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

SATELLITE DECOMMISSIONING AND DISPOSAL POLICY

June 2013

Prepared by:

U.S. Department of Commerce
National Oceanic and Atmospheric Administration (NOAA)
National Environmental Satellite, Data, and Information Service (NESDIS)
Office of Satellite and Product Operations (OSPO)

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

Satellite Decommissioning and Disposal Policy

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Satellite Decommissioning and Disposal Policy

PROGRAM: OSPO	DOCUMENT RELEASE DATE: (Approval Date)

APPROVALS

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NESDIS APPROVAL: Date

7/17/13

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Assistant Administrator for Satellite and Information Services, NESDIS

DOCUMENT HISTORY

DOCUMENT REVISION LOG

The Document Revision Log identifies the series of revision to the NESDIS Satellite Decommissioning and Disposal Policy since the baseline release. This page will become a permanent part of this document.

DOCUMENT TITLE: NESDIS Satellite Decommissioning and Disposal Policy

DOCUMENT CHANGE HISTORY

Revision No.	Date	Section(s) updated	Description of Change(s)	Approval Authority/ Revision Originator
1.0	6/2013	All	Document development	Karl Hampton

Preface

This document comprises the National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS) Satellite Decommissioning and Disposal Policy.

Table of Contents

Section 1.0 Introduction

1.1 Organization

The National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS) Office of Satellite and Product Operations (OSPO), located in Suitland, Maryland, manages the 24x7 operations of environmental satellites and retrieval of data from NOAA and non-NOAA environmental satellites. OSPO performs command and control activities for environmental satellites, health and safety monitoring, anomaly investigation and corrective actions. OSPO configures ground systems and communications networks necessary for satellite command and control, data retrieval and delivery to users. OSPO is responsible for managing and directing the operation of NOAA Geostationary Operational Environmental Satellite (GOES), the Polar-orbiting Operational Environmental Satellite (POES), Suomi National Polar-orbiting Partnership (SNPP), and the Defense Meteorological Satellite Program (DMSP) satellites.

In addition to providing for the health and safety of these spacecraft, OSPO is responsible for the acquisition of non-NOAA Earth Observed data from US and international sources. Personnel within OSPO's Mission Operations Division (MOD) are located at the NOAA Satellite Operation Facility (NSOF) in Suitland, MD and personnel within the Satellite Products and Services Division (SPSD) are collocated with the National Weather Service at the NOAA Center for Weather and Climate Prediction (NCWCP) located in College Park, MD. MOD manages and directs the operation of the central ground facilities which ingest, process, and distribute environmental satellite data products, in close coordination with the SPSD. OSPO also has management and technical responsibility of the command and data retrieval activities which occur at the Wallops Command and Data Acquisition Station (WCDAS) located in Wallops, VA, at the Fairbanks, AK (Fairbanks Satellite Operations Facility), and the Wallops Back up Antenna (WBU) located in Greenbelt, MD.

In the near future, OSPO will also be responsible for operations at the Consolidated Back up Facility (CBU), which will be located in Fairmont, WV. With increased reliance on international cooperation, NESDIS has technical arrangements with the Norwegian Space Agency for use of antennas at Svalbard, Norway and the National Science Foundation for use of antennas at McMurdo Research Station in Antarctica.

1.2 Background

The purpose of this document is to layout NESDIS' policy and procedures guiding the OSPO decommissioning and disposal of a NOAA satellite, which is regarded as a capital asset since NOAA capitalizes all real property items with acquisition costs of $200,000 or greater.

Collision with orbital debris is a risk of growing concern as historically accepted practices and procedures have allowed artificial objects to accumulate in Earth's orbit. To limit future debris requires each program and project to conduct a formal assessment of the potential to generate orbital debris during deployment and mission operations, as well as after the mission has been terminated.

At the end of a satellite's design life, the satellite can either continue on with its mission, be

placed in storage at a higher altitude orbit, or be decommissioned. At some point, every satellite will either be placed in storage or decommissioned.

1.3 Purpose

The purpose of this document is to address the requirements for satellite decommissioning from obtaining pre-approvals, de-orbit and post de-orbit steps along with effectively communicating the criteria used to decommission a spacecraft in both planned and emergency situations. This policy currently only pertains to NOAA managed satellites: GOES, POES, SNPP, and the U.S. Air Force DMSP.

