

Traceability of SMARTS Requirements from Document: various for Project: Constellation (CxP)

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Executive Order 13043	0	32788	By the authority vested in me as President by the Constitution and the laws of the United States of America, including the Highway Safety Act of 1966, 23 U.S.C. 402 and 403, as amended, section 7902(c) of title 5, United States Code, and section 19 of the Occupational Safety and Health Act of 1970, 29 U.S.C. 668, as amended, and in order to require that Federal employees use seat belts while on official business; to require that motor vehicle occupants use seat belts in national park areas and on Department of Defense ("Defense") installations; to encourage Tribal Governments to adopt and enforce seat belt policies and programs for occupants of motor vehicles traveling on highways in Indian Country; and to encourage Federal contractors, subcontractors, and grantees to adopt and enforce on-the-job seat belt use policies and programs, it is hereby ordered as follows: (Requirement 32788)	S	N	N	U
Executive Order 13043	1.b	32791	Policies. Seat Belt Use in National Parks and on Defense Installations. Each operator and passenger occupying any seating position of a motor vehicle in a national park area or on a Defense installation, whose seat is equipped with a seat belt or child restraint system, shall have the seat belt or child restraint system properly fastened, as required by law, at all times when the vehicle is in motion. (Requirement 32791)	S	N	N	U
Executive Order 13043	1.c	32792	Policies. Seat Belt Use by Government Contractors, Subcontractors and Grantees. Each Federal agency, in contracts, subcontracts, and grants entered into after the date of this order, shall seek to encourage contractors, subcontractors, and grantees to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented, or personally owned vehicles. (Requirement 32792)	S	N	N	U
Executive Order 13043	4	32796	Reporting Requirements. The Secretary of Transportation, in cooperation with the heads of executive branch agencies, and after consultation with the judicial and legislative branches of Government, shall submit an annual report to the President. The report shall include seat belt use rates and statistics of crashes, injuries, and related costs involving Federal employees on official business and occupants of motor vehicles driven in national park areas, on Defense installations, and on highways in Indian Country. The report also shall identify specific agency programs that have made significant progress towards achieving the goals of this order or are notable and deserving of recognition. All agencies of the executive branch shall provide information to, and otherwise cooperate with, the Secretary of Transportation to assist with the preparation of the annual report. (Requirement 32796)	S	N	N	U
NPD 1000.0	0.0P(1)	43411	Preface: Dear Colleagues: NASA has always been a stimulating and rewarding place to work, but it is particularly so at this time. Like the Apollo Program initiated by President Kennedy more than a generation ago, President Bush's "Vision for Space Exploration"--aimed at returning human exploration to the Moon and then on to Mars and beyond--presents us with an immense challenge. Before astronauts can once again set foot on worlds beyond our own, we must return the Space Shuttle to flight, complete the International Space Station, develop a new human-rated spacecraft, and develop suitable launch systems. On top of that, we are committed to retaining leadership in scientific and aeronautics research.	S	N	N	Mgmt
NPD 1000.0	2(2)	43433	Core Values: We value: Safety - NASA's constant attention to safety is the cornerstone upon which we build mission success. We are committed, individually and as a team, to protecting the safety and health of the public, our team members, and those assets that the Nation entrusts to us. (Requirement 43433)	S	N	N	Mgmt
NPD 1000.0	2(4)	43435	Core Values: We value: Integrity - NASA is committed to an environment of trust, built upon honesty, ethical behavior, respect, and candor. Building trust through ethical conduct as individuals and as an organization is a necessary component of mission success. (Requirement 43435)	E	N	N	Mgmt
NPD 1000.0	2(5)	43436	Core Values: We value: Mission Success - NASA's reason for being is to conduct successful space missions on behalf of this Nation. We undertake missions to explore, discover, and learn. And we believe that mission success is the natural consequence of an uncompromising commitment to safety, teamwork, and integrity. (Requirement 43436)	E	N	N	Mgmt
NPD 1000.0	3.1(4)	43441	Strategic Management Framework: Implementation refers to the execution of the Strategic Plan. Each Mission Directorate will develop an Implementation Plan. One Implementation Plan shall be developed for the institutional offices and shall have clear requirements traceability back to the Strategic Plan in order to verify compliance to the plan, to define the baseline from which monitoring and evaluation will occur, and to enable the development of performance reporting to external stakeholders. NASA is a mission-driven and project-oriented Agency, so implementation planning is ultimately reflected in program and project plans. Successful execution of programs and projects satisfies the intent of the strategic plan. (Requirement 43441)	E	N	N	Mgmt
NPD 1000.0	3.2(3)	43445	Strategic Management Principles: Responsibility and Decision-Making - Managers are responsible for making and executing decisions within their authority. Accordingly, they will have authority over their budgets, schedules, and human and capital assets. Managers are responsible for working across organizational lines to perform appropriate integration functions, and in general, management decisions are not subject to higher governance. (See Section 3.2.2) (Requirement 43445)	E	N	N	Mgmt
NPD 1000.0	3.2(6)	43448	Strategic Management Principles: Checks and Balances - NASA employs a system of checks and balances for effective internal control and to ensure the successful achievement of missions, assigning proper levels of influence and action to different organizations. Program and project management focuses upon execution. Engineering maintains independent authority by setting technical requirements below the Directorate-owned top-level requirements and approving any deviation from such requirements. The Safety & Mission Assurance organization maintains responsibility for verification of programmatic compliance through strategies, policies, and standards. Mission Support offices also provide institutional checks and balances. (See Section 3.2.5) (Requirement 43448)	S	N	N	Mgmt

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NPD 1000.0	3.2.1(07)	43458	Strategic Management Principles: Lean Governance: Strategic Management Council: Purpose: Determine NASA Strategic Direction. Principle Activities: Approve Strategic Plan, Establish Mission & Budget Priorities, Determine Communication Strategy, Strategic Budget Guidance. Frequency: Monthly. Membership: Administrator (Chair), Deputy Administrator (1st Alternate), Associate Administrator (2nd Alternate), Chief of Staff (3rd Alternate), Center Directors, Chief S&MA, Chief Engineer, CFO, Chief of Strategic Communication, General Counsel, Associate Administrators, Mission Directorates, AA, PA&E, I&M. (Requirement 43458)	S	N	N	Mgmt
NPD 1000.0	3.2.1(08)	43459	Strategic Management Principles: Lean Governance: Program Management Council: Purpose: Baseline and Assess Program Performance. Principal Activities: Approve and Review New Programs, Approve Program Entry into Subsequent Phasing, Periodic Program Reviews, Program Commitment Agreements, Independent Assessments. Frequency: Monthly. Membership: Associate Administrator (Chair), Deputy Administrator (1st Alternate), Chief Engineer (2nd Alternate), Associate Administrators, Mission Directorates, Chief S&MA, Center Directors, AA, PA&E, CFO, I&M. (Requirement 43459)	S	N	N	Mgmt
NPD 1000.0	3.2.1(09)	43460	Strategic Management Principles: Lean Governance: Operations Management Council: Purpose: Review and Approve Institutional Plans. Principal Activities: Review and Approve Capital Investments, Review and Approve Human Capital Plan, Institutional Budget Guidance. Frequency: As Needed. Membership: Deputy Administrator (Chair), Chief of Staff (1st Alternate), AA, PA&E, Associate Administrators, Mission Directorates (Deputies are alternates), Assistant Administrators, Mission Support Offices, Center Representatives, CFO, I&M. (Requirement 43460)	E	N	N	Mgmt
NPD 1000.0	3.2.2(2)	43463	Strategic Management Principles: Responsibility and Decision-Making: In exceptional cases, at the request of the Administrator, special ad hoc teams or elements in the formal organization, such as the PA&E organization, will deal with integration issues that cross Mission Directorates, Mission Support Offices, and Centers. (Requirement 43463)	S	N	N	Mgmt
NPD 1000.0	3.2.5	43472	Strategic Management Principles: Checks and Balances: A mission-driven organization needs a "checks and balances" organizational model that creates the appropriate level of management tension for the successful execution of high-risk endeavors. For example, the organization developing and setting requirements should not be waiving or determining completion of those same requirements. It is important for engineering to maintain technical purview over requirements and any deviations. Likewise, verification compliance is the responsibility of Safety & Mission Assurance. (Requirement 43472)	S	N	N	Mgmt
NPD 1000.0	3.2.8(1)	43476	Strategic Management Principles: Strategic Management of Human Capital: NASA's most critical asset in accomplishing its mission safely is the excellence of its workforce. We must ensure the Agency continues to have the scientific and technical expertise necessary to preserve the Nation's role as a leader in aeronautics, earth and space science, and technology, as well as maintain a cadre of professionals to address NASA's financial, acquisition, and business challenges. NASA must have an integrated, Agencywide approach to human capital management. (Requirement 43476)	E	N	N	Mgmt
NPD 1000.0	4.3.2(6)	43489	Strategic Planning: External Requirements: Management and Reporting of Goals/Objectives: Since NASA is organized around programs and projects, NASA offices are required to manage those programs and projects in a manner consistent with the Strategic Plan and to document in Implementation Plans how they intend to accomplish this. Mission Directorates, Mission Support Offices, and Centers must manage to meet requirements, budget, and schedule and document their plans for doing so in Implementation Plans. Implementation Plans shall show how a series of requirements from programs and projects demonstrate performance of the Agency's strategic goals. (Requirement 43489)	E	N	N	Mgmt
NPD 1000.0	5(06)	43515	Implementation: Programs and projects are different and require different skills and professional resources. Management of NASA programs and projects shall comply with the NASA policy NPR 7120.5C, Program and Project Management Processes and Requirements. The following definitions are used in NPR 7120.5C to distinguish between the two: Program - a strategic investment by a Mission Directorate or Mission Support Office that has defined architecture, requirements, funding level, and a management structure that supports one or more projects. (Requirement 43515)	E	N	N	Mgmt
NPD 1000.0	5(15)	43524	Implementation: Chief, Safety and Mission Assurance: The Chief, Safety and Mission Assurance ensures the safety and enhances the success of all NASA activities through the development, implementation, and oversight of Agencywide safety, reliability, maintainability, and quality assurance policies and procedures. Serves as the principal advisor to the Administrator and other senior officials on matters pertaining to the safety and quality of NASA programs and projects. (Requirement 43524)	S	N	N	Mgmt
NPD 1000.0	5.2(3)	43539	Implementation: Implementation Planning Responsibilities: Products: Plans, Policies, Procedures. Responsibility: Mission Directorates; Mission Support Offices; Centers. Signature Authority: CD Assistant Administrator MD; Assistant Administrator MSO. Schedule: As required. (Requirement 43539)	E	N	N	Mgmt
NPD 1000.0	6(1)	43541	Monitoring and Control: A mission-driven organization must have the ability to monitor all aspects of performance and then use the performance measures stated below to control the programs and projects. Monitoring and control of programs and projects is critically dependent on all stakeholders using the same: Financial systems, for budget versus actual performance. Schedule. Requirements. (Requirement 43541)	E	N	N	Mgmt
NPD 1000.0	6.2(01)	43547	Monitoring and Control: Assessments and Audits: The Office of Program Analysis & Evaluation (PA&E) conducts assessments and audits to evaluate the effectiveness of NASA's strategic planning and program/project effectiveness. Independent Technical Authority (ITA), NESC, Mission Support Offices, and S&MA also conduct assessments and audits at various levels. (Requirement 43547)	E	N	N	Mgmt
NPD 1000.0	6.2(08)	43554	Monitoring and Control: Assessments and Audits: The decision-making environment requires: The Finance Organization, Mission Directorates, Mission Support Offices, and Centers using Core Financial for all phases of a given mission. (Requirement 43554)	E	N	N	Mgmt

