

APPENDIX 001: STATEMENT OF OBJECTIVES

National Oceanic and Atmospheric Administration (NOAA)

National Environmental Satellite, Data, and Information Service (NESDIS)

Enterprise Mission Operation (NEMO)

October 1, 2026

I. Background:

The National Oceanic and Atmospheric Administration (NOAA) is an agency that enriches life through science. NOAA plays several distinct roles within the Department of Commerce (DOC) and focuses on the condition of the oceans and the atmosphere. NOAA comprises various line, staff, and program offices that serve as vital contributors to NOAA's mission. NOAA's Mission is to understand and predict changes in climate, weather, oceans, and coasts, to share that knowledge and information with others, and to conserve and manage coastal and marine ecosystems and resources.

The National Environmental Satellite, Data, and Information Service (NESDIS) is a NOAA line office dedicated to providing timely access to global environmental data from satellites and other sources to promote, protect and enhance the Nation's economy, security, environment and quality of life. To fulfill its responsibilities, NESDIS acquires and manages the Nation's operational environmental satellites, operates the NOAA National Data Centers, provides data and information services including earth system monitoring, performs official assessments of the environment, and conducts related research.

II. Purpose:

NOAA is interested in new and innovative approaches to satellite mission operations that can lower the cost of observations used to meet NOAA's mission requirements, while including new, value-added technological advancements. The Government is interested in approaches that enable the transitioning of operational responsibilities for both the current operational fleet (Joint Polar Satellite System (JPSS), Geostationary Operational Environmental Satellites (GOES)-R, and Space Weather Observations at L1 to Advance Readiness - 1 (SOLAR-1), as well as solutions that support the transition and operations of future satellite constellations (Geostationary Extended Observations (GeoXO) and SOLAR A- and -B.

III. Scope or Mission:

This statement of objectives (SOO) describes the scope of work, objectives, and tasks desired by NOAA for the delivery of a multi-constellation commercial satellite operations service, with operational capability beginning no later than calendar year 2029 for currently operating missions. Current and future mission flyout charts are available at: <https://www.nesdis.noaa.gov/about/documents-reports/satellite-flyout-charts>. NOAA has the following objectives under NEMO:

JPSS and Space Weather Observations (SWO) Mission Operations Objectives

1. Provide Command and Control (C2) capabilities to facilitate nominal, 24x7x365 NOAA JPSS and SOLAR-1 satellite operations through a commercial service approach defined via Service Level Agreement (SLA).

- a. Primary C2 functions include command generation; telemetry receipt, processing, trending, analysis and storage; mission planning and scheduling; satellite navigation/flight dynamics, and conjunction analysis.
 - i. Facilitate operations by Government and Contractor staff accessing Commercial C2 Capabilities
 - b. Maintain the operational JPSS satellites' direct broadcast service.
 - c. Interface with Government-provided ground station services, both Government Owned and Commercially Owned, managed under the NESDIS Antennas as a Service (NAaaS) project. (See: <https://sam.gov/workspace/contract/opp/bdc305925d7840d0b5b7312cd7f03f0d/view>)
 - d. Maintain the commercial C2 capabilities in a manner consistent with a FISMA High Impact Level and with the appropriate NIST 800-53 IT Security Controls and/or commercial equivalents under NIST SP 800-171
- 2. Provide C2 capabilities in support of pre-launch; launch, early orbit, and activation (LEO&A); and post-launch commissioning activities for future spacecraft, including JPSS-3, SOLAR-A, and SOLAR-B.
- 3. Execute the decommissioning of operational spacecraft at the end of their mission life, in accordance with Government direction.
- 4. Deliver science data from Government-provided ground stations to cloud-based Government processing systems such as an NESDIS Cloud Subsystem.
- 5. Meet operational performance and latency requirements as detailed in *Appendix A: Key and Driving Mission Requirements*.