1.4 References

- US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Real Property Internal Control Policy, (Revised: 06/30/2009)
- NOAA/NASA Management Plan for Suomi-National Polar-Orbiting Partnership (Suomi NPP) Operations (470-0098) - January 31, 2013; NASA Procedural Requirement for Limiting Orbit Debris - NASA NPR 8715.6A
- Process for Limiting Orbital Debris – NASA STD 8719.4
- NASA Orbital Debris Program Office, "U.S. Government Orbital Debris Mitigation Standard Practices"
- Inter-Agency Space Debris Coordination Committee (IADC) Mitigation Guidelines
- United Nations Committee on the Peaceful Uses of Outer Space, Space Debris Mitigation Guidelines – U.N. General Assembly Resolution 62/217 & A/AC.105/890, para.99
- "Consolidated and Further Continuing Appropriations Act, 2013' Division B, Title I, section 103 of Public Law 113-6
- NPP Orbital Debris Assessment Report - GSFC 429-04-07-10
- NPP End of Mission Plan – GSFC 429-11-01-19
- NESDIS Geostationary Satellite Launch Policy – November 16, 2011
- NESDIS Polar-orbiting Satellite Launch Policy – November 16, 2011
- NESDIS Anomaly Reporting Policy – July 7, 2011
- Space Safety and Mishap Prevention Program – AFI 91-217

Section 2.0 Policy

2.1 NESDIS Satellite Decommissioning and Disposal Policy

NESDIS satellite decommissioning and disposal policy is based on several factors: maintaining the health and safety of the satellite; the satellite is providing mission data to users; and ability to safely decommission and dispose of the satellite. This policy will be implemented by OSPO for a planned and orderly decommissioning and disposal of an operational satellite. Alternate notifications will be conducted in the event that emergency disposal is needed, for example, due to an accident or conjunction from space debris.

The OSPO's MOD Engineering Branch is responsible for the day-to-day monitoring of the health and safety of GOES, POES, SNPP, and DMSP satellites. The JASON satellite is the responsibility of the Centre Nationale D'Etudes Spatiales (CNES). Engineers perform the necessary analysis and develop the commanding sequences to maintain NOAA's satellites mission life for as long as possible. The Engineers baseline the minimum criteria needed to safely de-orbit the satellite should redundancy be lost in flight system or ground system where operations are one failure away from safely de-orbiting taking into consideration the value of the data (if any), the engineering, scheduling and sustainment workloads, any system limitations, etc. A briefing to the OSPO Director will be prepared that includes an option to de-orbit the satellite. For a normal progression to the end of life of a mission, the following schedule of activities will occur:

Six months prior to decommissioning (D-6 months): OSPO MOD Manager presents a decommissioning and disposal brief to the OSPO Director to ensure that all stakeholder concerns are properly evaluated, including international agreements and users' impact.

D-4 months: - OSPO Director delivers draft memoranda, Appendix B, to NESDIS HQ/NOAA HQ

- OSPO Director provides a brief to the NESDIS and NWS Assistant Administrators (AA) to obtain concurrence on OSPO's recommendation to decommission and dispose of a satellite.
- NESDIS AA notifies other NOAA AAs.
- NESDIS AA briefs the NOAA Deputy Under Secretary for Operations, the NOAA Deputy Administrator, and the NOAA Administrator

D-3 months: NESDIS Office of the Chief Administrative Officer (OCAO) coordinates decommissioning and disposal memoranda through DOC to OMB

- NOAA notifies the Secretary of Commerce, DOC
- Secretary of Commerce notifies the Executive Office of Management and Budget (OMB)

D-2 months: OMB provides congressional notification pursuant to the direction given in the Consolidated and Further Continuing Appropriations Act, 2012 (Public Law 112-55, Section 103, which states: *Provided further*, "That the Secretary of Commerce shall notify the Committees on Appropriations at least 15 days in advance of the acquisition or disposal of any

capital asset (including land, structures, and equipment) not specifically provided for in this Act or any other law appropriating funds for the Department of Commerce."

D-1 month: OSPO receives final approval from NESDIS AA that all notifications have been completed. OSPO begins the notification procedures to users and customers (drafted by OSPO/MOD, distributed by OSPO/SPSD User Services).

D-2 weeks: OSPO provides final notifications to all stakeholders.

D+1 day: OSPO provides confirmation to user community and NESDIS HQ. OSPO User Services will update PATRON (CRM system) by changing the status of the satellite to "Decommissioned" and adding any replacement satellites as inputs for all dependent applications and derived products.