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NPD 1000.0	6.4	43565	Monitoring and Control: External Metrics: External metrics are those reported to OMB and Congress. Requirements for external metrics are derived from GPRA, OMB Circular A-11, and the PMA. These metrics are reported in the Annual Performance and Accountability Report for strategic goals/objectives and performance goals (requirements). Mission Support Offices report other external metrics as required by law, regulation, or Executive Order. (Requirement 43565)	E	N	N	Mgmt
NPD 1000.0	6.5(4)	43569	Monitoring and Control: Monitoring and Control Responsibilities: Products: Special Assessments. Responsibility: PA&E, NESC, ITA. Signature Authority: PA&E AA, OCE Chief, OCE Chief. Schedule: As required. (Requirement 43569)	E	N	N	Mgmt
NPD 1000.0	6.5(7)	43572	Monitoring and Control: Monitoring and Control Responsibilities: Products: Audits. Responsibility: PA&E, OCE (Technical), CFO (Financial), SMA. Signature Authority: PA&E AA, OCE, CFO AA, SMA. Schedule: As required. (Requirement 43572)	S	N	N	Mgmt
NPD 1000.3C	4.06.2.3.c	57335	OFFICE OF SAFETY AND MISSION ASSURANCE: Responsibilities: In fulfillment by the authority vested in the Administrator, the Chief, Safety and Mission Assurance is authorized to: In concurrence with Center Directors, approving the assignment, promotion, discipline, and relief of the principal SMA official at each Center, and assessing their performance. Provides a written evaluation of the principal SMA official at each Center, which shall be attached to each individual's annual performance appraisal (Requirement 57335).	U	N	N	Mgmt
NPD 1000.3C	4.10.2.g	57356	OFFICE OF THE CHIEF ENGINEER: Responsibilities: The Chief Engineer reports to the NASA Associate Administrator and is responsible for: Establishing and maintaining Agency-wide processes, technical standards, requirements, and policies for the conduct of discipline-area engineering and systems engineering. This shall include evaluating the implementation by the Centers and program/project management (Requirement 57356).	U	N	N	Mgmt
NPD 1000.3C	4.10.2.j	57359	OFFICE OF THE CHIEF ENGINEER: Responsibilities: The Chief Engineer reports to the NASA Associate Administrator and is responsible for: Implementing and managing Agency-wide mandatory curriculum for program/project managers, systems engineers, and discipline engineers. This shall include providing and managing mandatory curriculum at NASA Centers. The Office of the Chief Engineer shall work with the Associate Administrator to ensure proper alignment of curriculum with needed competencies for the future of NASA (Requirement 57359).	U	N	N	Mgmt
NPD 1000.3C	5.10.1	57375	NASA ENGINEERING AND SAFETY CENTER: Mission: The NASA Engineering and Safety Center (NESC), managed at the Langley Research Center, serves as a major Agency-wide technical resource focused on engineering excellence supporting the safety and success of NASA missions. The NESC provides independent engineering and technical expertise to evaluate technical problems and supplement Center-based engineering and safety activities for NASA programs. The NESC shall perform independent engineering assessments, analysis, and testing to ensure technical adequacy and, thus, the safety of NASA activities. In relation to the Center's mission, the term "safety" encompasses those aspects of NASA system designs and operations that are important to mission success and that relate to potential risks to the public, to NASA, and to contractor flight and ground personnel. The term "engineering" signifies any of the professional technical design, manufacturing, and operational disciplines, including systems engineering and the various assurance engineering disciplines. The NESC serves the safety and mission assurance, engineering, and program/project com	U	N	N	Mgmt
NPD 1040.4A	1	30627	POLICY: In accordance with Executive Order 12656 and Presidential Decision Directive 63 cited in Section 3, Authority, it is NASA policy to ensure that the Agency is prepared to maintain the operation of its critical mission essential functions, or implement transfer of critical mission essential functions to alternate locations in the event of emergencies and disastrous events resulting in long-term disruptions of normal operations. (Requirement 30627) This is accomplished by--	S	N	N	Safety
NPD 1040.4A	1.a	30628	Evaluating all NASA Mission Essential Infrastructure (MEI), to include Information Technology (IT), communications, and other facilities on which those assets depend (e.g., data, power, water, oil, gas, environmental controls, transportation, safety, security), for their mission criticality using a risk management approach. (Requirement 30628). The requirements are established in NPR 1040.1, NASA Continuity of Operations (COOP) Planning Procedural Requirements, and referenced national level documents.	S	N	N	Safety
NPD 1040.4A	1.b	30629	Ensuring that essential management functions of Agency and Center critical operations are included under Continuity of Operations (COOP) Planning. (Requirement 30629)	S	N	N	Safety
NPD 1040.4A	1.c	30630	Evaluating Agency IT Systems identified under the "Special Management Attention (SMA)" designator for inclusion under COOP. (Requirement 30630)	S	N	N	Safety
NPD 1040.4A	1.d(1)	30631	Developing COOP Plans that provide for attaining operational capability within 12 hours of an event. (Requirement 30631)	S	N	N	Safety
NPD 1040.4A	1.d(2)	30883	Developing COOP Plans: Further, they shall establish reliable process and procedures to acquire the resources necessary to continue essential functions and sustain operations for up to 30 days. (Requirement 30883)	S	N	N	Safety
NPD 1040.4A	1.e	30632	Focusing on reciprocal alternate COOP site operations at other NASA Centers. (Requirement 30632)	S	N	N	Safety
NPD 1040.4A	1.f	30633	Reviewing and testing established COOP plans not less than annually, to ensure a viable plan. (Requirement 30633)	S	N	N	Safety
NPD 1040.4A	1.g	30634	Including an "Order of Succession" for key positions, and "Delegation of Authority" in established COOP plans to ensure rapid response to any emergency situation, as well as identification of electronic communications media needed to effect notification during a COOP event. (Requirement 30634)	S	N	N	Safety
NPD 1040.4A	1.h	30635	Ensuring that adequate resources are made available to maintain a viable and executable COOP capability. (Requirement 30635)	S	N	N	Safety
NPD 1040.4A	5.a	30640	Under EO 12656 and PDD 63, the NASA Administrator is the executive agent responsible for ensuring that continuity of operations planning is implemented, maintained, and tested throughout the Agency. (Requirement 30640)	S	N	N	Safety

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NPD 1040.4A	5.b	30641	Mission Directorate Associate Administrators are responsible for ensuring that the NASA Centers (including Component Facilities under their cognizance) implement this policy directive and NPR 1040.1, NASA Continuity of Operations Planning Procedural Requirements, as appropriate, and that through the contracting officers, appropriate provisions are included in applicable contracting instruments. (Requirement 30641)	S	N	N	Safety
NPD 1040.4A	5.c	30642	Center Directors and the Director of Headquarters Operations are responsible for the appropriate implementation of this policy directive and NPR 1040.1, NASA Continuity of Operations Planning and Procedural Rrequirements, within their respective Centers, including Component Facilities. (Requirement 30642)	S	N	N	Safety
NPD 1040.4A	5.d	30643	The Assistant Administrator for Security and Program Protection is responsible for functional management and leadership of the Continuity of Operations process, and for implementing, managing, and monitoring participation in and compliance with this directive and NPR 1040.1. (Requirement 30643)	S	N	N	Safety
NPD 1040.4A	5.e	30644	The Chief Information Officer is responsible for ensuring that NASA IT systems, designated as MEI or SMA, are properly evaluated for implementation of COOP plans. (Requirement 30644)	S	N	N	Safety
NPD 1040.4A	5.f	30645	Program Managers are responsible for evaluating their program functions, primary or supporting IT communications systems, and other interdependencies for possible COOP implementation. (Requirement 30645)	S	N	N	Safety
NPD 1040.4A	7.c	30650	Metrics will be focused on Center efforts to document progress in developing required COOP Plans and testing COOP capability as required. Reports outlining the Agency's progress in developing COOP plans are due to the Agency COOP Coordinator from Center COOP Coordinators on January 15th of each year and will cover the period January 1 to December 31 of the preceding year. Reports will contain the following information: Number of COOP Plans exercised or tested, by Plan Title, Organization and type of exercise or test. (Requirement 30650)	S	N	N	Safety
NPD 1280.1	1.b	7101	It is NASA's policy to: ISO 9001 or AS9100 may be used to satisfy this policy; additional approaches may also be acceptable, where approved by the Deputy Administrator. (Requirement 7101)	A	N	N	Mgmt
NPD 1280.1	1.d(1)	7102	It is NASA's policy to: Ensure that NASA management systems meet a set of minimum criteria. Management systems shall: Ensure customer focus and high performance throughout all operations, while recognizing the diverse missions and levels of risk within organizations. (Requirement 7102)	A	N	N	Mgmt
NPD 1280.1	1.d(2)	7103	It is NASA's policy to: Ensure that NASA management systems meet a set of minimum criteria. Management systems shall: Focus on results through procedures and practices that, taken together, ensure that organizations perform their mission effectively and meet their objectives. (Requirement 7103)	A	N	N	Mgmt
NPD 1280.1	1.d(3)	7104	It is NASA's policy to: Ensure that NASA management systems meet a set of minimum criteria. Management systems shall: Provide for management responsibility and accountability, performance requirements, measurement, and analysis of data for effectiveness and continual improvement by: i. Focusing organizations on results and creating value. ii. Demonstrating that management at all levels is committed to providing quality products and services and is held accountable for performance. iii. Allocating responsibility for reviewing the management systems. iv. Identifying customer and operational performance requirements. v. Identifying clear performance measures. vi. Using periodic surveillance such as audits and customer feedback to ensure that requirements are met, and using third party assessments to verify requirement compliance. vii. Maintaining relevant records of progress in achieving results. viii. Determining the causes of actual problems and taking action to correct them. ix. Identifying and analyzing potential problems and taking action to prevent them from occurring. (Requirement 7104)	A	N	N	Mgmt
NPD 1280.1	1.e	7105	It is NASA's policy to: Ensure that NASA contracts include quality requirements that are determined necessary to protect the Government's interest. (Requirement 7105)	A	N	N	Quality
NPD 1280.1	1.f	7106	It is NASA's policy to: Ensure the quality of critical flight hardware, software, and services by establishing process controls linked to a maintained quality management system. (Requirement 7106)	A	N	N	Mgmt
NPD 1280.1	5.d	7107	RESPONSIBILITY: The Associate Administrator for Safety and Mission Assurance is responsible for providing technical guidance on the type and extent of quality requirements, including quality system requirements, that are appropriate for NASA acquisitions. (Requirement 7107)	S	N	N	Mgmt
NPD 1800.2B	7.h	4029	Reserved.	E	N	N	Safety
NPD 2820.1C	1.b(1)	5004	NASA policy regarding software activities for each project is to accomplish the following: consistent with the software classification: Implement and integrate software engineering processes and practices with other system development and program/project processes and practices. (Requirement 5004)	S	N	N	Mgmt
NPD 2820.1C	1.b(2)	32651	NASA policy regarding software activities for each project is to accomplish the following: consistent with the software classification: Require software providers (includes internal NASA providers) to have proven organizational capabilities and experience to deliver quality software on time, within budget, and within technical acceptability.	S	N	N	SWA
NPD 2820.1C	1.b(3)	32652	NASA policy regarding software activities for each project is to accomplish the following: consistent with the software classification: Require software providers to develop a plan to manage software throughout the program/project life cycle. This plan shall include the collection and reporting of actual software related expenditures at the project level by life cycle phases.	S	N	N	SWA
NPD 2820.1C	1.b(4)	34798	NASA policy regarding software activities for each project is to accomplish the following: consistent with the software classification: Include NASA software assurance practitioners in software acquisition, review, verification, maintenance, and certification processes.	E	N	N	SWA

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NPD 2820.1C	1.b(5)	34799	NASA policy regarding software activities for each project is to accomplish the following: consistent with the software classification: Projects shall ensure software providers allow access to software and associated artifacts to enable insight/oversight by software engineering and software assurance which includes Independent Verification and Validation (IV&V) and NASA's Safety and Mission Assurance organizations.	E	N	N	SWA
NPD 2820.1C	1.c	5025	NASA policy regarding software activities for each project is to accomplish the following: Use the Independent Verification and Validation (IV&V) Facility as the sole provider of IV&V services when software created by or for NASA is selected for IV&V by the NASA Chief Safety and Mission Assurance Officer.	S	N	N	SWA
NPD 2820.1C	1.d	5005	NASA policy regarding software activities for each project is to accomplish the following: NASA's policy regarding intellectual property protection of software and the release of software is to accomplish the following:	S	N	N	SWA
NPD 2820.1C	1.d(1)	34800	NASA policy regarding software activities for each project is to accomplish the following: NASA's policy regarding intellectual property protection of software and the release of software is to accomplish the following: Report and inventory software created by or for NASA as valuable intellectual property as required in NPR 2210.1.	S	N	N	SWA
NPD 2820.1C	1.d(2)	34801	NASA policy regarding software activities for each project is to accomplish the following: NASA's policy regarding intellectual property protection of software and the release of software is to accomplish the following: Manage and protect software created by or for NASA as valuable intellectual property during all phases of the life cycle. Assert intellectual property rights for software, where deemed appropriate, in order to facilitate its transfer and reuse by commercial, industrial, educational, and government organizations.	S	N	N	SWA
NPD 2820.1C	1.d(3)	34802	NASA policy regarding software activities for each project is to accomplish the following: NASA's policy regarding intellectual property protection of software and the release of software is to accomplish the following: Establish uniform procedures and requirements concerning the release of software created by or for NASA that will maximize its benefit to NASA, the U.S. public, and the U.S. economy.	S	N	N	SWA
NPD 2820.1C	1.d(4)	34803	NASA policy regarding software activities for each project is to accomplish the following: NASA's policy regarding intellectual property protection of software and the release of software is to accomplish the following: Release software in accordance with NPR 2210.1, External Release of NASA Software, consistent with law and applicable agreements, for commercial, industrial, educational, and governmental purposes.	S	N	N	SWA
NPD 2820.1C	1.d(5)	34804	NASA policy regarding software activities for each project is to accomplish the following: NASA's policy regarding intellectual property protection of software and the release of software is to accomplish the following: Establish procedures to ensure Agency compliance with copyright laws protecting computing software and with the provisions of Executive Order 13103, Computer Software Piracy, including the adoption of software asset management procedures to ensure that the Agency does not acquire, reproduce, distribute, or transmit computer software in violation of applicable copyright laws.	S	N	N	SWA
NPD 2820.1C	5(1)	5007	The NASA Chief Engineer, NASA Chief Information Officer (CIO), NASA Chief Safety and Mission Assurance Officer, Associate Administrators for Mission Directorates, and Center Directors are responsible for jointly promoting software policies, standards, best practices, and guidance in their areas of responsibility under this NPD. They shall coordinate efforts to maximize the commonality, clarity, and effectiveness of direction and guidance. (Requirement 5007)	S	N	N	Mgmt
NPD 2820.1C	5(2)	32653	The NASA Chief Information Officer (CIO), the NASA Chief Engineer, and the Associate Administrator for Safety and Mission Assurance (Associate Administrator for Safety and Mission Assurance) are responsible for: Roles and responsibilities for all NASA entities relative to this policy are carried out within the framework of the NPD 1000.0, Strategic Management and Governance Handbook, and are not repeated here. (Requirement 32653)	S	N	N	Mgmt
NPD 2820.1C	5.a(1)	34808	The NASA Chief Engineer shall integrate NASA software management, acquisition, engineering, and assurance requirements into policies, directives, and standards applicable to NASA's systems engineering, and program and project management processes.	S	N	N	SWA
NPD 2820.1C	5.a(2)	34809	The Chief Engineer shall also document NASA guidance and best practices to support NASA's systems engineering and program and project management processes.	S	N	N	Mgmt
NPD 2820.1C	5.a(3)	34810	The Chief Engineer shall establish and manage the Agency's software classification definitions and maintain the Software Inventory.	E	N	N	Mgmt
NPD 2820.1C	5.a(4)	34811	The Chief Engineer and the Engineering Management Board (EMB) shall charter a Software Working Group (SWG) to oversee the implementation and update of an Agencywide plan to work toward continuous, sustained software engineering process and product improvements, and to ensure appropriate visibility of software issues within the Agency.	S	N	N	Mgmt
NPD 2820.1C	5.a(5)	34812	The Chief Engineer chairs the Software Steering Board (SSB) that is chartered in NPD 1000.3 to strengthen Agencywide coordination and communication of cross-cutting software investments, resolve issues, respond to significant external surveys/audits/reviews, and facilitate the establishment of policies affecting the Agency.	E	N	N	Mgmt
NPD 2820.1C	5.a(6)	34813	The Chief Engineer shall establish a discipline Technical Warrant Holder for software engineering.	S	N	N	Mgmt
NPD 2820.1C	5.a(7)	34814	The NASA Chief Engineer is responsible for the establishment and enforcement of policies and procedural requirements in this directive.	E	N	N	Mgmt
NPD 2820.1C	5.b(1)	5011	The NASA CIO shall establish Information Technology (IT) security and IT policies and ensure that IT and information resources are managed in a manner that best serves the Agency and aligns with Federal policies and directions; manage NASA's IT investments; and enable access to information and services.	E	N	N	Mgmt
NPD 2820.1C	5.b(2)	32654	The CIO chairs the Chief Information Officer Board.	E	N	N	Mgmt
NPD 2820.1C	5.b(3)	34815	The CIO is responsible for ensuring that Executive Order 13103, Computer Software Piracy, is effectively and efficiently implemented by NASA.	E	N	N	Mgmt

