BY ORDER OF THE COMMANDER
SPACE OPERATIONS COMMAND

SPACE OPERATIONS COMMAND
MISSION DIRECTIVE 203

5 JANUARY 2023

Mission Directive

SPACE-BASED ENVIRONMENTAL MONITORING (SBEM)

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(DEVIN R. PEPPER, Brig Gen, USSF)

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This mission directive (MD) implements guidance in AFI 38-101, *Manpower and Organization*. Its purpose is to define the mission, organization, and responsibilities of the United States Space Force (USSF) Space-Based Environmental Monitoring (SBEM) units. This MD applies to HQ SpOC and subordinate USSF units and personnel. This MD does not apply to Air National Guard, Air Force Reserve Command, or United States Air Force units and personnel. Refer recommended changes and questions about this publication to the OPR using DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional's chain of command. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW the Air Force Records Information Management System Records Disposition Schedule. This publication may not be supplemented or further implemented/extended.

SUMMARY OF CHANGES

Organizations/units have been updated throughout to align to USSF, as well as minor administrative corrections.

1. Mission. Primary mission is operating and maintaining systems for satellite Command and Control (C2) of the SBEM constellations to include the Defense Meteorological Satellite Program (DMSP) and the Electro-Optical/Infrared (EO/IR) Weather System – Geostationary (EWS-G). This includes sustaining satellite systems through management of assigned resources, and employment of specific operations and maintenance functions which provide real-time and stored space-based environmental data to the 557th Weather Wing (557 WW), Fleet Numerical Meteorology and Oceanography Center (FNMOC), and other end users. The SBEM encompasses the functional entities of the overall force support and force enhancement missions assigned to Space Operations Command (SpOC). Space Delta 2 (DEL 2) has delegated the authority to 19 Space Defense Squadron (19 SDS) and 19th Space Defense Squadron Operating Location–Alpha (19 SDS OL-A) employs assigned assets to execute Commander, United States Space Command (CDRUSSPACECOM) and theater warfighter requirements and multiply combat effectiveness of U.S. and allied forces. Assigned units must be able to operate in varying threat level environments to ensure timely space-based environmental weather data to commanders. SBEM units are organized under the Deployment Indicator (DEPID) Code 9 Unit Type Code of 1SPEA – SPC Weather Satellites.

1.1. 19 Space Defense Squadron Operating Location – Alpha (19 SDS OL-A) Organized/Designed Mission: 19 SDS OL-A (formerly Space Delta 2, Detachment 1), is assigned to 19 SDS located in Dahlgren, VA under the command of DEL 2, Peterson Space Force Base (SFB), Colorado (CO). 19 SDS OL-A is located at the NOAA Space Operations Facility (NSOF), Suitland, Maryland (MD) and exercises Satellite Control Authority (SCA) for both the DMSP and EWS-G constellations to provide 24-hour, space-based, global environmental monitoring weather data to primary DoD weather centers at 557 WW and FNMOC. Performs constellation optimization, operational reporting, and leads the Satellite Anomaly Resolution Team (SART) as needed. Delegates Command Authority (CA) to National Oceanic and Atmospheric Administration (NOAA) Office of Satellite and Product Operations (OSPO) NSOF for DMSP operations. Delegates CA to NOAA OSPO located at Wallops Control and Data Acquisition Site (WCDAS) and their back-up location at the NSOF, as required for EWS-G operations. CA is the authority to conduct satellite C2, maintain the satellite in a mission-capable operating configuration, immediately report anomaly events to 19 SDS OL-A Watch Officer, and execute approved actions necessary to "safe" the satellite during anomalies.

1.1.1. 19 SDS OL-A Weapons Systems and Equipment.

1.1.1.1. DMSP. The DMSP is the Department of Defense's (DoD) low-earth orbit (LEO) contribution to national SBEM capabilities. The current DMSP constellation consists of three satellites; two are primary and one residual in ~850 kilometer, sun-synchronous, LEO. DMSP is operated 24/7 by the NOAA OSPO (NSOF) on a cost-reimbursable basis under the executive oversight of DEL 2 which has been delegated to 19 SDS and 19 SDS OL-A (designated as Satellite Control Authority), located at the NSOF in Suitland, MD. The DMSP is sustained by USSF's Space Systems Command (SSC), Space Sensing Division – Production (SSC/SNP) located at Peterson SFB, CO.

1.1.1.2. EWS-G. The EWS-G is the DoD geostationary (GEO) contribution to regional SBEM capabilities in the Indian Ocean area of responsibility (AOR). The current EWS-G constellation consists of one (1) satellite in ~22K mile GEO orbit. EWS-G is operated 24/7 by NOAA at the WCDAS on a cost-reimbursable basis under the executive

oversight of the DEL 2 which has been delegated to 19 SDS and 19 SDS OL-A (designated as Satellite Control Authority), located at the NSOF in Suitland, MD. The EWS-G is sustained by USSF's SSC, Space Sensing Division – Acquisition (SSC/SNS) located at Los Angeles SFB, CA.