Notifications to Users

D-2 months	Notify users, international partners and WMO the NOAA has Congressional approval to decommission satellite and give date of decommissioning.
D-1 month	Notify users, international partners and WMO that the satellite will be decommissioned on date.
D-1 week	Notify users, international partners and WMO that the satellite will be decommissioned in one week.
D-1 day	Notify users, international partners and WMO that the satellite will be decommissioned tomorrow at hour.

Pre-decision thru D-1 month, OSPO/SPSD User Services will also pursue notification via the following notification channels, for the purposes of completeness in preparing the user community:

- Email notification to pre-established notification list (typically used for anomalies and routines announcements) consisting of over 600 users and user groups.
- Distribution via World Meteorological Organization (WMO) Global Telecommunications System (GTS) headers (NOUS71/NOUS72).
- Engagement in daily operational meeting with NWS/NCEP/NCO.
    - National Centers for Environmental Prediction (NCEP)
    - NCEP Central Operations (NCO)
- Engagement in quarterly NWS/NESDIS coordination meetings.
- Distribution to NESDIS International and Interagency Affairs Office (IIA).
- Announcements at conferences, where applicable and with appropriate timing.
- Posting on NESDIS web sites.
- Press releases through NESDIS Public Affairs Office. Coordination with NESDIS Communications Group.
- CGMS (Coordination Group for Meteorological Satellites)
- Satellite Products and Services Review Board (SPSRB)
- COPC (Committee for Operational Processing Centers) (includes DOD)
- Office of the Federal Coordinator of Meteorology
- American Meteorological Society (AMS) and National Weather Association (NWA)

- NOAA National Archives
- OSPO Website

Refer to Appendix A for examples of the memoranda.

2.2 Emergency Decommissioning

For an emergency decommissioning of a satellite, when there is a risk of losing the ability to command the satellite in a limited amount of time, such as a power failure loss of attitude control or conjunction with space debris, engineers will follow the process as described in the NESDIS Satellite Anomaly Reporting Policy. This immediately notifies OSPO management for approval and provides notification to NESDIS HQ. Alternate Congressional notifications will be conducted as soon as possible.

Once the satellite is decommissioned, NOAA's satellite will be removed from NOAA's personal property inventory (refer to section 3.0).

2.3 GOES Constellation

The primary operational mission of geostationary operational environmental satellites (GOES) is to provide an uninterrupted flow of atmospheric imagery and radiometric data for weather forecasting and severe weather warnings. Additional missions include space environment observations, monitoring volcanic eruptions and the resultant ash cloud, collecting North Central and South American and Caribbean surface and hydrological observations, direct readout broadcasts, high-rate information transmissions, the Emergency Manager's Weather Information Network (EMWIN), data collection and search and rescue services. In addition GOES satellites contribute to long-term continuous data sets for climate monitoring and change prediction. These missions require two operational satellites in orbital positions, one each over the Atlantic and Pacific oceans at 75 degrees and 135 degrees west longitude respectively, selected to optimize observations of North America and the adjacent waters.

The GOES constellation consists of two operational satellites and one spare on orbit. This configuration provides critical observations as well as the necessary back-up to ensure that sufficient data is readily available in order to provide accurate warnings and predictions to meet Agency and National requirements.

2.3.1 GOES Satellite Decommission and Disposal Criteria

Several factors are used to determine when to decommission a satellite. Below is list of items that are used to determine the decommissioning of a GOES satellite:

- Remaining amount of fuel on board sufficient to raise satellite to 300km above geostationary orbital altitude.
- Unacceptable degradation of critical redundant spacecraft component.
- Unacceptable degradation of battery capacity such that it can no longer support mission through eclipse season.
- Complete Failure of Imager.
- Unacceptable degradation of ability to control earth pointing attitude through normal operations.

2.3.2 GOES Decommissioning and Disposal Plan

The GOES satellite decommissioning plan is based on NASA guidance:

- Raise orbit at least 300km above geosynchronous orbit altitude (Plan: 350km).
- Disable all radio frequency (RF) radiation.
- Consume as much remaining Fuel and Oxidizer as feasible.
- Power off all electro-mechanical systems to preclude possibility of destructive mechanical failure.
- Leave spacecraft in minimum temperature state to reduce rate of oxidizer corrosion
- Disable all battery charging to eliminate risk of overcharging and battery explosion
- For GOES NOP or later spacecraft, disable fault protection and shut off/disable the on-board processor.