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NPD 2820.1C	5.b(4)	34816	The CIO shall appoint and support representatives to the Software Working Group.	E	N	N	Mgmt
NPD 2820.1C	5.c(01)	5013	The NASA Chief Safety and Mission Assurance Officer shall: assure the safety, quality, and reliability of NASA software; (Requirement 5013)	S	N	N	SWA
NPD 2820.1C	5.c(02)	32655	The NASA Chief Safety and Mission Assurance Officer shall: review project software processes and make recommendations to the governing Program Management Council (PMC), Mission Directorates, and independent Technical Authorities; (Requirement 32655)	S	N	N	SWA
NPD 2820.1C	5.c(03)	32656	The NASA Chief Safety and Mission Assurance Officer shall: conduct oversight of NASAs software assurance programs; (Requirement 32656)	S	N	N	SWA
NPD 2820.1C	5.c(04)	32657	The NASA Chief Safety and Mission Assurance Officer shall: conduct compliance verification audits of programs/projects to ensure compliance with this Directive. (Requirement 32657)	S	N	N	SWA
NPD 2820.1C	5.c(05)	34817	The NASA Chief Safety and Mission Assurance Officer shall: independently assess project software management, engineering, and assurance practices.	S	N	N	SWA
NPD 2820.1C	5.c(06)	34727	The NASA Chief Safety and Mission Assurance Officer shall: Oversee the functional management of the NASA IV&V Program and assure the performance of all of IV&V processes, services, and activities.	S	N	N	SWA
NPD 2820.1C	5.c(07)	34728	The NASA Chief Safety and Mission Assurance Officer shall: Establish and manage processes for the selection of software to which to apply IV&V.	S	N	N	SWA
NPD 2820.1C	5.c(08)	34729	The NASA Chief Safety and Mission Assurance Officer shall: Charter the IV&V Board of Directors (IBD) which makes prioritized recommendations for allocating IV&V services to projects based on the annual Software Inventory (maintained by the Chief Engineer) and the Office of Safety and Mission Assurance (OSMA) defined process.	S	N	N	SWA
NPD 2820.1C	5.c(09)	34730	The NASA Chief Safety and Mission Assurance Officer shall: Select and maintain the list of software projects to which IV&V is to be applied.	S	N	N	SWA
NPD 2820.1C	5.c(10)	32658	The NASA Chief Safety and Mission Assurance Officer shall appoint and support representatives to the Software Working Group (SWG). (Requirement 32658)	S	N	N	Mgmt
NPD 2820.1C	5.d(1)	5015	The IV&V Program Manager shall 1) establish and manage the Agency's software IV&V services and procedures; 2) establish, maintain, and report on the results of IV&V services and findings; and 3) support NASA's program for improving software assurance and other trusted verifications (e.g., independent assessments, peer reviews, and research).	S	N	N	SWA
NPD 2820.1C	5.d(2)	32659	The IV&V Facility shall determine and document the services provided by the Facility on projects selected for IV&V by the NASA Chief Safety and Mission Assurance Officer.	S	N	N	Mgmt
NPD 2820.1C	5.e(1)	34818	The Associate Administrator for Exploration Systems (AA-ESMD) or designee, the Director of the Innovative Partnership Program (IPP), is responsible for the overall management of the NASA software release program under NPR 2210.1 and shall establish and implement software release procedures, requirements, and supplemental policy in cooperation with the General Counsel or designee.	S	N	N	Mgmt
NPD 2820.1C	5.e(2)	34819	The AA-ESMD shall charter a Software Release Authority Working Group (SRAWG) to oversee the software release process. The SRAWG will coordinate with the SWG to ensure appropriate visibility of software issues within the Agency. Additional responsibilities for the NASA software release program are provided in NPR 2210.1.	S	N	N	Mgmt
NPD 2820.1C	5.f(1)	34820	Mission Directorate Associate Administrators and Center Directors shall appoint and support representatives to the SWG. The Center Directors are responsible for the center's software improvement activities, as defined in the Center Software Improvement Plans and Center Software Training Plans.	S	N	N	Mgmt
NPD 2820.1C	5.f(2)	34821	The Center Directors shall appoint and support an individual as the Center's Software Release Authority (SRA) and may appoint a group of individuals as the Software Release Group to be chaired by the Center SRA in accordance with NPR 2210.1. The SRA shall be the Center representative on the SRAWG. The Chairperson of the SRAWG shall be a member of the SWG.	S	N	N	Mgmt
NPD 2820.1C	5.g	34731	The governing PMC shall review program and project software processes and products including, but not limited to, evidence of conformance to this policy; use of insight/oversight; use of IV&V and other trusted verifications (e.g., independent assessments and peer reviews); and risk mitigation processes, as appropriate, based on program/project consequences of failure, risk, complexity, life span, size, and cost.	S	N	N	SWA
NPD 2820.1C	5.h	34732	Center Directors shall provide the Chief Engineer with information to support the creation of the Software Inventory.	E	N	N	Mgmt
NPD 2820.1C	5.i	34733	The Assistant Administrator for Diversity and Equal Opportunity shall provide assistance, advice, and coordination to ensure voluntary compliance with equal opportunity requirements regarding the accessibility of information electronic technology, including software, for persons with disabilities.	E	N	N	Mgmt
NPD 7120.4C	1.c(1)	19002	POLICY: Scope: NASA shall undertake only programs and projects whose objectives are clearly articulated and consistent with its Strategic Plan and for which cost, schedule, and content commitment can be made. (Requirement 19002)	E	N	N	Mgmt
NPD 7120.4C	1.d(1)	19003	POLICY: Oversight: NASA shall have a system of Governing Program Management Councils (GPMC) responsible for assessing program and project formulation and implementation, and providing oversight and direction. Programs shall be endorsed by the Agency Program Management Council and approved by the NASA Administrator. (Requirement 19003)	S	N	N	SWA
NPD 7120.4C	1.d(2)	32669	POLICY: Oversight: Programs shall report to the Agency Program Management Council, unless delegated to a lower level GPMC. (Requirement 32669)	S	N	N	Mgmt
NPD 7120.4C	1.d(3)	32670	POLICY: Oversight: Projects shall report to the Lead Center Program Management Council unless selected for oversight by the Agency Program Management Council, or delegated to a lower level GPMC. (Requirement 32670)	E	N	N	Mgmt
NPD 7120.4C	1.e	19013	POLICY: Process: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation. (Requirement 19013)	E	N	N	Mgmt

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NPD 7120.4C	1.e.1(1)	19004	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Formulation: The purpose of the formulation subprocess is to develop a program or project concept and define a plan for implementation to meet mission objectives or technology goals specified in either the NASA or Enterprise Strategic Plans. Program Formulation shall be initiated through a Formulation Authorization Document (FAD). (Requirement 19004)	E	N	N	Mgmt
NPD 7120.4C	1.e.1(2)	32671	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Formulation: The purpose of the formulation subprocess is to: The products of the Program formulation subprocess shall be the proposed Program Commitment Agreement (PCA) and Program Plan. Project formulation shall be initiated as defined in the Program Plan. (Requirement 32671)	E	N	N	Mgmt
NPD 7120.4C	1.e.1(3)	32672	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Formulation: The purpose of the formulation subprocess is to: The product of Project formulation shall be a proposed Project Plan. (Requirement 32672)	E	N	N	Mgmt
NPD 7120.4C	1.e.2(1)	19005	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Approval: The purpose of the approval subprocess is to decide on a program/project's readiness to proceed from formulation to implementation. This subprocess shall be conducted by the GPMC. The products of this subprocess shall be the approved PCA and Program/Project Plans including revisions based on safety, budgetary, technical issues, or strategic redirection. (Requirement 19005)	S	N	N	Mgmt
NPD 7120.4C	1.e.2(2)	32673	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Approval: The purpose of the approval subprocess: The GPMC shall continue oversight of the program/project after approval. The Administrator is the sole authority to approve new programs. (Requirement 32673)	S	N	N	Mgmt
NPD 7120.4C	1.e.3	19006	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Implementation: The purpose of the implementation subprocess is to execute the approved program and project(s). The implementation subprocess shall deliver program and project products and capabilities, within approved resources, that meet the needs of the customer. (Requirement 19006)	E	N	N	Mgmt
NPD 7120.4C	1.e.4(1)	19007	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Evaluation: The purpose of the evaluation subprocess is to provide an independent assessment of the ability of the program or project to meet its technical and programmatic commitments. The evaluation subprocess shall ensure the benefits of peer experiences and provide opportunities for customer participation. (Requirement 19007)	E	N	N	Mgmt
NPD 7120.4C	1.e.4(2)	44829	POLICY: NASA programs and projects shall follow four standard subprocesses: formulation, approval, implementation, and evaluation: Evaluation: The evaluation subprocess shall occur throughout the program or project to ensure the successful completion of the formulation, approval, and implementation subprocesses. This subprocess provides recommendations for proceeding with, modifying, or terminating the program or project. (Requirement 44829)	E	N	N	Mgmt
NPD 7120.4C	1.f	19008	POLICY: Termination: Whenever a program/project is in jeopardy of being unable to meet its commitments within the predefined criteria, it may be subject to a termination review by the Governing Program Management Council (GPMC). Criteria for a termination review shall be specified in the Program Commitment Agreement. (Requirement 19008)	E	N	N	Mgmt
NPD 7120.4C	1.g(1)	19009	POLICY: Tailoring: Tailoring is the documentation and approval of the adaptation of the process and requirements specified in NPR 7120.5 to specific program or project needs. The results of this activity shall be documented in the PCA, Program Plan, and/or Project Plan. (Requirement 19009)	E	N	N	Mgmt
NPD 7120.4C	1.g(2)	32674	POLICY: Tailoring: All programs and projects shall comply with requirements established by pertinent statute, regulations, OMB Circulars, Executive Orders, and Agency Directives. (Requirement 32674)	E	N	N	Mgmt
NPD 7120.4C	1.g(3)	32675	POLICY: Tailoring: Program and project managers shall assess all process activities and requirements, and may tailor them to the specific needs of the program/project consistent with program/project size, complexity, criticality, and risk. (Requirement 32675)	E	N	N	Mgmt
NPD 7120.4C	7	19011	MEASUREMENTS: The Chief Engineer will establish Process Metrics for inclusion into the Agency's Performance Plan to evaluate the successful implementation of this policy. (Requirement 19011)	E	N	N	Mgmt
NPD 8010.2D	1.b(1)	44748	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: All new programs and projects shall use the SI system of measurement in preference to customary U.S. measurement units, including related NASA procurements, grants, and business activities, except where the cognizant Program Manager or Headquarters Official-In-Charge determines that use of SI units is impractical, adds unacceptable risk, or is likely to cause significant inefficiencies or loss of markets to U.S. firms. (Requirement 44748)	E	N	N	Mgmt
NPD 8010.2D	1.b(2)	44749	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: Special emphasis shall be placed on maximum use of SI units in international cooperative programs. (Requirement 44749)	E	N	N	Mgmt
NPD 8010.2D	1.c	44750	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: For the purposes of this policy, use of SI units may be considered impractical where it can be demonstrated to result in substantial increases in cost or unacceptable delays in schedule needed to obtain SI components.	E	N	N	Mgmt
NPD 8010.2D	1.d(1)	44751	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: The Program Manager shall determine the proposed use, exceptions, limitations, and support requirements for use of the SI system of measurement prior to the Systems Requirements Review or equivalent milestone during new Program/Project Formulation, per the reference of Section 4.c. below. (Requirement 44751)	E	N	N	Mgmt

