NASA Policy Directive

NPD 8700.1F
Effective Date: July 28, 2022
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COMPLIANCE IS MANDATORY FOR NASA EMPLOYEES

Printable Format (PDF)

Subject: NASA Policy for Safety and Mission Success

Responsible Office: Office of Safety and Mission Assurance

1. POLICY

a. It is NASA policy to assure acceptable levels of flight crew safety and mission success risk by:

(1) Establishing a risk posture for crew safety (spaceflight crew and aircrew) and mission success, considering the potential benefits and strategic importance of the mission(s) and consequences of failure, to inform decisions regarding the formulation, implementation, and assurance of the mission.

(2) Articulating and incorporating derived crew safety and mission success objectives, associated strategies, standards and requirements, consistent with the established risk posture, within project management, acquisition, and engineering processes such that:

(a) Flexibility is allowed in the selection and acceptance of derived crew safety and mission success objectives, associated strategies, standards and requirements if the associated risks are understood, documented, and consistent with the established risk posture.

(b) Opportunities to improve crew safety are taken when practicable within programmatic constraints.

(c) Acquisition and provider insight and oversight strategies address crew safety and mission success objectives and are commensurate with the established risk postures.

(d) Risks to crew safety and mission success objectives are identified and managed to closure or formal acceptance in an integrated risk management framework.

(e) Progress towards the accomplishment of crew safety and mission success objectives is substantiated, monitored, and independently evaluated throughout the lifecycle based on systematic argumentation, explicit assumptions, and objective evidence.

(3) Formally accepting the case that crew safety and mission success are within the established risk posture or are on track for being so.

b. It is NASA policy to protect the public, NASA workforce, high-value property, and the terrestrial, orbital, and planetary environments from potential harm due to NASA operations and activities by:

(1) Managing safety as an integral aspect and objective of the program, project, facility, and center operations and activities.

(2) Complying with statutes, regulations, and directives and meeting external obligations.

(3) Adopting effective and responsible safety standards, guidelines, and industry best practices to manage hazards requiring control, while prioritizing performance-based approaches.

(4) When there is no accepted standard to manage novel or unique hazards, consulting with subject matter experts on strategies to ensure an acceptable level of risk.

(5) Obtaining the authorization or consent of an authorized official representing entities exposed to potential harm unless consent is established by adherence to applicable standards or policy.

(6) Empowering employees and their supervisors to avoid exposure to risks they deem unacceptable.

(7) Sharing NASA safety standards, guidelines, and best practices with international, interagency, and commercial partners operating in a shared space environment to manage hazards and mitigate risk to NASA missions, operations, and the public.

(8) Systematically assessing the effectiveness of safety practices and managing related risks at all levels of the Agency.

c. It is NASA policy to cultivate a robust safety culture that values and pursues technical and organizational excellence in order to understand and reduce risk:

(1) Enabling and promoting the reporting of issues, concerns, and alternate opinions without fear of reprisal.

(2) Not punishing for mistakes but holding individuals accountable for misconduct.

(3) Being flexible to adapt to unforeseen developments and make changes based on available trends and new information.

(4) Learning from successes and mistakes by collecting, assessing, sharing, and acting upon information, both formally and informally.

(5) Ensuring engagement by all in the fulfillment of their responsibilities for safety and mission success.

2. APPLICABILITY

a. This directive is applicable to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. This directive applies to the Jet Propulsion Laboratory, a Federally Funded Research and Development Center, and other contractors only to the extent specified or referenced in the appropriate contracts.

b. In this directive, 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.

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

3. AUTHORITY

a. The National Aeronautics and Space Act, as amended 51 U.S.C. § 20113(a).

b. NPD 1000.0, NASA Governance and Strategic Management Handbook.

c. NPD 1000.3, The NASA Organization.

4. APPLICABLE DOCUMENTS AND FORMS

None.

5. RESPONSIBILITY

a. The Administrator, as stated in NPD 1000.3, The NASA Organization, leads the Agency and is accountable to the President for all aspects of the Agency's mission. As part of his or her responsibilities, the Administrator:

(1) Approves acceptable levels of risk to NASA's spaceflight crews defined by the responsible Mission Directorate Associate Administrator.

(2) Authorizes or consents to the exposure of the public, NASA workforce, property, or environment to potential harm from NASA activities and operations, and performs requisite notifications, when such exposures are not within the established authority of a Center Director or a Federal entity other than NASA. The Administrator may delegate this authority to the Agency Associate Administrator, Chief, Safety and Mission Assurance (SMA), Chief Health and Medical Officer (CHMO), Center Directors, or other senior officials.

(3) Ensures NASA organizational leaders cultivate a robust safety culture within their organization.

b. The Mission Directorate Associate Administrators (MDAAs) are responsible and accountable for the safety and

success of their programs and projects. As part of responsibilities defined in NPD 1000.3, the MDAAs:

(1) Define safety and mission success risk postures consisting of acceptable levels of risk for their missions and crews to inform decisions regarding the formulation, implementation, and assurance of the mission.

(2) Monitor progress towards the accomplishment of the safety and mission success objectives by programs and projects within their portfolio.

