes to future Air Force weapon systems and national systems to maximize the effectiveness of national capabilities for air combat operations.
- Educate Air Force personnel on the capabilities of national space-based systems.

1.2. Air Component Command Tasks. Air component commands include ACC, PACAF, USAFE, AMC, and AFSOC. To meet the directives in AFPD 10-12, air component commands will:

- Integrate space-based combat support operations strategies and requirements in Annex- N (Space Operations Annex) and link Annex N to related annexes (Annex B, C, K, and X) of theater OPLANs according to Air Force Manual (AFMAN) 10-401, Operation Plan and Concept Plan Development and Implementation.
- Integrate space and terrestrial-based counterspace operations strategies and requirements in Annex-N of theater OPLANs in accordance with AFMAN 10-401.
- Integrate space-based combat support feeds into theater and command exercises using available operational resources and modeling and simulation resources available in the SWC.
- Evaluate Air Force TENCAP and other rapid prototype and demonstration efforts. Advocate valid demonstrations for use as near term or interim solutions to long standing requirements. Generate Mission Needs Statements (MNS), Operational Requirements Documents (ORD), and other appropriate milestone documentation as required.
- Execute terrestrial-based offensive and defensive counterspace operations in accordance with theater OPLANs and JFC tasking.

1.3. Air Force Materiel Command (AFMC) Instructions. To meet the directives in AFPD 10-12, AFMC will:

- Design, develop, procure, test, and provide logistical support for operational and training systems within their R&D, acquisition, and operational life cycles using the Integrated Weapon System Management (IWSM) approach and in accordance with PMD direction.
- Perform Level 2 software maintenance tasks in accordance with the Memorandum of Agreement for Software Normalization, 16 Feb 93.
- Execute the AFMC provisions in Air Force Commercialization Agreements that govern Air Force support for commercial spacelift activities.

1.4. Air Combat Command (ACC) Instructions. To meet the directives in AFPD 10-12, ACC will:

- Provide launch area search and rescue support in accordance with the DoD Managers Space Transportation System Contingency Support Operations Plan (DDMS OPLAN).
- Provide launch area surveillance in accordance with DODD 3200.11, Major Range and Test Facility Base (MRTFB), Air Force Regulation (AFR) 80-28, MRTFB, and Eastern Range (ER) Regulation 127-1.

1.5. Air Mobility Command (AMC) Instructions. Air Mobility Command will provide spacecraft and launch vehicle transportation, logistics airlift to launch range remote sites, and medical evacuation support.

1.6. Air Education and Training Command (AETC) Tasks. AETC will provide the necessary initial training programs required to operate and maintain space systems in accordance with each system's PMD.

EDWIN E. TENOSO, Major General, USAF
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Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS AND ACRONYMS, AND TERMS

References

AFI 21-108, Maintenance Management of Space Systems

AFMAN 10-401, Operation Plan and Concept Plan Development and Implementation

AFR 80-28, Major Range and Test Facility Base, Jun 85

ASAF(SPAC) Letter to AFSPC/CV, 10 Feb 92

CJCS MOP 37, Military Satellite Communications Systems, 14 May 92

DDMS OPLAN, DoD Managers Space Transportation System Contingency Operations Plan, 15 Sep 91

DIAM 57-11-6, Defense Intelligence Space Order of Battle (DISOB) and Automated Installation Intelligence File (AIF) - Associated Installations Products, Policies, and Procedures, 18 Apr 88

DoDD 3200.11, Major Range and Test Facility Base, 29 Sep 80

DoDD 3230.3, DoD Support for Commercial Space Launch Activities, 14 Oct 86

ERR 127-1, Eastern Range Regulation, 30 Jun 93

Memorandum of Agreement (MOA) between HQ AFSPC and HQ AFMC for Software Normalization, 16 Feb 93

SWC PMD TEN1(1)/PE 35174F

TENCAP PMD TEN1(1)/PE 27247F

UR 55-10, USCINCSpace Emergency Action Procedures, 1 May 92

UR 55-12, Space Surveillance Network, 1 Jun 92

UR 55-20, Warning and Verification of Hostile Space Events, 31 Jan 90

Abbreviations and Acronyms

ACC—Air Combat Command

AETC—Air Education and Training Command

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFPD—Air Force Policy Directive