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NPD 8010.2D	1.d(2)	44752	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: Determinations on where and how the SI system is to be used shall be documented in each Program or Project Management Plan. (Requirement 44752)	E	N	N	Mgmt
NPD 8010.2D	1.f	44754	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: Programs and projects shall minimize risk of errors by consistent labeling of measurement units throughout all documentation. (Requirement 44754)	E	N	N	Mgmt
NPD 8010.2D	1.g(1)	44755	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: Soft SI units (non-SI measurements numerically converted to SI units solely for the purpose of representing data in SI units) and dual units (data represented in both SI units and customary U.S. units of measure) shall not be used except where there is a specific need for ensuring compatibility, e.g. at hybrid interfaces or clarity, such as in public affairs information. (Requirement 44755)	E	N	N	Mgmt
NPD 8010.2D	1.g(2)	44756	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: Dual units on drawings, when required, shall be in accordance with the requirements of the reference in Section 4.d below. (Requirement 44756)	E	N	N	Mgmt
NPD 8010.2D	1.j	44759	POLICY: NASA policy for systems of measurement to be used on NASA programs/projects is as follows: NASA will establish and maintain an inventory of internal resources for SI design to support increased SI use by programs and projects. (Requirement 44759)	E	N	N	Mgmt
NPD 8010.2D	5.a.1	44770	RESPONSIBILITY: The Chief Engineer is responsible for: Coordinating and overseeing implementation of this policy, including acting as the final decision authority for disputes concerning the application of the exception set forth in 1.b. above. (Requirement 44770)	E	N	N	Mgmt
NPD 8010.2D	5.a.2	44771	RESPONSIBILITY: The Chief Engineer is responsible for: Advising Enterprise Associate Administrators regarding the use of the SI system of measurement. (Requirement 44771)	E	N	N	Mgmt
NPD 8010.2D	5.a.3	44772	RESPONSIBILITY: The Chief Engineer is responsible for: Serving as the NASA Metric Executive on the Interagency Council on Metric Policy. (Requirement 44772)	E	N	N	Mgmt
NPD 8010.2D	5.a.4	44773	RESPONSIBILITY: The Chief Engineer is responsible for: Evaluating measurement system decisions and implementation for consistency with policy for Program/Project reviews conducted during the formulation phase in accordance with NPR 7120.5. (Requirement 44773)	E	N	N	Mgmt
NPD 8010.2D	5.a.5	44774	RESPONSIBILITY: The Chief Engineer is responsible for: Maintaining an inventory of SI support capabilities within NASA. (Requirement 44774)	E	N	N	Mgmt
NPD 8010.2D	5.b.1	44776	RESPONSIBILITY: NASA Headquarters Officials-in-Charge are responsible for: Consulting with the Chief Engineer on opportunities for increasing use of the SI measurement system. (Requirement 44776)	E	N	N	Mgmt
NPD 8010.2D	5.b.2	44777	RESPONSIBILITY: NASA Headquarters Officials-in-Charge are responsible for: Reviewing measurement system decisions and reporting to the NASA Chief Engineer any cases in which exceptions to use of the SI system on programs/projects, or in procurements, etc., are approved in accordance with Section 1.b above. (Requirement 44777)	E	N	N	Mgmt
NPD 8010.2D	5.b.3	44778	RESPONSIBILITY: NASA Headquarters Officials-in-Charge are responsible for: Ensuring that measurement system decisions are properly implemented and do not result in undue risk. (Requirement 44778)	E	N	N	Mgmt
NPD 8010.2D	5.c.1	44780	RESPONSIBILITY: Program Managers are responsible for: Conducting analyses, reviewing recommendations, and approving selection of measurement systems for programs/projects and related NASA procurements, grants, and business activities during the formulation process specified in Reference 4.c above. (Requirement 44780)	E	N	N	Mgmt
NPD 8010.2D	5.c.2	44781	RESPONSIBILITY: Program Managers are responsible for: Determining for programs and projects under their cognizance where use of SI units is impractical, adds additional unacceptable risk, or is likely to cause significant inefficiencies or loss of markets to U.S. firms, and, in such cases, documenting this conclusion in the appropriate program or projects plans. (Requirement 44781)	E	N	N	Mgmt
NPD 8010.2D	5.c.3	44782	RESPONSIBILITY: Program Managers are responsible for: Ensuring appropriate interface configuration controls are established in programs and projects using hybrid units in accordance with Section 1.e above. (Requirement 44782)	E	N	N	Mgmt
NPD 8010.2D	5.c.4	44783	RESPONSIBILITY: Program Managers are responsible for: Reporting exceptions and limitations to use of the SI measurement system to the responsible Headquarters Official-in-Charge. (Requirement 44783)	E	N	N	Mgmt
NPD 8010.2D	5.d.1	44785	RESPONSIBILITY: Directors of NASA Centers are responsible for: Ensuring timely analysis, evaluation, documentation, and review of opportunities and requirements for use of the SI system on those programs/projects for which they have responsibility. (Requirement 44785)	E	N	N	Mgmt
NPD 8010.2D	5.d.2	44786	RESPONSIBILITY: Directors of NASA Centers are responsible for: Planning for and implementing use of the SI system of measurement except where the cognizant Program Manager of Headquarters Official-in-Charge has determined that use of the SI measurement system is impractical, adds unacceptable risk, or is likely to cause significant inefficiencies or loss of markets to U.S. firms. (Requirement 44786)	E	N	N	Mgmt
NPD 8010.2D	5.d.3	44787	RESPONSIBILITY: Directors of NASA Centers are responsible for: Establishing and maintaining capabilities for providing effective and consistent support of the SI system of measurement for design, analysis, fabrication, test, and operations on current and future NASA programs/projects.	E	N	N	Mgmt
NPD 8010.3A	5.a.1	55995	RESPONSIBILITY: The Associate Administrator for the Enterprise with management responsibility for each mission and operating space system is responsible for implementation of this policy. The following are the responsibilities of the managing Enterprise Associate Administrator: Contact participating Enterprises, functional offices, and affected user communities to communicate the rationale for planned mission termination and/or decommissioning or termination of operating space systems, and to determine if they have any basis or reason for continuing the operation of the mission and/or operating space systems.	U	N	N	Mgmt

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NPD 8010.3A	5.a.2	55996	RESPONSIBILITY: The Associate Administrator for the Enterprise with management responsibility for each mission and operating space system is responsible for implementation of this policy. The following are the responsibilities of the managing Enterprise Associate Administrator: Prepare and forward to the Administrator a notification of intent to terminate a mission and/or decommission or terminate operation of a space system. This notification should be forwarded sufficiently in advance to communicate the declaration of intent and begin the coordination process prior to shutdown, but in no case less than 90 calendar days before the planned shutdown. This notification should provide the rationale for and the implications of the action proposed. The notification should also describe the end of mission plan for safe disposal, and past coordination with all interested parties and the public, or include a plan for assuring such coordination prior to shutdown.	U	N	N	Mgmt
NPD 8010.3A	5.a.3	55997	RESPONSIBILITY: The Associate Administrator for the Enterprise with management responsibility for each mission and operating space system is responsible for implementation of this policy. The following are the responsibilities of the managing Enterprise Associate Administrator: Distribute copies of the notification to involved Headquarters offices and NASA Centers, including the Offices of Space Flight, General Counsel, Safety and Mission Assurance, External Relations, Legislative Affairs, Public Affairs, Security Management and Safeguards, and the NASA Chief Financial Officer/Comptroller.	U	N	N	Mgmt
NPD 8010.3A	5.a.4	55998	RESPONSIBILITY: The Associate Administrator for the Enterprise with management responsibility for each mission and operating space system is responsible for implementation of this policy. The following are the responsibilities of the managing Enterprise Associate Administrator: Obtain concurrence from Safety and Mission Assurance that the mission termination plan complies with approved safety standards at the time of launch.	U	N	N	Mgmt
NPD 8010.3A	5.a.5	55999	RESPONSIBILITY: The Associate Administrator for the Enterprise with management responsibility for each mission and operating space system is responsible for implementation of this policy. The following are the responsibilities of the managing Enterprise Associate Administrator: For operating space systems that have international participation covered by an international agreement with NASA under the Space Act, the managing Enterprise Associate Administrator will inform the Office of External Relations of a decision to terminate a mission and/or decommission or terminate a space system in a time frame that is consistent with the terms and conditions defined in the agreement with the international partner.	U	N	N	Mgmt
NPD 8010.3A	5.b.1	56001	RESPONSIBILITY: The NASA Center responsible for operation of the mission and/or space system shall also have the following termination responsibilities: Coordinate with the managing Enterprise to physically shut down the mission and/or space system on the planned shutdown date (Requirement 56001).	E	N	N	Mgmt
NPD 8010.3A	5.b.2	56002	RESPONSIBILITY: The NASA Center responsible for operation of the mission and/or space system shall also have the following termination responsibilities: Notify project management to coordinate with the Center Records Manager for proper disposition of mission/space system records in accordance with NPR 1441.1D, NASA Records Retention Schedules (Requirement 56002).	E	N	N	Mgmt
NPD 8020.7F	5.a.1	56909	RESPONSIBILITY: The Associate Administrator for Space Science, or designee, is responsible for overall administration of NASA's planetary protection policy. This includes the following: Maintaining the required activities in support of the planetary protection policy at NASA Headquarters.	S	N	N	Mgmt
NPD 8020.7F	5.a.2	56910	RESPONSIBILITY: The Associate Administrator for Space Science, or designee, is responsible for overall administration of NASA's planetary protection policy. This includes the following: Assuring that the research and technology activities required to implement the planetary protection policy are conducted.	S	N	N	Mgmt
NPD 8020.7F	5.a.3	56911	RESPONSIBILITY: The Associate Administrator for Space Science, or designee, is responsible for overall administration of NASA's planetary protection policy. This includes the following: Monitoring space flight missions as necessary to meet the requirements for planetary protection certification.	S	N	N	Mgmt
NPD 8020.7F	5.b.1	56913	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Prescribing standards, procedures, and guidelines applicable to all NASA organizations, programs, and activities to achieve the policy objectives of this directive.	S	N	N	Mgmt
NPD 8020.7F	5.b.2	56914	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Certifying to the Associate Administrator for Space Science and to the Administrator prior to launch; and (in the case of returning spacecraft) prior to the return phase of the mission, prior to the Earth entry, and again prior to approved release of returned materials, that-	S	N	N	Mgmt
NPD 8020.7F	5.b.2.a	56915	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Certifying to the Associate Administrator for Space Science and to the Administrator prior to launch; and (in the case of returning spacecraft) prior to the return phase of the mission, prior to the Earth entry, and again prior to approved release of returned materials, that: All measures have been taken to assure meeting NASA policy objectives as established in this directive and all implementing procedures and guidelines.	S	N	N	Mgmt
NPD 8020.7F	5.b.2.b	56916	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Certifying to the Associate Administrator for Space Science and to the Administrator prior to launch; and (in the case of returning spacecraft) prior to the return phase of the mission, prior to the Earth entry, and again prior to approved release of returned materials, that: The recommendations, as appropriate, of relevant regulatory agencies with respect to planetary protection have been considered, and pertinent statutory requirements have been fulfilled.	S	N	N	Mgmt

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NPD 8020.7F	5.b.2.c	56917	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Certifying to the Associate Administrator for Space Science and to the Administrator prior to launch; and (in the case of returning spacecraft) prior to the return phase of the mission, prior to the Earth entry, and again prior to approved release of returned materials, that: The international obligations assessed by the Office of the General Counsel and the Office of External Relations have been met, and international implications have been considered.	S	N	N	Mgmt
NPD 8020.7F	5.b.3	56918	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Conducting reviews, inspections, and evaluations of plans, facilities, equipment, personnel, procedures, and practices of NASA organizational elements and NASA contractors, as applicable, to discharge the requirements of this directive.	S	N	N	Mgmt
NPD 8020.7F	5.b.4	56919	RESPONSIBILITY: The designee for managing and implementing this policy is the Planetary Protection Officer, who is responsible for the following: Keeping the Associate Administrator for Space Science informed of developments and taking actions as necessary to achieve conformance with applicable NASA policies, procedures, and guidelines.	S	N	N	Mgmt
NPD 8020.7F	5.c	56920	RESPONSIBILITY: The Associate Administrator for Space Flight and the Associate Administrator for Biological and Physical Research, or designees, will ensure that applicable standards and procedures established under this policy, and detailed in subordinate implementing documents, are incorporated into human space flight missions. Any exceptions will be requested and justified to the Administrator through the Associate Administrator for Space Science.	S	N	N	Mgmt
NPD 8020.7F	5.d.1	56922	RESPONSIBILITY: Program Managers, through their respective Center Director, are responsible for the following: Meeting the biological and organic contamination control requirements of this directive and its subordinate and implementing documents during the conduct of research, development, test, preflight, and operational activities.	P	N	N	Mgmt
NPD 8020.7F	5.d.2	56923	RESPONSIBILITY: Program Managers, through their respective Center Director, are responsible for the following: Providing for the conduct of reviews, inspections, and evaluations by the Planetary Protection Officer, pursuant to this directive.	P	N	N	Mgmt
NPD 8070.6C	1.a	57398	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Use established, consensus-based technical standards, as defined in OMB Circular A-119, to provide an effective basis for defining requirements, evaluating implementation approaches, assessing resulting performance, and ensuring quality throughout the system life cycle defined in NPR 7120.5D and NPR 7123.1. (Requirement 57398)	E	N	N	Mgmt
NPD 8070.6C	1.b	57399	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Encourage commonality in the use of technical standards across NASA to promote excellence and consistency in practice, increase potential use of commercial items, reduce program/project costs, simplify interfaces, and improve interoperability in cooperative efforts. (Requirement 57399)	E	N	N	Mgmt
NPD 8070.6C	1.c	57400	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Give preference to performance (outcome-based) standards in program/project technical requirement specifications over prescriptive design or process (product-based) standards. Detailed standards may be used where required to provide the level of detail required to ensure compatibility of form/fit/function and to meet essential needs, such as common test methods to ensure comparability of results. (Requirement 57400)	E	N	N	Mgmt
NPD 8070.6C	1.d	57401	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Select and tailor standards (i.e., document necessary changes) to meet specific application needs and to avoid over- or under-specification of requirements. Application tailoring shall document traceability to the original standard and shall be approved by Technical Authority, as required by NPR 7120.5D, and for Safety and Mission Assurance programs by NPR 8715.3. (Requirement 57401)	E	N	N	Mgmt
NPD 8070.6C	1.e.1	57403	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Ensure use of best practices in application of technical standards to NASA programs and projects through the following: select current versions of technical standards except where justified as impractical or incompatible with requirements; (Requirement 57403)	E	N	N	Mgmt
NPD 8070.6C	1.e.2	57404	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Ensure use of best practices in application of technical standards to NASA programs and projects through the following: review lessons learned associated with selected standards for applicability to current applications; (Requirement 57404)	E	N	N	Mgmt