(3) Intervene in any operation or activity under their purview that presents an unacceptable risk to the safety of the public, NASA workforce, property, environment, or the success of mission operations.

(4) Formally accept cases that programs and projects within their portfolio achieve safety and mission success objectives consistent with the established risk postures.

c. Program and project managers are responsible and accountable for the safety and success of operations and activities under their purview. Specifically, program and project managers:

(1) Manage safety and mission success as an integral aspect and objective throughout the lifecycle and in accordance with NASA policy and established risk postures.

(2) Establish flight crew safety and mission success objectives, associated strategies, standards, and requirements, consistent with the established risk posture.

(3) Substantiate, throughout the lifecycle, progress towards or satisfaction of safety and mission success objectives, including the established risk posture via systematic argumentation, explicit assumptions, and objective evidence.

(4) Intervene in any operation or activity under their purview that presents an unacceptable risk to the safety of the public, NASA workforce, property, environment, or the success of mission operations.

(5) Communicate issues that challenge their ability to prevent unacceptable risk to the safety of the public, NASA workforce, flight crew, property, environment, or the success of mission operations to the Mission Directorate leadership and other stakeholders.

(6) Ensure they are authorized to expose the public, NASA workforce, high- value property, or environment to risk.

(7) Leverage the Office of International and Interagency Relations to communicate risk to external entities and coordinate authorizations and operations with international and interagency partners in coordination with the MDAA.

d. As defined in NPD 1000.0, NASA Governance and Strategic Management Handbook, the Technical Authorities provide independent oversight of programs and projects in support of safety and mission success. As part of this responsibility, Technical Authorities:

(1) Concur or non-concur with risk acceptance decisions involving or significantly affecting risk to safety and mission success considering:

(a) Adequacy of the technical basis for decisions.

(b) Authority of the decision maker to accept risk at their level consistent with the established risk posture.

(2) Concur or non-concur with the adequacy of assurance cases for safety and mission success in support of relevant decision authorities.

e. The Associate Administrator for Mission Support is accountable for decisions affecting the safety and success of mission support activities made by their office. In addition to responsibilities defined in NPD 1000.3, the Associate Administrator for Mission Support:

(1) Considers safety and mission success as part of decisions by the Mission Support Directorate affecting safety and mission success.

(2) Intervenes in any operation or activity under their purview that presents an unacceptable risk to the safety of the public, NASA workforce, property, environment, or the success of mission operations.

(3) Is accountable for the safety of operations and activities at NASA Headquarters.

f. Responsibilities for the Chief, SMA, and Chief Health and Medical Officer, including the Designated Agency Safety and Health Officer (DASHO) role, are defined in NPD 1000.3.

g. Center Directors responsibilities are defined in NPD 1000.3. Their technical authority responsibilities are further defined in NPR 7120.5, NASA Space Flight Program and Project Management Requirements. As part of those responsibilities, Center Directors:

(1) Implement institutional safety authority at their Center consistent with Agency policy and standards.

(2) To the extent allowed by statute and Agency policy and when not within the authority of a federal entity other than NASA, authorize or consent to the exposure of the public, NASA workforce and flight crews, property, or environment at or near their Center to potential harm and perform requisite notifications. Per NPD 1000.3, Center Directors may delegate this authority to other Center officials.

(3) Have the authority to direct the suspension of any activity involving Center personnel, facilities, or assets that presents an unacceptable risk to the public, NASA workforce, property, or environment, or the success of mission operations and provide guidance for corrective action. Center Directors can delegate this authority to other Center officials.

(4) Designate a Center SMA Director (or equivalent principal SMA official) to assist with the implementation of the above responsibilities and authorities.

(5) Are accountable for the safety of operations and activities at their Center and Component Facilities.

h. Center SMA Directors (or equivalent principal SMA official):

(1) Provide local SMA leadership and policy implementation direction for programs, projects, and operations at their Center.

(2) Serve as the Center focal point for the SMA Technical Authority and institutional safety authority, providing independent oversight and communication lines within the Center and to the Chief of SMA.

(3) Establish and maintain effective SMA functions in support of safe and successful Center operations and activities.

(4) Have the authority to direct the suspension of any activity involving Center personnel, facilities, or assets that presents an unacceptable risk to the public, NASA workforce, property, or environment, or the success of mission operations and provide guidance for corrective action.

i. Supervisors are responsible for the safety of their assigned personnel. Supervisors are authorized to direct suspension of any activity that presents what they believe is an unacceptable hazard to their employees that would expose their employees to a risk of death or serious physical harm they deem unacceptable.

j. Employees are authorized to refuse any work activity that would expose them to a risk of death or serious physical harm they deem unacceptable.

6. DELEGATION OF AUTHORITY

None.

7. MEASUREMENTS

None.

8. CANCELLATION

a. NPD 8020.7G, Biological Contamination Control for Outbound and Inbound Planetary Spacecraft, dated November 25, 2008.

b. NPD 8700.1E, NASA Policy for Safety and Mission Success, dated October 28, 2008.

c. NPD 8720.1C, NASA Reliability and Maintainability (R&M) Program Policy, dated April 18, 2023.

/s/ Bill Nelson
Administrator

ATTACHMENT A: (TEXT)

None.

(URL for Graphic)

None.

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