2.4 POES Constellation

The primary operational mission of polar-orbiting satellites is to provide an uninterrupted flow of global environmental information in support of operational requirements for global weather forecast models, global soundings, global imagery, global and regional surface and hydrological, space environment and ozone observations, and direct readout, data collection and search and rescue services. In addition polar-orbiting satellites establish long-term continuous data sets for climate monitoring and change prediction. These missions require two satellites placed in orbits selected to optimize support for both weather services and climate requirements.

NOAA's polar-orbiting satellite missions are currently satisfied by POES in an afternoon orbit and EUMETSAT's Metop in a mid-morning orbit. In the future, Suomi National Polar-orbiting Partnership (SNPP) and the Joint Polar Satellite System (JPSS) satellites will assume the primary operational responsibility in the afternoon orbit. Given the shared responsibility with EUMETSAT in polar-orbit, NOAA consults regularly with EUMETSAT on spacecraft health.

2.4.1 POES Satellite Decommission and Disposal Criteria

Several factors are used to determine when to decommission and dispose of a POES satellite. Below is list of items that are used to determine when to decommission and dispose of a POES satellite:

- Failure of multiple instruments on board the satellite, including but not limited to microwave sounders, infrared sounder, imager, ARGOS and SARSAT.
- Unacceptable degradation of critical redundant spacecraft component.
- Unacceptable degradation of attitude control (spacecraft tumble).
- Batteries in a power negative situation.

2.4.2 POES Decommissioning and Disposal Plan

The POES satellite decommissioning plan is based on NASA guidance. Since it was designed without an orbital adjust system, it does not have the capability to de-orbit.

- Disable all RF radiation.
- Power off all electro-mechanical systems to preclude possibility of destructive

mechanical failure.

- Disable all battery charging to eliminate risk of overcharging and battery explosion.
- Shut off/disable on-board processors.
- Vent nitrogen gas to drain tank.

2.5 Suomi National Polar-orbiting Partnership (SNPP)

The NPOESS Preparatory Project (NPP) renamed the SNPP was developed as a research satellite to demonstrate and validate new instruments, upgrade science processing algorithms, continue the NASA EOS Climate observations, act as a risk reduction mission and demonstrate the command, control, communications, and ground processing capabilities.

The primary objectives of the SNPP mission are 1) to provide continuity of NOAA's POES (NOAA K-N Prime) series of satellites that provide sensor data and data products to NOAA's operational weather, environmental and climate monitoring missions; 2) to provide quality data to meet scientific requirements for continuity of a group of NASA Earth Observing System (EOS) observations, and 3) to provide a pre-operational demonstration and validation risk reduction for the future JPSS.

2.5.1 SNPP Satellite Decommission and Disposal Criteria

NASA Standard (STD) 8719.4 defines the criteria for requiring a controlled re-entry of a satellite missions as the following:

1. Orbit lifetime of the satellite is greater than 30 years.
2. Sufficient debris from the satellite would survive reentry to pose a risk to human life.

The SNPP satellite meets both of these criteria; therefore, a controlled re-entry plan is required. The SNPP controlled re-entry approach is defined in the SNPP End of Mission (EOM) Plan. This plan provides a summary of the preparation activities for and execution of a controlled reentry. Most of the details for the SNPP controlled reentry are contained in other documents such as Standard Operating Procedures (SOPs) and spacecraft vendor Recommended Operating Procedures (ROPs). The SNPP EOM Plan was first published in September 2011, and it will be reviewed annually, and updated if a change occurs in the SNPP satellite.

2.5.2 SNPP Decommissioning Plan

Other activities that must be performed to prepare for a controlled reentry include the following:

1. Develop, verify, and update controlled reentry procedures including SOPs and ROPs.
2. Identify, implement, and update controlled reentry mission planning tools.
3. Conduct controlled reentry rehearsals.
4. Perform as-needed/routine risk assessments for fuel availability and anomalies with respect to the viability of the science mission and controlled reentry.

The above activities need to be performed at regular intervals or as a result of significant changes in staff, the ground control system, or the satellite in order to be prepared for a planned or unplanned EOM event. Unplanned EOM events include the following:

1. The SNPP Satellite is damaged by a collision with orbital debris.
2. A failure eliminates the redundancy in one of the satellite's flight or control systems.

A summary of steps that are taken during a planned reentry include the following:

- Planning Phase (Reentry - 4 months)
  - Develop / finalize burn Plan
  - Extensive training, simulation, rehearsals
  - Formal reviews and notifications per policy
- Execution Phase (~10 days)
  - Perform as needed checkout and calibration burns
  - Execute EOM Plan
  - Final reporting

In the case of an unplanned controlled reentry, the time line for these steps can be shortened if necessary to reduce the risk of problems in the controlled reentry. These problems could be caused by diminishing fuel supplies or progressive degradation of SNPP satellite systems.

