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# NASA Procedural Requirements

**COMPLIANCE IS MANDATORY FOR NASA EMPLOYEES**

**NPR 8715.6B**

Effective Date: February 16,  
2017

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16, 2024

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## Subject: NASA Procedural Requirements for Limiting Orbital Debris and Evaluating the Meteoroid and Orbital Debris Environments

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

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## Preface

### P.1 Purpose

- a. The purpose of this NASA Procedural Requirements (NPR) document is to define responsibilities and requirements to ensure that NASA and its partners, providers, and contractors take steps to preserve the near-Earth space environment, in accordance with the National Space Policy and the U. S. Government Orbital Debris Mitigation Standard Practices and to mitigate the risk to human life and space missions due to orbital debris and meteoroids.
- b. In this NPR, orbital debris is defined as any object placed in space (see P.2.b) by humans that remains in orbit and no longer serves any useful function. Objects range from spacecraft to spent launch vehicle stages to components and also includes materials, fragments, or other objects which are intentionally or inadvertently cast off or generated.
- c. Meteoroids are defined as naturally occurring free-flying space objects and are typically generated as a result of collisions between asteroidal objects or released from comets.
- d. This NPR specifies NASA requirements and guidelines for limiting the generation of orbital debris and for implementing the U.S. Government Orbital Debris Mitigation Standard Practices provided in NASA-STD-8719.14, and NASA-HDBK 8719.14.

### P.2 Applicability

- a. This NPR is applicable to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. This language applies to the Jet Propulsion Laboratory (a Federally-Funded Research and Development Center), other contractors, recipients of grants and cooperative agreements, and parties to other agreements only to the extent specified or referenced in the applicable contracts, grants, or agreements.
- b. This NPR is applicable to programs and projects responsible for NASA or NASA-sponsored objects launched into space to the extent that Federal authority to oversee the mitigation of orbital debris for those missions or portions thereof does not reside with another Federal department or agency. This NPR only applies to objects which exceed 130km (~70mi) in altitude and achieve or exceed Earth orbital velocity.

*Note 1: Sponsored by NASA are those objects developed or operated by NASA, under contract from NASA, or under agreement with NASA.*

*Note 2: Per the National Space Transportation Policy of 2013, it is recognized that the Department of*

*Transportation (DOT) has authority to oversee orbital debris mitigation practices for Federal Aviation Administration (FAA)-licensed launches. Furthermore, for the purpose of this NPR, NASA does not consider itself a sponsor of launch vehicles furnished by the Department of Defense or foreign partners. Consequently, this NPR does not apply to such launch vehicles. NASA or NASA-sponsored payloads of such launch vehicles, and operation of such payloads and vehicles that are not otherwise covered under licensure by any other Federal Agency that has authority to oversee the mitigation of orbital debris, are subject to the requirements of this NPR and standards invoked by it.*

c. In addition to limiting generation of debris in all Earth orbits, NASA also desires to limit the generation of debris in other orbits where debris might pose a hazard to future spacecraft. Section 3 applies to Earth, Moon, or Mars or in the vicinity of Sun-Earth or Earth-Moon Lagrange Points. NASA's Planetary Protection policy and requirements described in NPR 8715.24 and NID 8715.129 provide additional requirements for missions traveling beyond Earth orbit. In the event of conflicts between this document and Planetary Protection requirements, the Planetary Protection requirements take precedence.

d. NASA International Space Station (ISS) payloads that remain encapsulated by or permanently mounted on the ISS or other spacecraft are exempted from this NPR. The NPR also does not apply to payloads that are temporarily installed outside the ISS and later returned as cargo in a vehicle destined for destruction in a controlled de-orbit. The NPR does apply to NASA payloads and components that are expected to be released (jettisoned or deployed) from the ISS.

e. NASA exploration vehicle payloads that remain encapsulated by or permanently mounted on the vehicle are exempted from this NPR. This NPR also does not apply to payloads that are temporarily installed outside the vehicle and later returned as cargo in a vehicle destined for destruction in a controlled de-orbit. The NPR does apply to NASA payloads and components that are expected to be released (jettisoned or deployed) from the exploration vehicles.

f. In this directive, all mandatory actions (i.e., requirements) are denoted by statements containing the term "shall." The terms: "may" or "can" denote discretionary privilege or permission, "should" denotes a good practice and is recommended, but not required, "will" denotes expected outcome, and "are/is" denotes descriptive material.

g. In this directive, the term "Project Manager" is meant to apply to both Project Managers and Program Managers.

h. In this directive, document citations are assumed to be the latest version, unless otherwise noted.

### **P.3 Authority**

- a. The National Aeronautics and Space Act, 51 U.S.C. § 20113.
- b. National Space Policy of the United States of America, 2020.
- c. U.S. Government Orbital Debris Mitigation Standard Practices, 2019.
- d. NPD 1000.3, The NASA Organization.
- e. NPD 8700.1, NASA Policy for Safety and Mission Success.

### **P.4 Applicable Documents and Forms**

- a. NPD 8010.3, Notification of Intent to Decommission or Terminate Operating Space Systems and Terminate Missions.
- b. NASA-STD-8719.14, Process for Limiting Orbital Debris.

### **P.5 Measurement/Verification**

Compliance by programs and projects with the requirements contained within this NPR is verified as part of selected life-cycle reviews and by assessments, reviews, and audits. This NPR specifies development of milestone products and control plans that are reviewed at each of the selected life-cycle reviews conducted in accordance with the requirements of NPR 7120.5, and NPR 7123.1. Compliance with the requirements contained within this NPR is also monitored by Centers, Mission Directorates, and by the Safety and Mission Assurance (SMA) Technical Authority.

### **P.6 Cancellation**

- a. NPR 8715.6A, NASA Procedural Requirements for Limiting Orbital Debris, dated May 14, 2009.
- b. NRW 8715-73, NASA Requirement Waiver Request for NPR 8715.6, NASA Procedural Requirements for Limiting Orbital Debris, dated April 30, 2016.

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