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NPD 8070.6C	1.e.3	57405	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Ensure use of best practices in application of technical standards to NASA programs and projects through the following: register use of standards imposed as requirements in the NASA Technical Standards System/Standards Update Notification System (at http://standards.nasa.gov) to receive notification of revisions; and (Requirement 57405)	E	N	N	Mgmt
NPD 8070.6C	1.e.4	57406	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Ensure use of best practices in application of technical standards to NASA programs and projects through the following: review revisions to imposed standards to determine the need for changes to requirements. (Requirement 57406)	E	N	N	Mgmt
NPD 8070.6C	1.f	57407	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Designate mandatory standards, where determined essential to maintain technical rigor, to reduce risk, or to ensure interoperability. These standards are to be imposed as requirements for all NASA programs and projects unless determined to be inapplicable by Technical Authority as specified in NPR 7120.5D. (Requirement 57407)	E	N	N	Mgmt
NPD 8070.6C	1.g	57408	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Use Voluntary Consensus Standards (VCS), both domestic and international, in lieu of Government-unique standards unless use of such standards would be inconsistent with applicable laws or otherwise impractical. "Impractical" includes circumstances when the use of VCS would fail to serve the Agency's program needs; would be infeasible; or would be inadequate, ineffectual, or inconsistent with Agency mission. (Ref. OMB Circular A-119, Section 6.a) (Requirement 57408)	E	N	N	Mgmt
NPD 8070.6C	1.h	57409	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Participate in the development of VCS to eliminate the necessity for development or maintenance of separate Government-unique standards when such participation is in the public interest and is compatible with NASA's missions, authorities, priorities, and budget resources. (Ref. OMB Circular A-119, Section 7.) (Requirement 57409)	E	N	N	Mgmt
NPD 8070.6C	1.i	57410	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Establish and maintain NASA Technical Standards as required in areas where VCS and standards available from other sources would fail to meet NASA's program needs. (Requirement 57410)	E	N	N	Mgmt
NPD 8070.6C	1.j	57411	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Give priority to development of technical standards supporting defined program/project needs. This may include issue of Interim NASA Technical Standards where required to meet time-critical requirements prior to full Center review and approval of NASA Technical Standards. (Requirement 57411)	E	N	N	Mgmt
NPD 8070.6C	1.k	57412	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Review each NASA Technical Standard at least once every five years to determine if the standard is still needed, needs to be revised, or updated, and can be replaced by a voluntary consensus standard. NASA standards that are no longer needed or can be replaced by a voluntary consensus standard shall be canceled. (Requirement 57412)	E	N	N	Mgmt
NPD 8070.6C	1.L	57413	POLICY: This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall: Support conversion of mature NASA Technical Standards to VCS except where the need for the standard is unique to NASA. (Requirement 57413)	E	N	N	Mgmt
NPD 8070.6C	5.a.1	44808	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Establish policy, provide strategic direction, maintain oversight, and evaluate effectiveness of NASA standardization activities. (Requirement 44808)	E	N	N	Mgmt
NPD 8070.6C	5.a.2	57417	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Maintain an integrated NASA Technical Standards System to provide Agency-wide access to standards and related information from all sources for use in NASA programs. (Requirement 57417)	E	N	N	Mgmt
NPD 8070.6C	5.a.3	57418	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Establish procedures for development, review, approval, distribution, and maintenance of NASA Technical Standards to ensure that all affected programs, projects, and Centers have the opportunity for review and approval of those standards. (Requirement 57418)	E	N	N	Mgmt
NPD 8070.6C	5.a.4	57419	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Develop and maintain NASA Technical Standards for engineering. (Requirement 57419)	E	N	N	Mgmt

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NPD 8070.6C	5.a.5	57420	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Serve as or delegate Technical Authority for all technical standards for which the Office of the Chief Engineer is responsible, consistent with the procedures of NPR 7120.5D. (Requirement 57420)	E	N	N	Mgmt
NPD 8070.6C	5.a.6	57421	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Assign responsibilities and delegate authorities for establishing and maintaining capabilities required to support the standardization needs of NASA programs and projects. (Requirement 57421)	E	N	N	Mgmt
NPD 8070.6C	5.a.7	57422	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Serve as the designated NASA Standards Executive, as defined in OMB Circular A-119, to provide for external coordination of NASA standards activities, to provide NASA representation on the Interagency Committee for Standards Policy, and to provide an annual report on NASA standards activities to the OMB through the national Institute of Standards and Technology. That report shall include justification for any use of Government-unique standards in lieu of existing VCS. (Requirement 57422)	E	N	N	Mgmt
NPD 8070.6C	5.a.8	57423	RESPONSIBILITY: The NASA Chief Engineer has the following responsibilities: Coordinate and assess the implementation of standards policy and activities with NASA Headquarters Offices, Centers, and Technical Authorities. (Requirement 57423)	E	N	N	Mgmt
NPD 8070.6C	5.b.1	57424	RESPONSIBILITY: Officials-in-Charge of Headquarters Offices that use technical standards have the following responsibilities: Identify priorities for development of NASA Technical Standards in their areas of authority, including the need for release of NASA Interim Technical Standards to meet time-critical program needs. (Requirement 57424)	E	N	N	Mgmt
NPD 8070.6C	5.b.2	44816	RESPONSIBILITY: Officials-in-Charge of Headquarters Offices that use technical standards have the following responsibilities: Develop, approve, and maintain required NASA Technical Standards in specific areas for which they have unique technical and/or assigned functional responsibility, providing approved standards to the Chief Engineer for inclusion in the integrated NASA Technical Standards System. (Requirement 44816)	E	N	N	Mgmt
NPD 8070.6C	5.b.3	57425	RESPONSIBILITY: Officials-in-Charge of Headquarters Offices that use technical standards have the following responsibilities: Serve as or delegate Technical Authority for all technical standards for which that office is responsible, consistent with the procedures of NPR 7120.5D and, for Safety and Mission Assurance programs, NPR 8715.3. (Requirement 57425)	E	N	N	Mgmt
NPD 8070.6C	5.b.4	57426	RESPONSIBILITY: Officials-in-Charge of Headquarters Offices that use technical standards have the following responsibilities: Support, authorize participation of employees, and report annually on VCS activities to the Chief Engineer to support the annual NASA report to the National Institute of Standards and Technology as required by Section 5.a.(7). (Requirement 57426)	E	N	N	Mgmt
NPD 8070.6C	5.c.1	57427	RESPONSIBILITY: NASA Centers, acting through their representatives to the Engineering Management Board, have the following responsibilities: Identify priorities for NASA Technical Standards needed for programs and projects. (Requirement 57427)	E	N	N	Mgmt
NPD 8070.6C	5.c.2	57428	RESPONSIBILITY: NASA Centers, acting through their representatives to the Engineering Management Board, have the following responsibilities: Support the development, review, and approval of NASA Technical Standards for which the Center has relevant expertise and provide for the maintenance and improvement of NASA Technical Standards for which they have assigned responsibility. (Requirement 57428)	E	N	N	Mgmt
NPD 8070.6C	5.c.3	57429	RESPONSIBILITY: NASA Centers, acting through their representatives to the Engineering Management Board, have the following responsibilities: Support, authorize participation of employees, and report annually on VCS activities to the Chief Engineer to support the annual report to the National Institute of Standards and Technology as required by Section 5.a.(7). (Requirement 57429)	E	N	N	Mgmt
NPD 8070.6C	5.c.4	57430	RESPONSIBILITY: NASA Centers, acting through their representatives to the Engineering Management Board, have the following responsibilities: Designate a Center point of contact for coordination of standards development and approval activities with the Office of the Chief Engineer. (Requirement 57430)	E	N	N	Mgmt
NPD 8070.6C	7.a	57431	MEASUREMENTS: Performance metrics will be implemented to assess the effectiveness of standardization programs through measurement and evaluation of annual and trend values in the following areas: Implementation of the requirements of OMB Circular A-119, including support and use of voluntary consensus standards, support of VCS development, and replacement of NASA standards with voluntary consensus standards. (Requirement 57431)	E	N	N	Mgmt
NPD 8070.6C	7.b	57432	MEASUREMENTS: Performance metrics will be implemented to assess the effectiveness of standardization programs through measurement and evaluation of annual and trend values in the following areas: Development, access to, and use of technical standards in NASA programs and projects. (Requirement 57432)	E	N	N	Mgmt
NPD 8610.23C	1.c	15001	Policy: Consistent with the responsibility to ensure the highest practicable probability of launch success, NASA shall retain involvement in and control of the launch through a technical oversight approach, which combines focused approvals and technical insight of contractor launch activities.	E	N	N	Mgmt
NPD 8610.23C	5.a	15004	Responsibility: The SOMD Associate Administrator is responsible for the NASA Launch Services Program (LSP) and provides necessary resources to support implementation of this policy.	E	N	N	Mgmt
NPD 8610.23C	5.b	15005	Responsibility: The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following:	E	N	N	Mgmt
NPD 8610.23C	5.b.1	43969	Responsibility: The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following: Assessing LSP implementation consistent with this policy directive.	E	N	N	Mgmt

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NPD 8610.23C	5.b.2	43970	Responsibility: The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following: Documenting approved exceptions, waivers, and deviations to the LSP technical oversight approach for specific missions at a Flight Planning Board.	E	N	N	Mgmt
NPD 8610.23C	5.b.3	43971	Responsibility: The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following: Reviewing and coordinating any reduced technical oversight approach with the General Counsel to assess applicability of Federal Aviation Administration (FAA) launch licensing authority.	E	N	N	Mgmt
NPD 8610.23C	5.b.4	43972	Responsibility: The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following: Assessing the applicability of this technical oversight approach to on-orbit service acquisitions or other innovative contractual approaches for launch in advance of contract award in coordination with the NASA Chief Engineer, affected Mission Directorate, and the Office of Safety and Mission Assurance.	E	N	N	Mgmt
NPD 8610.23C	5.b.5	43973	Responsibility: The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following: Coordinating, through the Flight Planning Board, policy guidance on balancing NASA Risk Mitigation Policy (NPD 8610.7) with Technical Oversight Policy to enable mission-unique tailoring for individual missions/classes of missions prior to contract award.	E	N	N	Mgmt
NPD 8610.23C	5.c	15010	Responsibility: The LSP Manager, reporting to the Assistant Associate Administrator for Launch Services, is responsible for the following:	E	N	N	Mgmt
NPD 8610.23C	5.c.1	43974	Responsibility: The LSP Manager, reporting to the Assistant Associate Administrator for Launch Services, is responsible for the following: Resolving technical issues that arise due to competition among mission requirements, cost and schedule, and best technical practices in the following manner:	E	N	N	Mgmt
NPD 8610.23C	5.c.1.i	43975	Responsibility: The LSP Manager, reporting to the Assistant Associate Administrator for Launch Services, is responsible for the following: Resolving technical issues that arise due to competition among mission requirements, cost and schedule, and best technical practices in the following manner: The LSP Manager ensures that all relevant and reasonable technical issues are properly identified competently addressed, and coordinated with the spacecraft customer.	E	N	N	Mgmt
NPD 8610.23C	5.c.1.ii	43976	Responsibility: The LSP Manager, reporting to the Assistant Associate Administrator for Launch Services, is responsible for the following: Resolving technical issues that arise due to competition among mission requirements, cost and schedule, and best technical practices in the following manner: If the LSP Manager is unable to satisfactorily resolve technical issues and cannot reach consensus with the spacecraft customer on a resolution path, then the LSP Manager shall elevate those issues to the SOMD. The SOMD Assistant Associate Administrator for Launch Services will coordinate with the affected spacecraft Mission Directorate, the Office of the Chief Engineer, the Office of the Safety and Mission Assurance, and other Headquarters offices, as appropriate, to consider cost, schedule, and performance issues affected by the technical issue. The SOMD will seek to reach consensus, but retains authority for risk acceptance of technical launch vehicle issues as they affect SOMD's responsibility for assuring launch mission success.	S	N	N	Mgmt
NPD 8610.23C	5.c.2.i	43978	Responsibility: Assuring that all NASA launch service contracts: Include the Government's approval and insight requirements and rights as outlined in Attachment A to this policy directive.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.ii	43979	Responsibility: Assuring that all NASA launch service contracts: Permit independent verification/validation assessment by NASA of selected critical mission analyses, procedures, processes, tests, and acceptance criteria to obtain the maximum practicable probability of launch success.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.iii	43980	Responsibility: Assuring that all NASA launch service contracts: Permit approval by NASA of all mission-unique analyses, spacecraft to launch vehicle interfaces, designs, and test procedures.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.iv	43981	Responsibility: Assuring that all NASA launch service contracts: Permit substantial involvement in, control of, and final approval by NASA for the final "go-for-launch" decision.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.v	43982	Responsibility: Assuring that all NASA launch service contracts: Identify contractor assurance activities and permit NASA assurance activities, including verification of contractor implementation of assurance activities, through a formal NASA Safety and Mission Assurance process.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.vi	43983	Responsibility: Assuring that all NASA launch service contracts: Protect the safety of the public, the workforce and property; comply with all applicable statutory and regulatory environmental requirements; and preserve the national security as well as foreign policy interests from risks attendant with a Government launch.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.vii	43984	Responsibility: Assuring that all NASA launch service contracts: Provide, in accordance with the NPR 7120.5, for the safety and mission success of the launch portion of any payload mission utilizing launch services acquired and managed by the LSP and governed by this policy.	E	N	N	Mgmt
NPD 8610.23C	5.c.2.viii	43985	Responsibility: Assuring that all NASA launch service contracts: Identify and arrange requisite assets to assure telemetry data is provided for all launch vehicle-powered flight events for every NASA LSP launch. Real-time telemetry for all vehicle-powered flight events is desirable; however, receive and record is mandatory.	E	N	N	Mgmt
NPD 8610.23C	5.d	15011	Responsibility: Each Mission Directorate Associate Administrator is responsible for assuring that any proposed deviations to this policy are brought to the attention of the Assistant Associate Administrator for Launch Services and resolved through the Flight Planning Board process.	S	N	N	Safety