2.6 DMSP

DMSP satellites are operated by OSPO. On May 5, 1994, the President directed the Departments of Commerce (DOC) and Defense (DoD) to converge their current polar-orbiting operational environmental satellite systems into a single National program. The Memorandum of Agreement (MOA) between DOC, DoD, and the National Aeronautics and Space Administration (NASA) directed the NPOESS Integrated Program Office (IPO) to transfer operational responsibility of the DMSP program to the IPO. In 2010, the President dissolved the NPOESS program but the operation of DMSP satellites remained with DMSP and Satellite Control Authority was given to Air Force 50th Space Wing Detachment 1. The Air Force has final authority to approve decommission and disposal of a DMSP satellite.

United States Strategic Command (USSTRATCOM) is the authority to publish an order to decommission a DMSP satellite. After obtaining the order to decommission, the Air Force Space Command (AFSPC), and ultimately Detachment 1, oversees the fulfillment of that order. NOAA operators actually perform the satellite commanding, deactivating the components and computers of the satellite. Detachment 1 submits the required operational reports through AFSPC to USSTRATCOM. In all instances, Detachment 1 keeps both Air Force Weather Agency (AFWA) and Fleet Numerical Meteorology and Oceanography Center (FNMOC) informed.

DMSP satellite constellation must maintain a two-satellite configuration.

2.6.1 DMSP Satellite Decommission and Disposal Criteria

Several factors are used to determine when to decommission and dispose of a DMSP satellite. Below is list of items that are used to determine to decommission a DMSP satellite:

- Failure of multiple instruments on board the satellite (e.g., Operational Linescan System (OLS) instrument, Special Sensor Microwave Imager Sounder (SSMIS)).
- Loss of critical redundant spacecraft component.
- Loss of attitude control (spacecraft tumble).
- Batteries in a power negative situation.

2.6.2 DMSP Decommissioning and Disposal Plan

The DMSP satellite decommissioning and disposal plan is based on NASA and Air Force guidance. Since it was designed without an orbital adjust system, it does not have the capability to de-orbit.

- Yaw the spacecraft 180 degrees so the Sun's energy is not incident on the solar array
- Disable all RF radiation.
- Power off all electro-mechanical systems to preclude possibility of destructive mechanical failure.
- Disable all battery charging to eliminate risk of overcharging and battery explosion.
- Shut off/disable on-board processors.
- Vent nitrogen gas to drain tank.

2.6.3 DMSP Emergency Decommissioning

If an emergency DMSP decommission, or Load shed is required, the DMSP Continuous Operations (CONOPS) document authorizes the senior operations floor leader to order the safing commands to the satellite. The OSPO DMSP staff is responsible for conducting all the necessary commands to try and save the satellite. If unable to salvage the satellite, all the necessary commands are attempted to deactivate the components and computers of the satellite while time permits, before the satellite becomes unresponsive.

2.7 Future Missions

NOAA will amend this directive to reflect disposition and decommission criteria and procedures for future satellite systems for which NOAA has operational control and responsibility.

Section 3.0 Personal Property Removal

3.1 Purpose

This section establishes the policy and procedure for removing a satellite from NOAA Personal Property Inventory. The removal of the satellite is referred to as disposing of a capital asset, since NOAA capitalizes all real property items with acquisition costs of $200,000 or greater.

3.2 Guidelines

NESDIS is responsible for maintaining the satellite inventory for NOAA. When a satellite is launched and in orbit, OSPO assumes the responsibility for its command and control, and adds the satellite to its personal property inventory through Department of Commerce Personal Property Office using Sunflower. This procedure follows the guidelines of the Statement of Federal Financial Accounting Standards No. 11 stating that space exploration equipment shall be treated as general PP&E (property, plant and equipment). The Statement of Federal Accounting Standards No. 6 provides guidance that general PP&E should be removed from general PP&E accounts, if prior to disposal, it is no longer providing service in the operations of the entity. FASAB Technical Release 14, "Implementation Guidance on the Accounting for the Disposal of Property, Plant & Equipment" states that two business events are necessary for the permanent removal from service: (1) Asset's use is terminated; and (2) There is documented evidence of management's decision to permanently remove the asset from service.