1.1.2. 19 SDS OL-A Applicable Threat Environments. 19 SDS OL-A has been organized and designed to operate in Threat Levels 1, 2, and 3.

1.1.3. 19 SDS OL-A Future Requirements. 19 SDS OL-A will be responsible SCA and executive liaison for the Weather System Follow-On – Microwave (WSF-M). WSF-M is a United States DoD developed, produced, and procured space vehicle/payload that will be launched in November 2023. The payload will collect microwave sounding data and observations in the low- earth orbit (LEO) environment. Initial Operating Capability and Operational Acceptance is planned for 2024 and will be presented as a weapon system asset to CDRUSSPACECOM.

1.1.4. 19 SDS (OL-A) Air Reserve Component Total Force Integration (TFI) Relationship. 6th Space Operations Squadron (6 SOPS) is the AFRC unit supporting 19 SDS OL-A. 6 SOPS provides back-up operations mission manpower to NOAA/NSOF and provides Continuity of Operations (COOP) location to assist 19 SDS OL-A and NOAA in the accomplishment of the mission.

2. Command. Combatant Command (CCMD) authority is vested in CDRUSSPACECOM, through DMSP and EWS-G C2 facilities. As directed by CDRUSSPACECOM, the Combined Joint Task Force – Space Operations (CJTF-SO) exercises operational command and will serve as the single point of contact for military space operational matters to plan, task, direct, and execute space operations. CJTF-SO will direct the continuous planning and execution of assigned space operations missions. Administrative Control (ADCON) of the following units is exercised by the Commander, SpOC (SpOC/CC). The DEL 2/CC has delegated and authorized 19 SDS to communicate, coordinate, and work with other units or agencies on matters relating to mission accomplishment or regarding administrative or logistical support under applicable Memorandum of Agreement (MOA), Memorandum of Understanding (MOU), or applicable letters of understanding.

3. Responsibilities: DEL 2/CC delegated to 19 SDS (via 19 SDS OL-A Site Manager):

3.1. Comply with requirements identified in AFI 1-2, *Commander's Responsibilities*.

3.2. Ultimately responsible for accomplishing assigned mission.

3.3. When delegated, generates, presents, and sustains assigned personnel to accomplish the mission.

3.4. Exercises SCA as appropriate for C2 of all on-orbit, operational satellites prior to disposal.

3.5. Coordinates with NOAA engineers for sustainment and maintenance of the constellation and C2 equipment.

3.6. Leads anomaly resolution team in event of unexpected spacecraft events.

3.7. Evaluates on-site contractor performance in accordance with the statement of work and guidance from the contracting officer.

3.8. Ensures adequate support is provided per host-tenant/host-government agreements and MOUs and MOAs.

3.9. Reports operational changes, outages, and events of interest to higher Headquarters and other agencies.

3.10. Plans, coordinates and executes testing of infrastructure, data fabric, facility components and systems ensuring appropriate resiliency and interoperability with other mission systems is maintained at all times to ensure mission success.

STEPHEN N. WHITING, Lieutenant General, USSF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 1-2, *Commander's Responsibilities*, 8 May 2014

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFI 38-101, *Manpower and Organization*, 29 August 2019

Prescribed Forms

None

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

6 SOPS—6th Space Operations Squadron

19 SDS OL-A—19th Space Defense Squadron, Operating Location – Alpha

557 WW—557th Weather Wing

ADCON—Administrative Control

AOR—Area of Responsibility

C2—Command and Control

CA—Command Authority

CCMD—Combatant Command

CDRUSSPACECOM—Commander, United States Space Command

CJTF-SO—Combined Joint Task Force – Space Operations

COOP—Continuity of Operations

DCG-O—Deputy Commanding General, Operations

DEL 2—Space Delta 2

DEPID—Deployment Indicator

DMSP—Defense Meteorological Satellite Program

DoD—Department of Defense

EM—Environmental Monitoring

EO/IR—Electro-Optical/Infrared

EWS-G—EO/IR Weather System – Geostationary

FNMOC—Fleet Numerical Meteorology and Oceanography Center

GEO—Geosynchronous

LEO—Low Earth Orbit

MD—Mission Directive

MOA—Memorandum of Agreement

MOU—Memorandum of Understanding

NOAA—National Oceanic and Atmospheric Administration

NSOF—NOAA Satellite Operations Facility

OSPO—Office of Satellite and Product Operations

SART—Satellite Anomaly Resolution Team

SBEM—Space-Based Environmental Monitoring

SFB—Space Force Base

SOPS—Space Operations Squadron

SpOC—Space Operations Command

SSC—Space Systems Command

USSF—United States Space Force

USSPACECOM—United States Space Command

WCDAS—Wallops Command and Data Acquisition Station

WSF-M—Weather System Follow-On – Microwave