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NPD 8610.23C	7.a	15012	Measurements: Compliance with this NPD will be evaluated on a continuing basis by the SOMD Assistant Associate Administrator for Launch Services in coordination with the LSP Manager.	E	N	N	Mgmt
NPD 8610.23C	7.b	15013	Measurements: The LSP Manager shall maintain a record of lessons learned and NASA contributions to mission success as a result of NASA technical oversight after each NASA-acquired launch.	E	N	N	Safety
NPD 8610.24B	1.b.1	42965	Policy: The following LSP prelaunch reviews shall be conducted for each NASA-owned or NASA-sponsored mission for which NASA has acquired and/or manages the launch services: Launch Vehicle Readiness Review (LVRR): The LVRR is held to certify the readiness to proceed with spacecraft/launch vehicle integration activities and is typically held prior to the spacecraft Mission Readiness Review (MRR). The LVRR is chaired by the LSP Manager who reviews any launch vehicle anomalies/issues associated with the mission identified. (Requirement 16008)	S	N	N	Mgmt
NPD 8610.24B	1.b.2	42966	Policy: The following LSP prelaunch reviews shall be conducted for each NASA-owned or NASA-sponsored mission for which NASA has acquired and/or manages the launch services: Flight Readiness Review (FRR): The FRR is held to update the mission status, close out actions from the previously held LVRR and Customer MRR, and certify the readiness to proceed with initiation of the launch countdown. The FRR is chaired by the NASA Launch Manager (NLM) and is held approximately 3 days before launch at the launch site. (Requirement 32676)	S	N	N	Mgmt
NPD 8610.24B	1.b.3	42967	Policy: The following LSP prelaunch reviews shall be conducted for each NASA-owned or NASA-sponsored mission for which NASA has acquired and/or manages the launch services: Launch Readiness Review (LRR): The LRR is held to update the mission status, close out actions from the previously held FRR, authorize approval to proceed into launch countdown, and sign the Certification of Flight Readiness (COFR). The LRR is held at the launch site no later than 1 day before launch. The LRR is chaired by the Space Operations Assistant Associate Administrator (AAA) for Launch Services or may be delegated to the LSP Program Manager, as appropriate. The COFR is signed at the conclusion of the LRR. (Requirement 32677)	S	N	N	Mgmt
NPD 8610.24B	1.b.4	42968	Policy: The following LSP prelaunch reviews shall be conducted for each NASA-owned or NASA-sponsored mission for which NASA has acquired and/or manages the launch services: Final Commit-to-Launch Poll: The Final Commit-to-Launch Poll is conducted to confirm NASA readiness to launch. This Poll is conducted by the NLM approximately 5 minutes before launch. A "Go" statement is required from all parties polled to enter into the terminal count. Mandatory launch constraints cannot be waived after start of the terminal launch countdown. (Requirement 32678)	S	N	N	Mgmt
NPD 8610.24B	1.c	42969	Policy: The LSP and project offices may conduct other reviews as appropriate and necessary in preparation for launch. These may include, but are not limited to, Mission Requirements Reviews, Critical Design Reviews, Design Certification Reviews, Preship Reviews, Ground Operations Reviews, Project Manager's Reviews, and appropriate safety reviews.	S	N	N	Mgmt
NPD 8610.24B	1.d	42970	Policy: The mission spacecraft will typically undergo a parallel prelaunch review process that includes the spacecraft and ground system elements as well as status of the launch service. The Spacecraft (MRR) is typically held after the LVRR.	S	N	N	Mgmt
NPD 8610.24B	5.a	42975	Responsibility: The Associate Administrator for Space Operations is responsible for certification of launch vehicle readiness for NASA missions. The AAA for Launch Services is delegated responsibility for representing the Office of Space Operations (OSO) at any Prelaunch LSP Reviews and chairs the LRR. (requirement 16011)	S	N	N	Mgmt
NPD 8610.24B	5.b.1	42977	Responsibility: The LSP Manager, reporting to the Space Operations AAA for Launch Services, is responsible for signing the COFR for each NASA LSP managed launch service. The LSP Manager is also responsible for the following: Coordinating participation of the spacecraft customer, launch services program, safety and mission assurance (S&MA), launch service contractor representatives, and other organizations within NASA, as appropriate, at the LVRR. (Requirement 16014)	S	N	N	Mgmt
NPD 8610.24B	5.b.2	42978	Responsibility: The LSP Manager, reporting to the Space Operations AAA for Launch Services, is responsible for signing the COFR for each NASA LSP managed launch service. The LSP Manager is also responsible for the following: Establishing a NASA Advisory Team to provide an independent assessment of the launch countdown process and launch readiness for each launch to the NLM. This team shall be comprised of senior Headquarters and LSP personnel, the Director of Kennedy Space Center (or his/her designee), and other NASA senior management, as appropriate, with experience in NASA launch countdown process. (Requirement 16012)	S	N	N	Mgmt
NPD 8610.24B	5.c	42979	Responsibility: The NASA Spacecraft Mission Director is responsible for coordinating participation of spacecraft, payload instruments, and ground operations at the MRR and for providing the spacecraft "Go/No-Go" to the NLM for the Final Commit-to-Launch Poll. (Requirement 16003)	S	N	N	Mgmt
NPD 8610.24B	5.d.1	42981	Responsibility: The NLM is responsible for the following: Coordinating participation of the spacecraft customer, LSP and contractors, range safety, weather, tracking and data, Safety & Mission Assurance, public affairs representatives, and other organizations within NASA, as appropriate, at the FRR and LRR. (Requirement 16019)	S	N	N	Mgmt
NPD 8610.24B	5.d.2	42982	Responsibility: The NLM is responsible for the following: Assuring all representatives sign the COFR at the conclusion of the LRR. Signatories to the COFR shall include the NASA Spacecraft Mission Director, the NASA Launch Manager, the Launch Services Contractor, the NASA Safety and Mission Assurance representative, and a range official.	S	N	N	Mgmt

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NPD 8610.24B	5.d.3	42983	Responsibility: The NLM is responsible for the following: Developing and coordinating a premishap plan (previously called a Contingency Action Plan (CAP)) prior to the LRR, which addresses the immediate launch site reaction plan associated with a launch vehicle anomaly and requisite data impoundment process. This Plan is coordinated with the NASA Spacecraft Mission Director in accordance with NPR 8621.1. (Requirement 16016)	S	N	N	Mgmt
NPD 8610.24B	5.d.4	42984	Responsibility: The NLM is responsible for the following: Conducting the Final Commit-to-Launch Poll. The NLM provides the final launch commitment to the launch services contractor Launch Director. This final poll shall include the NASA Spacecraft Mission Director, NASA Advisory Team, NASA Safety and Mission Assurance representative, and other NASA organizations involved in the countdown. (Requirement 16017)	S	N	N	Mgmt
NPD 8610.24B	7.a	42987	MEASUREMENTS: A record of all LSP prelaunch reviews, action items disposition, and the original COFR will be maintained by the LSP. (Requirement 16005)	S	N	N	Mgmt
NPD 8610.24B	7.b	42988	MEASUREMENTS: The LSP will document lessons learned and corrective actions taken on the launch process after each mission. (Requirement 16006)	S	N	N	Mgmt
NPD 8710.1D	1	14019	POLICY: It is NASA policy to provide baseline capabilities that meet requirements consistent with all applicable laws, national-level directives, and Agency requirements for responding to and effectively managing emergencies. Such baseline capabilities are to be continually maintained to mitigate crises with a capabilities-based approach, using one comprehensive plan coupled with incident-specific responses in the form of annexes for the range of adverse events. This prevents a fixation on any one threat or hazard. This concept is known as "all-hazards" concept. Target levels of baseline capabilities will balance the potential threat and magnitude of terrorist attacks, major disasters, and other emergencies with the resources required to prevent, respond to, and recover from them. This all-hazards decision framework will prioritize and optimize investments based on needs to maintain readiness, response, and recovery capabilities. This will be accomplished by performing the following actions:	F	N	N	Mgmt
NPD 8710.1D	5.a.1	56949	RESPONSIBILITY: NASA shall ensure the following: That baseline capabilities be maintained to prevent and manage emergencies occurring at NASA facilities or arising from NASA activities and, to the extent permitted by law, to respond to other emergencies that may be local, national, or international in scope as requested through authorized channels. (Requirement 56949)	F	N	N	Mgmt
NPD 8710.1D	5.a.2	56950	RESPONSIBILITY: NASA shall ensure the following: The NASA Emergency Preparedness Program includes hazard-specific risk assessments, target baseline capabilities, program objectives, and emergency operating plans for all organizational elements of the Agency. Organizational elements will provide funding for these purposes. (Requirement 56950)	F	N	N	Mgmt
NPD 8710.1D	5.b.1	56952	RESPONSIBILITY: The Assistant Administrator (AA), Office of Security and Program Protection (OSPP), is designated as the senior policy official responsible for the NASA Emergency Preparedness Program. The AA of OSPP shall ensure the following: The NASA Emergency Preparedness Program includes hazard-specific risk assessments, target baseline capabilities, program objectives, and emergency operating plans for all organizational elements of the Agency. Organizational elements will provide funding for these purposes. (Requirement 56952)	F	N	N	Mgmt
NPD 8710.1D	5.b.2	56953	RESPONSIBILITY: The Assistant Administrator (AA), Office of Security and Program Protection (OSPP), is designated as the senior policy official responsible for the NASA Emergency Preparedness Program. The AA of OSPP shall ensure the following: Emergency preparedness plans (including interagency and individual Center plans involving NASA activity) are coordinated with appropriate NASA organizational elements. (Requirement 56953)	F	N	N	Mgmt
NPD 8710.1D	5.c	56954	RESPONSIBILITY: The NASA Chief EPPM shall:	F	N	N	Mgmt
NPD 8710.1D	5.c.1	56955	RESPONSIBILITY: The NASA Chief EPPM shall: Provide emergency preparedness program administration, management, advocacy, and expertise in planning and operations. (Requirement 56955)	F	N	N	Mgmt
NPD 8710.1D	5.c.2	56956	RESPONSIBILITY: The NASA Chief EPPM shall: Function as the point-of-contact to liaise with the Department of Homeland Security, Federal Emergency Management Agency, other Federal organizations, and Multi-Agency Coordinating Groups in support of the National Response Plan and other emergency preparedness plans involving NASA activity, ensuring such plans are coordinated with the appropriate NASA organizational elements and providing the appropriate Federal organization with NASA's position concerning such plans and operations. (Requirement 56956)	F	N	N	Mgmt
NPD 8710.1D	5.c.3	56957	RESPONSIBILITY: The NASA Chief EPPM shall: Provide technical advice and assistance, including training for Agency and Center senior staff, emergency management teams, and Center Emergency Preparedness Program Managers. (Requirement 56957)	F	N	N	Mgmt
NPD 8710.1D	5.c.4	56958	RESPONSIBILITY: The NASA Chief EPPM shall: Conduct conitunal review of emergency preparedness readiness throughout NASA to assess proficiency and effective use of resources. (Requirement 56958)	F	N	N	Mgmt
NPD 8710.1D	5.c.5	56959	RESPONSIBILITY: The NASA Chief EPPM shall: Develop, plan, prepare, coordinate, and maintain a National Security Emergency Preparedness Program designed for the continuity of mission- essential operations. (Requirement 56959)	F	N	N	Mgmt
NPD 8710.1D	5.d	56960	RESPONSIBILITY: The Associate Administrator for Institutions and Management and Center Directors shall support the NASA Emergency Preparedness Program and allocate necessary funding for implementing of Center- and Component Facility-specific emergency readiness, response, and recovery programs. (Requirement 56960)	F	N	N	Mgmt
NPD 8710.1D	5.e	56961	RESPONSIBILITY: Other Officials-in-Charge of Headquarters Offices shall ensure their organization's support of the NASA Emergency Preparedness Program by providing functional expertise during planning activities and emergency operations. (Requirement 56961)	F	N	N	Mgmt