3.3 Procedure

After approval to decommission/de-activate the satellite from NESDIS Assistant Administrator, the OSPO Director will submit a request to the NOAA Headquarters Property Management Officer to excess, or dispose of, the satellite (for SNPP, NASA's Headquarters Property Management Officer will also be notified), including the satellite bar code. A copy of the Assistant Administrator's decision will be included as authorization for removal of the satellite from NOAA's Personal Property Inventory. Additionally, the NESDIS CFO will ensure that any required financial accounting treatment necessitated by the decommissioning and disposal is coordinated with NOAA Finance.

Appendix A: NOAA-17 Example

UNITED STATES DEPARTMENT OF COMMERCE
Chief Financial Officer and
Assistant Secretary for Administration
Washington, D.C. 20230

MAR 27 2013

The Honorable Chaka Fattah
Ranking Member
Subcommittee on Commerce, Justice, Science,
and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Representative Fattah:

This letter is to notify you of the National Oceanic and Atmospheric Administration's (NOAA) planned disposal of the NOAA-17 Polar Operational Environmental Satellite. Launched in June 2002, NOAA-17 was a nominal 3-year mission that is now over 10 years old. NOAA-17 suffered severe degradation to its power subsystems and the failure of a prime payload in 2010. Further, the spacecraft no longer has the ability to handle high electricity loads that are expected to occur as part of the Spring eclipse in May. An orderly final disposition and decommission of this asset is needed to protect the operational space environment.

This notification is being made pursuant to Division B, Title I, Section 103 of Public Law 112-55 which states "*Provided further*, That the Secretary of Commerce shall notify the Committees on Appropriations at least 15 days in advance of the acquisition or disposal of any capital asset (including land, structures, and equipment) not specifically provided for in this Act or any other law appropriating funds for the Department of Commerce."

Please contact me at (202) 482-6269, should you have questions. Thank you for your continued support of the Department of Commerce and its programs.

Sincerely,

Ellen Herbst

Ellen Herbst
Senior Advisor to the Deputy Secretary
Performing the non-exclusive duties of the
Chief Financial Officer and
Assistant Secretary for Administration

UNITED STATES DEPARTMENT OF COMMERCE
Chief Financial Officer and
Assistant Secretary for Administration
Washington, D.C. 20230

MAR 27 2013

The Honorable Frank R. Wolf
Chairman
Subcommittee on Commerce, Justice, Science,
and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Wolf:

This letter is to notify you of the National Oceanic and Atmospheric Administration's (NOAA) planned disposal of the NOAA-17 Polar Operational Environmental Satellite. Launched in June 2002, NOAA-17 was a nominal 3-year mission that is now over 10 years old. NOAA-17 suffered severe degradation to its power subsystems and the failure of a prime payload in 2010. Further, the spacecraft no longer has the ability to handle high electricity loads that are expected to occur as part of the Spring eclipse in May. An orderly final disposition and decommission of this asset is needed to protect the operational space environment.

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Chief Financial Officer and
Assistant Secretary for Administration

UNITED STATES DEPARTMENT OF COMMERCE
Chief Financial Officer and
Assistant Secretary for Administration
Washington, D.C. 20230

MAR 27 2013

The Honorable Richard Shelby
Vice Chairman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Vice Chairman Shelby:

This letter is to notify you of the National Oceanic and Atmospheric Administration's (NOAA) planned disposal of the NOAA-17 Polar Operational Environmental Satellite. Launched in June 2002, NOAA-17 was a nominal 3-year mission that is now over 10 years old. NOAA-17 suffered severe degradation to its power subsystems and the failure of a prime payload in 2010. Further, the spacecraft no longer has the ability to handle high electricity loads that are expected to occur as part of the Spring eclipse in May. An orderly final disposition and decommission of this asset is needed to protect the operational space environment.

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UNITED STATES DEPARTMENT OF COMMERCE
Chief Financial Officer and
Assistant Secretary for Administration
Washington, D.C. 20230

MAR 27 2013

The Honorable Barbara Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chair:

This letter is to notify you of the National Oceanic and Atmospheric Administration's (NOAA) planned disposal of the NOAA-17 Polar Operational Environmental Satellite. Launched in June 2002, NOAA-17 was a nominal 3-year mission that is now over 10 years old. NOAA-17 suffered severe degradation to its power subsystems and the failure of a prime payload in 2010. Further, the spacecraft no longer has the ability to handle high electricity loads that are expected to occur as part of the Spring eclipse in May. An orderly final disposition and decommission of this asset is needed to protect the operational space environment.