AFSCN—Air Force Satellite Control Network

AFSOC—Air Force Special Operations Command

AFSPC—Air Force Space Command

AMC—Air Mobility Command

ASAF(SPACE)—Assistant Secretary of the Air Force for Space
CINC—Commander-in-Chief
CJCS—Chairman, Joint Chiefs of Staff
DIA—Defense Intelligence Agency
DISOB—Defense Intelligence Space Order of Battle
DMSP—Defense Meteorological Satellite Program
DoD—Department of Defense
DODD—Department of Defense Directive
DRU—Direct Reporting Unit
FOA—Forward Operating Agency
FSST—Forward Space Support in Theater
IWSM—Integrated Weapon System Management
JFACC—Joint Forces Air Component Commander
JFC—Joint Forces Commander
MAJCOM—Major Command
MILSATCOM—Military Satellite Communications
MRTFB—Major Range and Test Facility Base
MNS—Mission Need Statement
MOP—Memorandum of Policy
OPLAN—Operational Plan
ORD—Operational Requirement Document
PACAF—Pacific Air Forces
PMD—Program Management Directive
SOI—Space Object Identification
SOPS—Space Operations Squadron
SWC—Space Warfare Center
TENCAP—Tactical Exploitation of National Capabilities
UR—USSPACECOM Regulation
USAFE—United States Air Forces Europe
USCINCSpace—United States Commander-in-Chief, Space
USSPACECOM—United States Space Command

Attachment 2

OVERVIEW OF SPACE OPERATIONS

A2.1. Space Operations. The primary purpose of Air Force space operations is to enhance US military operations by ensuring access to and use of space. Space operations include tactical warning and attack assessment, space surveillance, spacelift, satellite control, counterspace, and direct support to combat forces.

A2.1.1. Tactical Warning and Attack Assessment. In the event of missile, air or space attacks against the US and its Allies, Air Force space forces provide Tactical Warning/Attack Assessment to include timely notification of the National Command Authorities of actual or expected nuclear detonations. Warning of attack will also be provided to US Combatant Commands.

A2.1.2. Space Surveillance Operations. Space surveillance operations support the counterspace, spacelift, and satellite control missions by detecting, identifying, tracking, and collecting technical data for intelligence purposes on manmade space objects. Space surveillance data also supports terrestrial operations by providing over flight warning of foreign and hostile space vehicles. The information collected is essential to the development of the Defense Intelligence Space Order of Battle (DISOB). The DISOB provides the baseline information required to plan and conduct counterspace operations. Active and passive ground-based radar and electro-optical sensors make up the Space Surveillance Network.

A2.1.3. Spacelift Operations. Spacelift (launch and range) operations ensure the US has continued access to space. The Air Force provides the spacelift and launch recovery infrastructure required to support Department of Defense (DoD), national, civil, and commercial satellite systems. The Air Force spacelift infrastructure also supports launch tests of strategic and tactical ballistic missiles. Air Force spacelift operations are conducted at Eastern and Western Ranges and are controlled by AFSPC organizations at Patrick AFB, Florida and Vandenberg AFB, California.

A2.1.4. Satellite Control Operations. Satellite control operations oversee the health and well-being of orbiting satellites and their mission payloads. Space Operations Squadrons (SOPS) use the global Air Force Satellite Control Network (AFSCN) to downlink vital statistics and mission data from satellites. The SOPS also use the AFSCN to send tasking commands to mission payloads, initiate relocation maneuvers, and perform station keeping maintenance functions. Satellite control operations ensure satellite mission payloads can perform their combat support functions for theater forces.

A2.1.5. Counterspace Operations. Counterspace operations prevent an enemy from gaining an advantage through the use of their space systems and protect our ability to conduct effective space, air, ground, and naval operations. Counterspace operations are conducted in concert with the theater Commander in Chief's (CINC) campaign plans and employs terrestrial and space-based systems to gain control of space. Counterspace operations are categorized as either offensive or defensive. Offensive counterspace operations are lethal and non-lethal actions taken by terrestrial and space-based forces to neutralize an enemy's ability to exploit space capabilities. At present, offensive counterspace capabilities are limited to attacks against the ground and link segments of a space system. Defensive counterspace operations reduce the vulnerability and increase the survivability of all segments of US space systems.

A2.1.6. Space-Based Combat Support Operations. Space-based assets provide direct support to combat forces worldwide by providing tactical warning/attack assessment, global command, control,

and communications, early warning of tactical and strategic ballistic missile launches, navigation support, environmental data, and data for intelligence purposes. Integration of space-derived data into theater command and control systems, mission planning systems, and weapon delivery systems, is a continuing process. The Space Warfare Center (SWC) and its Air Force Tactical Exploitation of National Capabilities (TENCAP) program spearhead Air Force initiatives to increase the effectiveness of space-based combat support operations.