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NPD 8710.1D	5.f.1	56963	RESPONSIBILITY: NASA Center Directors shall ensure that the NASA Emergency Preparedness Program is effectively implemented at their respective Centers and Component Facilities and shall: Designate a Center EPPM supported by trained and prepared emergency management teams. (Requirement 56963)	F	N	N	Mgmt
NPD 8710.1D	5.f.2	56964	RESPONSIBILITY: NASA Center Directors shall ensure that the NASA Emergency Preparedness Program is effectively implemented at their respective Centers and Component Facilities and shall: Annually review and approve Center-specific emergency preparedness plans that are developed, implemented, and maintained to respond to, mitigate, and recover from all-hazard emergencies. (Requirement 56964)	F	N	N	Mgmt
NPD 8710.1D	5.f.3	56965	RESPONSIBILITY: NASA Center Directors shall ensure that the NASA Emergency Preparedness Program is effectively implemented at their respective Centers and Component Facilities and shall: Provide assistance in accordance with Center Director-approved mutual aid agreements entered into and outlining coordination of emergency management resources for mutual response to emergencies occurring within their jurisdictions. (Requirement 56965)	F	N	N	Mgmt
NPD 8710.1D	5.f.4	56966	RESPONSIBILITY: NASA Center Directors shall ensure that the NASA Emergency Preparedness Program is effectively implemented at their respective Centers and Component Facilities and shall: Designate representatives to state, regional, and local emergency management committees and work groups to ensure thorough preparedness during potential interagency emergency operations. The NASA Chief EPPM or HQ Emergency Operations Center, when operational, shall be notified of NASA personnel or resources deployed to regional, state, or locale emergency operations during actual emergencies. (Requirement 56966)	F	N	N	Mgmt
NPR 1040.1	1.1.1	30010	The United States Government policy is that Federal activities have a comprehensive program to ensure the continuity of essential operations under all emergency circumstances. (Requirement 30010)	S	N	N	Mgmt
NPR 1040.1	1.1.3	30012	As a baseline for preparedness, NASA Headquarters and NASA Centers are required to have in place a viable COOP capability that ensures the performance of their mission-essential operations during any type of emergency, or other situation that may disrupt normal operations. (Requirement 30012)	S	N	N	Mgmt
NPR 1040.1	1.1.4	30013	A viable COOP capability must (1) be maintained at a high level of readiness; (2) be capable of being implemented with and without warning; (3) be operational within 12 hours of activation; (4) maintain sustained essential operations for a minimum of 30 days; and (5) take maximum advantage of available field infrastructure, existing Agency emergency preparedness program procedures, and established Information Technology (IT) Security plans. (Requirement 30013)	S	N	N	Mgmt
NPR 1040.1	1.2.1	30015	EO 12656, Assignment of Emergency Preparedness Responsibilities, dated November 18, 1988, as amended, requires that all Federal agencies develop COOP plans to address continuity of mission-essential operations associated with the Agency mission. (Requirement 30015)	S	N	N	Mgmt
NPR 1040.1	1.2.2	30016	PDD 63, Critical Infrastructure Protection (CIP), dated May 22, 1998, requires that all Federal agencies develop a comprehensive program for mission-essential assets (operations, facilities, equipment) identification, assessment and planned mitigation of vulnerabilities, and establishment of COOP capability to ensure these assets, when so determined, can continue to operate under all emergency situations. (Requirement 30016)	S	N	N	Mgmt
NPR 1040.1	1.2.3	30017	PDD 67, Enduring Constitutional Government and Continuity of Government Operations, dated October 21, 1998, requires that Federal agencies develop, maintain, and implement, when required, the appropriate plans to allow for the continuation of mission-essential agency operations during a time of emergency. (Requirement 30017)	S	N	N	Mgmt
NPR 1040.1	1.2.4	30018	The Computer Security Act of 1987 and OMB Circular A-130 require security plans for Federal Automated Information Systems. (Requirement 30018) These security plans include emergency response procedures for information systems to rapidly and effectively deal with the potential disruption of any IT-based mission-essential function.	S	N	N	Mgmt
NPR 1040.1	1.2.5	30019	To avert long-term or disaster scenarios, to minimize their damage, and to ensure continued operational capability, NASA Centers will take proactive steps to develop a COOP for their mission-essential operations. (Requirement 30019)	S	N	N	Mgmt
NPR 1040.1	1.4.1	30022	Elements of a Viable COOP Capability: All Agency COOP will be developed and documented so when implemented, it will provide for continued performance of mission-essential operations and services under all emergency circumstances. (Requirement 30022)	S	N	N	Mgmt
NPR 1040.1	1.4.2.a	30024	Elements of a Viable COOP Capability: At a minimum, the plan will--Delineate mission-essential operations and functions. (Requirement 30024)	S	N	N	Mgmt
NPR 1040.1	1.4.2.b	30025	Elements of a Viable COOP Capability: At a minimum, the plan will--Establish an order of succession for key leadership positions. (Requirement 30025)	S	N	N	Mgmt
NPR 1040.1	1.4.2.c	30026	Elements of a Viable COOP Capability: At a minimum, the plan will--Identify minimal communications capabilities required to support COOP. (Requirement 30026)	S	N	N	Mgmt
NPR 1040.1	1.4.2.d	30027	Elements of a Viable COOP Capability: At a minimum, the plan will--Identify essential and vital records and databases required to support essential operations and functions, and include steps for protecting them as well as procedures for backup, storage, recycling, and retrieval. (Requirement 30027)	S	N	N	Mgmt
NPR 1040.1	1.4.2.e	30028	Elements of a Viable COOP Capability: At a minimum, the plan will--Outline a decision process for determining appropriate actions in implementing COOP procedures. (Requirement 30028)	S	N	N	Mgmt
NPR 1040.1	1.4.2.f(1)	30029	Elements of a Viable COOP Capability: At a minimum, the plan will--Establish a roster of fully equipped and trained continuity team personnel, with the authority to perform mission-essential operations and functions, and establish procedures for training these personnel in the roles to be performed under COOP implementation. (Requirement 30029)	S	N	N	Mgmt
NPR 1040.1	1.4.2.f(2)	30030	Establish a roster of fully equipped and trained continuity team personnel: Training shall occur on an annual basis. (Requirement 30030)	S	N	N	Mgmt

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NPR 1040.1	1.4.2.g	30031	Elements of a Viable COOP Capability: At a minimum, the plan will--Include plans and procedures for employee advisories, alerts, and COOP activation, with instructions for relocation to predesignated facilities, with or without warning, during duty and nonduty hours. (Requirement 30031)	S	N	N	Mgmt
NPR 1040.1	1.4.2.h	30032	Elements of a Viable COOP Capability: At a minimum, the plan will--Provide for personnel accountability and safety throughout the duration of the emergency. (Requirement 30032)	S	N	N	Mgmt
NPR 1040.1	1.4.2.i	30033	Elements of a Viable COOP Capability: At a minimum, the plan will--Provide for attaining functional capability, within 12 hours. (Requirement 30033)	S	N	N	Mgmt
NPR 1040.1	1.4.2.j	30034	Elements of a Viable COOP Capability: At a minimum, the plan will--Establish reliable processes and procedures to acquire the resources necessary to continue mission-critical essential operations and sustain mission-essential operations for a minimum of 30 days. (Requirement 30034)	S	N	N	Mgmt
NPR 1040.1	1.4.2.k	30035	Elements of a Viable COOP Capability: At a minimum, the plan will--Establish reliable processes and procedures to identify and transition to alternate operational locations if the need arises. (Requirement 30035)	S	N	N	Mgmt
NPR 1040.1	1.4.2.L	30036	Elements of a Viable COOP Capability: At a minimum, the plan will-- Integrate existing emergency preparedness and IT security plans to ensure consistency in overall emergency preparedness program approaches. (Requirement 30036)	S	N	N	Mgmt
NPR 1040.1	1.4.2.m	30037	Elements of a Viable COOP Capability: At a minimum, the plan will--Provide for annual exercises or tests to ensure viability. (Requirement 30037)	S	N	N	Mgmt
NPR 1040.1	1.5.1	30039	A Continuity of Operations Plan, as are all emergency preparedness documents, is a "sensitive" document. (Requirement 30039)	S	N	N	Mgmt
NPR 1040.1	1.5.2	30040	A Continuity of Operations Plan is deemed "Administratively Controlled Information (ACI)," and will be handled in accordance with NPR 1620.1, Security Procedural Requirements, as amended. (Requirement 30040)	S	N	N	Mgmt
NPR 1040.1	1.5.3	30041	Electronically stored and distributed copies of the Continuity of Operations Plan must be protected from unauthorized access. (Requirement 30041)	S	N	N	Mgmt
NPR 1040.1	2.1.1.a	30045	Agency COOP Program Executive Coordinator will: Support implementation of EO's 12148 and 12656, and PDD's 63 and 67. (Requirement 30045)	S	N	N	Mgmt
NPR 1040.1	2.1.1.b	30046	Agency COOP Program Executive Coordinator will: Coordinate with Headquarters and Center Senior Management for additional resources when the situation dictates. (Requirement 30046)	S	N	N	Mgmt
NPR 1040.1	2.1.1.c	30047	Agency COOP Program Executive Coordinator will: Provide Center Management with the means to appropriately staff COOP teams to make the COOP operational. (Requirement 30047)	S	N	N	Mgmt
NPR 1040.1	2.2	30048	The NASA Administrator: The NASA Administrator or Designee will appoint an Agency COOP Program Executive Coordinator from the Office of Security and Program Protection with sufficient authority to ensure that the COOP process is included as an integral part of the Agency's mission. (Requirement 30048)	S	N	N	Mgmt
NPR 1040.1	2.3.1	30050	The COOP Coordinator is responsible for--Developing a COOP Multiyear Strategy and Program Management Plan. (Requirement 30050)	S	N	N	Mgmt
NPR 1040.1	2.3.2.(1)	30052	The COOP Coordinator is responsible for--Evaluation of Agency mission-essential infrastructure, functions, facilities, and other essential interdependencies for consideration for COOP. (Requirement 30052)	S	N	N	Mgmt
NPR 1040.1	2.3.2.(2)	30053	The COOP Coordinator is responsible for--Predetermined delegations of authority and orders of succession. (Requirement 30053)	S	N	N	Mgmt
NPR 1040.1	2.3.2.(3)	30054	The COOP Coordinator is responsible for--Contingency staffing to perform mission-essential operations. (Requirement 30054)	S	N	N	Mgmt
NPR 1040.1	2.3.2.(4)	30055	The COOP Coordinator is responsible for--Alternate operating facilities, as required. (Requirement 30055)	S	N	N	Mgmt
NPR 1040.1	2.3.2.(5)	30056	The COOP Coordinator is responsible for--Interoperable communications, information processing systems, and equipment. (Requirement 30056)	S	N	N	Mgmt
NPR 1040.1	2.3.2.(6)	30057	The COOP Coordinator is responsible for--Protection of vital records and systems. (Requirement 30057) See definition of vital records and systems in Chapter 5, Glossary of Terms, Abbreviations, and Acronyms.	S	N	N	Mgmt
NPR 1040.1	2.3.3	30058	Coordinating exercises, tests, and training, of Agency COOP, to include COOP contingency staffs, and essential systems and equipment, to ensure timely and reliable implementation of COOP Procedures. (Requirement 30058)	S	N	N	Mgmt
NPR 1040.1	2.3.4	30059	Participating in periodic interagency COOP exercises to ensure effective interagency coordination and mutual support. (Requirement 30059)	S	N	N	Mgmt
NPR 1040.1	2.3.5	30060	Coordinating intra-Agency COOP efforts and initiatives with policies, plans, and activities related to antiterrorism established under PDD 62 and Critical Infrastructure Protection established under PDD 63. (Requirement 30060)	S	N	N	Mgmt
NPR 1040.1	2.3.6	30061	Ensuring that COOP documentation is managed in accordance with NPD 1440.6, NASA Records Management, (e.g., collect and store all vital records, such as personnel, pay, mission program data, emergency operations plans, facility engineering design plans and drawings) and provide for assistance to other NASA Centers in post disaster recovery of vital records, where applicable. (Requirement 30061)	S	N	N	Mgmt
NPR 1040.1	2.4.1	30063	Center Directors: Each Center Director is responsible for--Appointing a Center COOP Coordinator. (Requirement 30063) The Center COOP Coordinator should be a senior staff member from either the CIO or Emergency Services organization.	S	N	N	Mgmt
NPR 1040.1	2.4.2	30064	Center Directors: Each Center Director is responsible for--Emphasizing emergency preparedness and COOP readiness as part of the Center's core mission. (Requirement 30064)	S	N	N	Mgmt
NPR 1040.1	2.4.3	30065	Center Directors: Each Center Director is responsible for--Ensuring Center Chief Financial Officers (CFO) provide necessary assistance to COOP activity. (Requirement 30065)	S	N	N	Mgmt