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Assistant Secretary for Administration

Appendix B: Sample Memoranda

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE
Silver Spring, Maryland 20910

February 11, 2013

MEMORANDUM

FROM: Vanessa L. Griffin
Director, Office of Satellite and Product Operations (OSPO)

TO: Mary Kicza
Assistant Administrator for Satellite and Information Services

SUBJECT: Recommendation to Decommission the NOAA-17 Satellite

Per NESDIS policy and procedure for deactivation of environmental satellites, I recommend that NOAA-17 be decommissioned. Launched in June 2002, NOAA-17 is 11.5 years old and has suffered severe degradation to its power subsystems and the failure of a prime payload in 2010.

NOAA-17 will be transitioning from full Sun to eclipsing periods several times over the next few years. Due to the degraded power subsystem and decreased ability to shunt excess power on the spacecraft, these transition periods must be carefully managed such that engineers maintain adequate power balance through eclipse to meet the load requirements of the spacecraft bus and, when in full Sun, manage the excess power generated.

The power subsystem degradation cannot be improved and is expected to further degrade. This will jeopardize any remaining operational payloads and the orderly disposal of this asset. Additionally, the minimal benefit from continuing to operate NOAA-17 is outweighed by the improved capabilities from other missions, which have priority for ground resources, and the increasing risk to continue to operate NOAA-17 with the degrading power subsystem.

To allow for an orderly decommissioning prior to the next eclipse transition, the Office of Satellite and Product Operations has developed plans to complete the safe decommissioning of the NOAA-17 spacecraft by the end of March 2013.

MEMORANDUM FOR: Kathryn Sullivan, Ph.D.
Acting Under Secretary of Commerce
for Oceans and Atmosphere

FROM: Mary Kicza
Assistant Administrator for Satellite and information Services

SUBJECT: Congressional Notification regarding NOAA-17 Satellite Disposal

Name of Person(s) Requesting Action/Correspondent(s): Mary E. Kicza, Assistant Administrator for Satellite and Information Services, to ensure Department of Commerce compliance with Division B, Title I, section 103 of Public Law 112-55 which states "*Provided further*, That the Secretary of Commerce shall notify the Committees on Appropriations at least 15 days in advance of the acquisition or disposal of any capital asset (including land, structures, and equipment) not specifically provided for in this Act or any other law appropriating funds for the Department of Commerce."

Subject/Issues Raised by Person(s) Requesting Action/Correspondent(s): None.

- Request that you sign the attached letters which will transmit the notification of disposal of NOAA-17 to the Committees on Appropriations.

Major Points in the Response:

- Launched in June 2002, the Polar Operational Environmental Satellite (POES) NOAA-17 was a nominal 3-year mission that is currently 11.5 years old.
- NOAA-17 suffered severe degradation to its power subsystems and the failure of a prime payload in 2010. An orderly final disposition and decommission of this asset is needed to protect the operational space environment.
- Due to the length of time NOAA-17 has been on orbit, the degraded power subsystem cannot be improved and is expected to further degrade.
- The Office of Satellite and Product Operations (OSPO) has developed plans to complete the safe decommissioning of the NOAA-17 spacecraft no early than March 20, 2013.
- This notification would bring the Department into compliance with the Congressional Directive to provide 15-day advance notification of the acquisition or disposal of a capital asset.

Potential Controversy: None

Other Pertinent Information: This Congressional notification implements the actions outlined in my February 14, 2013 memorandum.

Coordination: Other than GC coordination, indicate all NOAA Line/Staff Offices consulted:

NMFS	NWS	NOS	OAR	NESDIS	PPI	NMAO	PA&E	PCIA	LA	IA	CFO	CAO	CIO	OED	AGO	WFMO	COS	DUS	AS	UNSEC
	X																			

Clearance Official(s)/Line Office(s)/Date of Clearance(s):

- Glenn Tallia, NOAA Office of General Counsel, March 7, 2013

Contact Person: Vanessa L. Griffin, Director, OSPO 301 817-4000

March 12, 2013

MEMORANDUM FOR: Ellen Herbst
Senior Advisor to the Deputy Secretary
Performing the non-exclusive duties of the Chief Financial Officer
and Assistant Secretary for Administration

FROM: Kathryn D. Sullivan, Ph.D.
Acting Under Secretary of Commerce
for Oceans and Atmosphere

SUBJECT: Congressional Notification regarding Pending Capital Asset Action

Forwarded for your approval is the notification to Congress of the National Oceanic and Atmospheric Administration's planned disposal of the NOAA-17 Polar Operational Environmental Satellite (POES). An orderly and final disposition and decommission of this asset is needed to protect the operational space environment.