Geostationary Mission Operations Objectives

- 1. Provide commercial mission operations C2 services for current and future NOAA geostationary observational missions, including GOES-R Series and GeoXO through a commercial service approach defined via Service Level Agreement (SLA).
 - a. Primary C2 functions include command generation; telemetry receipt, processing, trending, analysis and storage; mission planning and scheduling; satellite navigation/flight dynamics, and conjunction analysis.
 - i. Facilitate operations by Government and Contractor staff accessing Commercial C2 Capabilities
 - b. Maintain the operational GEO satellites' Unique Payload Services (UPS), including GOES Rebroadcast, and future GeoXO UPS.
 - c. Interface with Government-provided ground station services, both Government Owned and Commercially Owned, managed under the NESDIS Antennas as a Service (NAaaS) project. (See: <https://sam.gov/workspace/contract/opp/bdc305925d7840d0b5b7312cd7f03f0d/view>)

- d. Maintain the commercial C2 capabilities in a manner consistent with a FISMA High Impact Level and with the appropriate NIST 800-53 IT Security Controls and/or commercial equivalents under NIST SP 800-171
2. Work with spacecraft and instrument developers to provide pre-launch, launch, and nominal operations capabilities in support of future satellite missions currently in development.
3. Deliver observational data to NOAA data processing systems.
4. Provide C2 capabilities in support of pre-launch; launch, early orbit, and activation (LEO&A); and post-launch commissioning activities for future spacecraft of the GeoXO Program.
5. Execute the decommissioning of operational spacecraft at the end of their mission life, in accordance with Government direction.
6. Meet operational performance and latency requirements as detailed in *Appendix A: Key and Driving Mission Requirements*.

IV. Period of Performance (POP):

NOAA desires solutions that facilitate commercial satellite operations service for all of NOAA's currently operational satellites no later than calendar year 2029, with demonstrations beginning no later than calendar year 2028. The POP will be dependent on the activities identified in whitepaper and negotiated prior to OTA issuance.

Performance for future missions will be dependent on those missions' development and pre-launch mission readiness schedules.

V. Performance Objectives:

1. Identify and implement innovative, cost-effective approaches for a multi-constellation commercial satellite operations service, based on shared contributions from both Government and industry partners.
2. Collaborate with the offeror on OTA execution through, at a minimum:
 - a. Periodic meetings and reviews to discuss significant achievement toward the objectives, technical challenges, and added detail and interpretation of NOAA objectives.
 - b. Early demonstration of commercial capabilities to perform NOAA satellite operations using a tertiary asset.
 - c. Delivery and execution of full operational capability to perform NOAA satellite operations.

APPENDIX A: KEY AND DRIVING MISSION REQUIREMENTS

JPSS Key and Driving Requirements

1. Downlink of JPSS Stored Mission Data (SMD) with a latency of less than 87 Minutes for the Primary JPSS Observatory.
2. Operational Availability of each Observatory greater than or equal to 98% over any 30 day period for the mission lifetime.
3. Maintain each Observatory in a polar sun-synchronous orbit with the following characteristics: altitude of 824 +/- 17 kilometers, ground track repeat accuracy of 20 km at the Equator with a repeat cycle less than 20 days, and ascending equator crossing time of 1330 +/- 10 minutes.
4. On a 30-day basis, at least 99% of the data collected by each JPSS Observatories' operational sensors shall be delivered to the Government's data processing system.
5. Maintain real-time X-band direct broadcast of instrument data to the direct readout community (i.e., High Rate Data (HRD)).

