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**NPD 8700.3B**  
Effective Date: October 28, 2008  
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**COMPLIANCE IS MANDATORY**

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## **Subject: Safety and Mission Assurance (SMA) Policy for NASA Spacecraft, Instruments, and Launch Services**

**Responsible Office: Office of Safety and Mission Assurance**

### **1. POLICY**

a. It is NASA policy to maintain a robust application of safety and mission assurance for NASA spacecraft, instruments, and launch services. For the purposes of this policy, a spacecraft or instrument is considered a payload on an expendable launch vehicle.

b. A launch service is defined as a NASA-procured and -managed launch service encompassing ground processing, flight operations, tracking, and disposal of used launch assets in the Earth's orbit or upon reentering the Earth's atmosphere. Spacecraft and/or instrument events include design/development, ground processing, science operations, data processing, tracking, and disposal in the Earth's orbit or upon reentering the Earth's atmosphere.

### **2. APPLICABILITY**

a. This NASA Policy Directive (NPD) applies to NASA Headquarters, NASA Centers, including Component Facilities, and to the Jet Propulsion Laboratory or other contractors to the extent specified in the contract. The policy paragraphs above apply to NASA spacecraft and instruments and to NASA-procured launch services used to launch NASA spacecraft and instruments.

b. This policy does not apply to spacecraft or instruments transported or operated from any human-rated vehicles, to launch services which utilize human-rated vehicles, or to spacecraft or instruments launched on International Space Station (ISS) International Partner launches to the ISS, or to the Constellation Program. Also excluded are sounding rockets, balloons, experimental aerospace vehicles, and resupply vehicles to the ISS.

### **3. AUTHORITY**

The National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. § 2473 (c)(1), Section 203(c)(1).

### **4. REFERENCES**

- a. NPD 8610.24, Launch Services Program (LSP) Pre-Launch Readiness Reviews.
- b. NPD 8700.1, NASA Policy for Safety and Mission Success.
- c. NPR 8000.4, Risk Management Procedural Requirements.
- d. NPR 8705.6, Safety and Mission Assurance Audits, Reviews, and Assessments.

### **5. RESPONSIBILITY**

a. The Chief, Safety and Mission Assurance shall do the following:

- (1) Define SMA policies, procedures, requirements, and standards for NASA spacecraft, instruments, and launch

services and assure their implementation (Requirement).

(2) Identify an SMA Technical Authority to work with the launch services management provider to determine the SMA policies and procedures to be implemented on NASA launch services; authorize approval or disapproval of changes to SMA technical authority owned-requirements; authorize approval or disapproval of waivers to those SMA requirements; and advise the program manager regarding the acceptability of SMA risks for the program (Requirement).

(3) Identify an SMA Technical Authority to work with the spacecraft or instrument Program/Project Manager to determine the SMA policies and procedures to be implemented on NASA spacecraft or instruments; authorize approval or disapproval of changes to SMA technical authority owned- requirements; authorize approval or disapproval of waivers to those requirements; and advise the program/project manager regarding the acceptability of SMA risks for the program/project (Requirement).

(4) Conduct independent, technical, and internal assessments to verify SMA process implementation (as specified in SMA policies, procedures, and standards) and on other issues deemed critical to the safety and mission success of NASA launch services (Requirement).

(5) Chair the Safety and Mission Success Review (SMSR) (see NPR 8705.6) and execute or delegate SMA signature authority on the Certification of Flight Readiness (CoFR) for each NASA spacecraft, instrument, and launch services mission (Requirement 28015). The signature indicates concurrence in spacecraft, instrument, and launch services readiness and the satisfactory implementation of SMA processes.

b. The Mission Directorate Associate Administrators who are responsible for spacecraft, instruments, and launch services shall do the following:

(1) Provide resources to support NASA spacecraft, instrument, and launch services SMA process implementation and to support the ongoing process once implementation has been completed (Requirement 28017).

(2) Ensure the development and implementation of spacecraft, instrument, and launch services SMA and risk management requirements (see NPR 8000.4) for each NASA spacecraft, instrument, and launch services program. (Requirement)

(3) Ensure the development of a risk assessment relating to the integration of the payload with the launch vehicle (Requirement 28019).