This notification is being made pursuant to Division B, Title I, Section 103 of Public Law 112-55 "*Provided further*, That the Secretary of Commerce shall notify the Committees on Appropriations at least 15 days in advance of the acquisition or disposal of any capital asset (including land, structures, and equipment) not specifically provided for in this Act or any other law appropriating funds for the Department of Commerce."

I request that you review and approve these letters, obtain concurrence from the Office of Management and Budget, and deliver the letters to the Congressional Committees, as directed.

Attachment

Mr. Mark Weatherly
Deputy Associate Director
Housing, Treasury and Commerce Division
Office of Management and Budget
Washington, DC 20503

Dear Mr. Weatherly:

Enclosed for your concurrence are letters to the Chair and the Ranking Member of the Senate Appropriations Subcommittee on Commerce, Justice, and Science, and the Chairman and the Ranking Member of the House Appropriations Subcommittee on Science, State, Justice and Commerce and Related Agencies, providing notification of the National Oceanic and Atmospheric Administration's (NOAA) planned disposal of the NOAA-17 Polar Operational Environmental Satellite (POES). An orderly final disposition and decommission of this asset is needed to protect the operational space environment.

This notification is being made pursuant to Division B, Title I, section 103 of Public Law 112-55 which states "*Provided further*, That the Secretary of Commerce shall notify the Committees on Appropriations at least 15 days in advance of the acquisition or disposal of any capital asset (including land, structures, and equipment) not specifically provided for in this Act or any other law appropriating funds for the Department of Commerce."

The letters will be signed and sent by the Department of Commerce after receiving the concurrence of the Office of Management and Budget.

Please contact me at (202) 482-4951, should you have questions.

Sincerely,

Ellen Herbst
Senior Advisor to the Deputy Secretary
Performing the non-exclusive duties of the
Chief Financial Officer and Assistant
Secretary for Administration

Enclosures

Appendix C: Acronyms

AA	Assistant Administrator
AFSPC	Air Force Space Command
AFWA	Air Force Weather Agency
AMS	American Meteorological Society
ARGOS	POES Data Collection System
CDAS	Command and Data Acquisition Station
CGMS	Coordination Group for Meteorological Satellites
CNES	Centre Nationale D'Etudes Spatiales
CONOPS	Continuous Operations
DMSP	Defense Meteorological Satellite Program
DOC	Department of Commerce
DOD	Department of Defense
EMWIN	Emergency Manager's Weather Information Network
EOM	End of Mission
ESPC	Environmental Satellite Processing Center
EUMETSAT	European Organisation for the Exploitation of Meteorological Satellites
FCDAS	Fairbanks Command and Data Acquisition Station
FNMOC	Fleet Numerical Meteorology and Oceanography Center
GOES	Geostationary Operational Environmental Satellite
GTS	Global Telecommunications System
HQ	Headquarters
IIA	International and Interagency Affairs Office
IPO	Integrated Program Office
JPSS	Joint Polar Satellite System
Metop	Meteorological Operational [EUMETSAT satellite]
MOA	Memorandum of Agreement
MOD	Mission Operations Division
NASA	National Aeronautics and Space Administration

NCEP	National Centers for Environmental Prediction
NCWCP	NOAA Center for Weather and Climate Prediction
NCO	NCEP Central Operations
NESDIS	National Environmental Satellite, Data, and Information Service
NIC	National Ice Center
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NPOESS	National Polar-orbiting Operational Environmental Satellite System
NPP	NPOESS Preparatory Project
NSOF	NOAA Satellite Operations Facility
NWA	National Weather Association
NWS	National Weather Service
OLS	Operational Linescan System
OSPO	Office of Satellite and Product Operations
POES	Polar-orbiting Operational Environmental Satellite
PP&E	Property, Plant and Equipment
ROP	Recommended Operating Procedures
RF	Radio Frequency
SARSAT	Search and Rescue Satellite Aided Tracking
SNPP	Suomi National Polar-orbiting Partnership (SNPP)
SOP	Standard Operating Procedure
SPSD	Satellite Products and Services Division
SPSRB	Satellite Products and Services Review Board
SSMIS	Special Sensor Microwave Imager Sounder
USSTRATCOM	United States Strategic Command
WCDAS	Wallops Command and Data Acquisition Station
WMO	World Meteorological Organization