GOES-R Key and Driving Requirements

1. Maintain the GOES constellation at the following geosynchronous locations:
 - a. GOES East: 75° W longitude
 - b. GOES West: 137° W longitude
 - c. Spare GOES Spacecraft(s): 105° W longitude capable of periodic check out in storage, as required.
2. Maintain a mission availability of 0.80 over the operational lifetime for the combination of the specified operational coverage areas.
3. To support an overall monthly KPP system availability of 0.98 over mission lifetime for the CONUS region contained in the overlap of both operational coverage areas, the C2 system shall maintain continuous operation with less than 2 hours outage per month.
4. In the event of a failure of a primary GOES East/West satellite, where an on-orbit spare GOES spacecraft is available to adequately replace the failed primary, the Maximum Time to Restore Service (MaxTTRS) shall not exceed three weeks.
5. Provide continuous (with outages less than 6 hours per year) sensor data for ground science products.
6. In the event of a failure of those functions supporting the GOES constellation, the Maximum Time To Restore (MaxTTR) functionality related to system health and safety shall be no greater than 5 minutes.
7. Provide continuous (with outages less than 75 hours per year) sensor data for ground generation of coronal mass ejection L0 data.
8. Ensure the continuation of GOES Series unique payload services (UPS) as an Observatory Pass-Through capability, such as GOES Rebroadcast, High Rate Information Transmission (HRIT), Emergency Manager Weather Information Network (HRIT/EMWIN), Data Collection System (DCS), and GEO Search and Rescue (GEOSAR).

NESDIS SOLAR Observing Constellation Key and Driving Requirements

1. Maintain spacecraft and instrument operations at the Sun-Earth Lagrange Point 1
2. Maintain delivery to the Government of two Coronal White Light images for each observable CME traveling towards Earth.
3. Maintain delivery to the Government of Solar Wind data within 5 minutes after in situ observation.
4. During NWS-declared Critical Space Weather Days, ensure in situ Solar Wind data gaps do not exceed 5 minutes per day for planned spacecraft events.
5. At all times, maintain a total annual flight and ground segment outage of less than 7 days (98% availability).

SOLAR-1 Key and Driving Requirements

1. Maintain spacecraft and instrument operations at the Sun-Earth Lagrange Point 1
2. During nominal operations, maintain delivery to the Government of Coronal White Light images, acquired no less than 15 minutes apart and within 30 minutes after data acquisition is complete..
3. During nominal operations, maintain delivery to the Government of Solar Wind data within 5 minutes after data acquisition is complete
4. During NWS-declared Critical Space Weather Days, ensure in situ Solar Wind data gaps do not exceed 5 minutes per day for planned spacecraft events.
5. During nominal operations, maintain a total annual flight and ground segment availability of 96%.

SOLAR-A/B Key and Driving Requirements

1. Maintain spacecraft and instrument operations at the Sun-Earth Lagrange Point 1
2. During nominal operations, maintain delivery to the Government of Coronal White Light images, acquired no less than 15 minutes apart and within 30 minutes after data acquisition is complete.
3. During nominal operations, maintain delivery to the Government of Solar Wind data within 5 minutes after data acquisition is complete
4. During NWS-declared Critical Space Weather Days, ensure in situ Solar Wind data gaps do not exceed 5 minutes per day for planned spacecraft events.
5. During nominal operations, maintain a total annual flight and ground segment availability of 96%.

GeoXO Key and Driving Requirements

1. Maintain the GOES constellation at the following geosynchronous locations:
 - a. GOES East: 75° W longitude
 - b. GOES West: 137° W longitude

- c. Spare GOES Spacecraft(s): 105° W longitude capable of periodic check out in storage, as required.
 - d. Post-Launch Test GOES Spacecraft: 88° West longitude at geosynchronous altitude
2. Control the satellites to within +/- 0.05 degree in latitude and longitude at the equator for the nominal operational and checkout orbits and for planned end-of-life orbit within +/- 5 degrees in latitude and to within +/- 0.05 degree in longitude.
 3. To support an overall monthly system availability of 0.98 for High Availability Products (HAP) at the East and West geosynchronous orbital locations over the System lifetime, the C2 system shall maintain continuous operation with less than 2 hours outage per month.
 4. Achieve a Maximum Time to Restore Service (MaxTTRS) of 3 weeks for HAP L0 data in the event of a failure of an instrument requiring replacement where a replacement is available.
 5. Provide continuous (with outages less than 3 hours per year) sensor data for ground science products.
 6. In the event of a failure of those functions supporting the GeoXO constellation, the Maximum Time To Restore (MaxTTR) functionality related to system health and safety shall be no greater than 10 minutes.
 7. Provide continuous sensor data for ground generation of non-HAP L0 data with outages less than 70 hours per year and no single outage exceeding 24 hours.