(4) Certify that the risks related to the success or safety of NASA spacecraft, instrument, and launch services missions have been identified, assessed, and either mitigated or accepted by the appropriate level of management and Technical Authorities (Requirement 28020).

c. The launch services management provider shall do the following:

(1) Ensure the development, incorporation, and implementation of SMA and risk management requirements in future and existing launch services contracts, agreements, grants, or other launch services acquisition instruments and implementing changes necessary to assure safety and mission success (Requirement 28022).

(2) Provide resources and resource maintenance to support assurance process implementation by skilled, knowledgeable, and experienced launch services SMA staffs (Requirement 28023).

(3) Define, document, and implement launch services SMA and risk management requirements for each program-managed launch services mission, including coordination of spacecraft and instrument assurance support activities once the spacecraft and/or instrument is integrated with the launch vehicle (Requirement 28024).

(4) Perform periodic audits of launch services providers and perform joint audits with the providers of key suppliers to verify ongoing implementation of agreed-to or contractual SMA and risk management requirements and processes (Requirement 28025). For the following subset of launch services missions, audits may not be achievable:

(a) Launch service procured by the Air Force to launch NASA spacecraft and instruments or NASA-managed spacecraft and instruments.

(b) Launch service procured by the NASA spacecraft or instrument developer.

(c) Launch service procured by a NASA grant recipient.

(d) Foreign launch service launching a NASA spacecraft and/or instrument.

(e) Commercial launch service that contains a NASA spacecraft/instrument as a secondary payload.

(5) Conduct independent, technical, and internal assessments of launch services SMA process implementation (Requirement 28026).

d. The Safety and Mission Assurance Office for the lead Center assigned the launch services shall do the following:

- (1) Participate in a documented CoFR decision process which includes presenting the SMSR to the Chief, Safety and Mission Assurance or identified SMA Technical Authority for launch services. (Requirement 28029).
  - (2) Provide an independent SMA assessment of the launch services, to include a risk assessment at the SMSR (Requirement 28030).
  - (3) Provide SMA support to the Headquarters SMA Technical Authority (Requirement).
- e. The Center Directors who are responsible for the spacecraft and/or instruments shall do the following:
- (1) Provide skilled, knowledgeable, and experienced Center SMA staffs to support NASA spacecraft and instrument SMA process implementation (Requirement).
  - (2) Define, coordinate, document, and implement spacecraft and instrument SMA and risk management requirements (Requirement).
  - (3) Ensure the incorporation of SMA and risk management requirements in spacecraft and instrument contracts, agreements, grants, or other acquisition instruments (Requirement 28034).
  - (4) Perform periodic audits of spacecraft and instrument providers and perform joint audits with the providers of their key suppliers to verify ongoing implementation of agreed-to or contractual SMA and risk management requirements and processes (Requirement 28035).
  - (5) Evaluate the implementation of SMA and risk management requirements in existing spacecraft and instrument contracts, agreements, grants, and other acquisition instruments and recommend changes to ensure the latest SMA and risk management requirements are incorporated (Requirement 28036).
  - (6) Assess and establish confidence in the success and safety for each NASA spacecraft and instrument by conducting independent, technical, or internal SMA assessments (Requirement 28037).
  - (7) Direct the Center SMA office to participate in the SMSR and report the results to the Center Director (Requirement 28038).
- f. For NASA missions not using a NASA launch services management provider, the spacecraft or instrument program or project implementation Center SMA Director, as the Center Director's agent, shall coordinate spacecraft, instrument, and launch services SMSR and CoFR activities with the Chief, Safety and Mission Assurance (Requirement 28039).
- g. When a spacecraft or instrument does not have an assigned responsible NASA Center and/or does not directly utilize a NASA launch services management provider, the assigned Headquarters Mission Directorate shall implement this policy via the spacecraft or instrument program or project manager (Requirement 28040).

## 6. DELEGATION OF AUTHORITY

None.

## 7. MEASUREMENTS

Compliance with the requirements contained in this NPD is verified through processes contained in NPR 8705.6, Safety and Mission Assurance Audits, Reviews, and Assessments.

## 8. CANCELLATION

NPD 8700.3A dated April 28, 2004.

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**/s/ Michael D. Griffin**  
**Administrator**

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## ATTACHMENT A: (TEXT)

None.

**(URL for Graphic)**

None.

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