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NPR 1040.1	2.5.1	30067	Chief Information Officers (CIO): The CIO's are responsible for--Ensuring Agency IT systems have the appropriate security and contingency plans, as required under OMB Circular A-130. (Requirement 30067)	S	N	N	Mgmt
NPR 1040.1	2.5.2	30068	Chief Information Officers (CIO): The CIO's are responsible for--Ensuring Special Management Attention (SMA) systems are evaluated for COOP. (Requirement 30068)	S	N	N	Mgmt
NPR 1040.1	2.6.1	30070	Center COOP Coordinator: Each Center COOP Coordinator is responsible for--Coordinating the development and consolidation of all COOP for their select minimum essential infrastructure assets, within their respective Center, in accordance with guidelines established in this NPR and established emergency preparedness plans. (Requirement 30070)	S	N	N	Mgmt
NPR 1040.1	2.6.2	30071	Center COOP Coordinator: Each Center COOP Coordinator is responsible for--Coordinating with the Agency COOP Coordinator and individual organizational management, scheduling, and overseeing yearly training and exercises, as required. (Requirement 30071)	S	N	N	Mgmt
NPR 1040.1	2.6.3	30072	Center COOP Coordinator: Each Center COOP Coordinator is responsible for--Coordinating tenant organization COOP development, as appropriate. (Requirement 30072)	S	N	N	Mgmt
NPR 1040.1	2.7.1	30074	Program Management: The Program Management is responsible for--Ensuring the development, implementation, maintenance, and testing of COOP, when required, in accordance with the guidance in this NPR and other references. (Requirement 30074)	S	N	N	Mgmt
NPR 1040.1	2.7.2	30075	Program Management: The Program Management is responsible for--Coordinating all program COOP activity with the Center COOP Coordinator. (Requirement 30075)	S	N	N	Mgmt
NPR 1040.1	2.7.3	30076	Program Management: The Program Management is responsible for--Ensuring that program COOP is included in organization budget activity. (Requirement 30076)	S	N	N	Mgmt
NPR 1040.1	2.8.1	30078	Chief Financial Officers (CFO): The CFO's are responsible for--Establishing a COOP funding mechanism. (Requirement 30078)	S	N	N	Mgmt
NPR 1040.1	2.8.2	30079	Chief Financial Officers (CFO): The CFO's are responsible for--Assisting Center management on COOP budget development. (Requirement 30079)	S	N	N	Mgmt
NPR 1040.1	2.8.3	30080	Chief Financial Officers (CFO): The CFO's are responsible for--Providing systems that will account for COOP expenditures. (Requirement 30080)	S	N	N	Mgmt
NPR 1040.1	2.9.1	30082	Vital Records Managers: The Vital Records Managers are responsible for--Ensuring that local policies and procedures are developed and implemented for the identification, designation, protection, and retrieval of Center vital records in accordance with NPD 1440.6, NASA Records Management, and other governing requirements. (Requirement 30082)	S	N	N	Mgmt
NPR 1040.1	3.2.1	30088	To ensure that the Agency's critical operations are thoroughly reviewed for COOP consideration, Centers will assess Agency Mission Essential Infrastructure (MEI), supporting operations, and other interdependencies, and evaluate that infrastructure from a risk to the national welfare perspective, which by themselves or as a result of a Memorandum of Understanding, or other agreement with another Federal agency, must continue to operate or remain capable to operate at the primary or an alternate location under all emergency circumstances. (Requirement 30088)	S	N	N	Mgmt
NPR 1040.1	3.2.2	30089	Center MEI inventories will be identified and maintained by the Center Critical Infrastructure Assurance Office (CIAO) per guidance found in NPR 1620.1, NASA Security Procedural Requirements, as amended. (Requirement 30089)	S	N	N	Mgmt
NPR 1040.1	3.2.3	30090	Centers will use the following criteria when making COOP judgments. (Requirement 30090) These criteria will serve to identify essential operations that require development of COOP: a. Would the loss of a Center MEI capability or operation compromise national security? b. Would the loss of a Center mission-essential infrastructure capability or operation have an immediate and significant adverse effect on the health and safety of the general public at large? c. Is a NASA Center mission-essential capability or operation critical to the performance of another agency's COOP essential operations and required, by agreement, to remain viable, without interruption, under all emergency conditions? d. Is the NASA mission-essential capability or operation regulated, legislated, or directed by Executive order to operate under all emergency scenarios? e. Is the mission-essential capability or operation tied into a space exploration vehicle and equipment command and control operations that if rendered inoperable, would place personnel, vehicles and/or equipment at risk? Would the cost to recover from such an event exceed NASA's budget capability? f. Is the mission-essential capability or operation a deemed vital service?	S	N	N	Mgmt
NPR 1040.1	3.2.4	30091	The ability for NASA's Senior Management to continue to manage the Agency and individual Centers during a disastrous event is inherently critical to NASA and the U.S. Government. Essential management operations will be included under a COOP. (Requirement 30091)	S	N	N	Mgmt
NPR 1040.1	3.2.5	30092	NASA assets identified as MEI which may, due to their size, configuration, and age, be difficult and expensive or impractical to relocate to an alternate facility or rebuild if destroyed (e.g., wind tunnels, Local Area Network (LAN), Wide Area Network (WAN)).They should be carefully evaluated under COOP criteria to ensure that all aspects of their criticality and replaceability are thoroughly considered, before establishing a COOP. (Requirement 30092)	S	N	N	Mgmt
NPR 1040.1	3.3.1.c	30097	Evaluation of Identified Mission-Essential Operations: The Program Manager and staff are responsible for ensuring the completion of the business plan and for prioritizing the resumption, recovery, or restoration needs for the organization's mission-essential operations, if any. (Requirement 30097)	S	N	N	Mgmt
NPR 1040.1	3.3.1.f(1)	30101	Evaluation of Identified Mission-Essential Operations: Development of a Mission Statement: Government departments, divisions, and offices generally have a formal statement concerning the mission(s) to be performed. (Requirement 30101)	S	N	N	Mgmt
NPR 1040.1	3.3.1.g.(2)	30106	Functional Activities Listing: In parallel with this listing, it is also necessary to identify those operations that are dependent on specialized support (such as IT Systems, communications, certain data or records, physical infrastructure, human resources) as well as the extent of that dependency (i.e., is the function totally dependent on a particular type of support, is only some portion that can be quantified dependent on such support, or could the function be performed manually with little or no loss of efficiency). (Requirement 30106)	S	N	N	Mgmt
NPR 1040.1	3.3.1.h	30111	Criticality Matrix. (Requirement 30111)	S	N	N	Mgmt

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NPR 1040.1	3.3.1.h.(02)	30113	Criticality Matrix. Criticality guidelines must be developed which identify those office operations that deal with aspects that are critical to any Government agency, and the timeframes that must be associated with those factors. (Requirement 30113)	S	N	N	Mgmt
NPR 1040.1	3.3.1.h.(05)	30116	Criticality Matrix. They must develop an office-specific list of critical operations. (Requirement 30116)	S	N	N	Mgmt
NPR 1040.1	3.3.1.i.	30122	Criticality Determination. (Requirement 30122) (1) The next part of the process is to compare the functional activities against the criticality determinations and corresponding timeframes. (2) A COOP is concerned with all mission-essential operations and goes beyond those functions requiring only IT processing and operations. (3) All office operations are compared against the criticality determinations and time factors, and against each other. (4) The result is a prioritized list of mission-essential activities, based on criticality, and reflected in terms of the maximum timeframe that these essential operations are not performed before the organization fails to accomplish its mission.	S	N	N	Mgmt
NPR 1040.1	3.3.2.a	30124	After essential missions and business operations are identified, support resources and vital records must be identified, as well as the timeframes in which each resource is used and the effect of unavailable resources on the essential operations in support of the mission. (Requirement 30124)	S	N	N	Mgmt
NPR 1040.1	3.3.2.b	30125	It is important to note that the COOP resources inventory must consist of only those physical resources, vital records, and support services necessary for an office and organization to perform the essential parts of its mission. (Requirement 30125)	S	N	N	Mgmt
NPR 1040.1	3.3.2.d	30127	In addition to precisely identifying the minimum levels of resources required to activate a temporary office, the resources inventory must also identify who is responsible for each category of items, where the existing items are located, (and if backup supplies already exist, where they are located, and in what quantity), what and where is the source of replacement or resupply, and in some instances, what is the cost and timeframe for replacement. (Requirement 30127)	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(01)	30130	Continuity of operations planning should address all the resources needed to perform an essential function, including: Human Resources. (Requirement 30130) (a) Human resources requirements include essential management staff, operational and support personnel, systems users, and security personnel. (b) Some essential operations require personnel with special expertise or training, while others require lesser skill levels. (c) Security is especially critical when potential for continuous protection of a vacated site, and protection of an alternate site need to be considered simultaneously. (d) Additionally, the human resources aspect of continuity of operations planning includes establishment of plans of succession and Delegations of Authority (DOA) for both Headquarters Operations and individual Centers. (e) COOP planners will also consider Plans of Succession and DOA for each organization, program, or project operating under a COOP.	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(02)	30131	Continuity of operations planning should address all the resources needed to perform an essential function, including: Processing Capability. (Requirement 30131) (a) Traditionally, contingency planning has focused on processing power. (b) Although the need for data backup remains vital, today's other processing alternatives are also important. (c) LAN's, microcomputers, workstations, and personal computers in all forms of centralized and distributed processing may be performing critical tasks.	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(03)	30132	Continuity of operations planning should address all the resources needed to perform an essential function, including: Automated Applications and Data. (Requirement 30132) (a) NASA information systems run applications that process all types of data, run all types of programs, and reach far into space. (b) Without current electronic versions of both vital applications and data, computerized processing may not be possible. (c) If the processing is being performed on alternate hardware, the applications must be compatible with the primary hardware, operating systems and other software (including version and configuration), and numerous other technical factors.	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(04)	30133	Continuity of operations planning should address all the resources needed to perform an essential function, including: IT-Based Services. (Requirement 30133) (a) NASA uses many different kinds of IT-based services to perform most, if not all, of its essential and nonessential operations and functions. (b) The two most important IT services are normally communications services and information services. (c) Communications can be further categorized as data and voice and in some instances, satellite. (d) However, in many Centers these may be managed by the same service. Information services include any source of information outside of the organization. Most of these sources are automated, including Online Government and private databases, the Internet, and external e-mail.	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(05)	30134	Continuity of operations planning should address all the resources needed to perform an essential function, including: Secure Communications. (Requirement 30134) (a) COOP will include the development and implementation of secure communications capability for key personnel, when appropriate. (b) COOP will include hard-wire and wireless capability, requirements and procedures for use, pre-event purchase and deployment, familiarization, and training.	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(06)	30135	Continuity of operations planning should address all the resources needed to perform an essential function, including: Communication with Key Government Officials. (a) COOP must be developed and properly coordinated to ensure communications capability with key Government Officials (e.g., The President, The Vice President, National Command Authority (NCA), Department of Homeland Security), and others as necessary, which may be effected by the NASA Administrator during an emergency event affecting the Washington, DC, area, resulting in mass evacuation of Government agencies, or under any other emergency situation in which key personnel of the Federal Government may become widely dispersed and require dependable and secure modes of communication with the executive branch. (Requirement 30135)	S	N	N	Mgmt

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NPR 1040.1	3.3.2.f.(08)	30137	Continuity of operations planning should address all the resources needed to perform an essential function, including: Physical Infrastructure. (Requirement 30137) (a) Physical infrastructure elements include a safe working environment and appropriate equipment and utilities. (b) This can include office space, heating, cooling, venting, power (including determining the need and source of uninterrupted power), water, sewage, other utilities, desks, fax machines, personal computers, terminals, courier services, file cabinets, and many other items. (c) In addition, computers also need space and utilities, such as electricity, communications lines (connectivity). Electronic and paper media used to store applications and data may also have specific physical requirements.	S	N	N	Mgmt
NPR 1040.1	3.3.2.f.(09)	30138	Continuity of operations planning should address all the resources needed to perform an essential function, including: Vital Records, Documents, and Papers. (Requirement 30138) (a) The performance of many NASA operations relies on vital records and various documents, papers, or forms. (b) These records could be important because of legal need, or because they are the only record of the information. (c) Records can be maintained on paper, microfiche, microfilm, magnetic media, or optical disk.	S	N	N	Mgmt
NPR 1040.1	3.3.3.a	30141	Establishment of Delegations of Authority (DOA): To ensure rapid response to any emergency situation requiring COOP implementation, DOA's should be pre-established to enable designated personnel to make the appropriate policy determinations at the Headquarters, Centers, and other organizational levels, as deemed appropriate. (Requirement 30141)	S	N	N	Mgmt
NPR 1040.1	3.3.3.b	30142	Establishment of Delegations of Authority (DOA): These DOA's should be included as an appendix to the Continuity of Operations Plan and the following: (Requirement 30142) (1) Identify the programs and administrative authorities needed for effective operations at all organizational levels having emergency responsibilities. (2) Identify the circumstances under which the authorities would be exercised. (3) Document the necessary authorities at all points where emergency actions may be required, delineating the limits of the authority and accountability. (4) Clearly state the authority of designated successors, to exercise Agency direction, including any exceptions, and the successor's authority to re-delegate operations and activities, as appropriate. (5) Indicate the circumstances under which the delegated authorities would become effective and when they would terminate. (6) Ensure that officials who may be expected to assume authorities in an emergency are trained to carry them out. (7) Be appropriately updated upon transfer, termination, or other personnel action resulting in the individual's departure.	S	N	N	Mgmt
NPR 1040.1	3.3.4.a	30144	Plans of Succession (POS): NASA Headquarters and individual Centers will establish, promulgate, and maintain POS to key positions. (Requirement 30144)	S	N	N	Mgmt
NPR 1040.1	3.3.4.b	30145	Plans of Succession (POS): POS are an essential part of NASA's COOP activity and will be included in the COOP plan, as an appendix. (Requirement 30145)	S	N	N	Mgmt
NPR 1040.1	3.3.4.c	30146	Plans of Succession (POS): POS will be sufficient in depth to ensure NASA's ability to perform essential operations while remaining a viable part of the Federal Government during any emergency. (Requirement 30146)	S	N	N	Mgmt
NPR 1040.1	3.3.4.e	30148	Plans of Succession (POS): Each principle NASA activity will, as appropriate (Requirement 30148) (1) Establish POS to the position of NASA Associate and Assistant Administrators. (2) Establish POS to other key Headquarters leadership positions. (3) Establish POS for each Center. (4) Identify any limitations of authority based on DOA's to others. (5) Describe POS by positions or title, rather than names of individuals. (6) Include the POS in the vital records inventory of the Agency and Center. (7) Revise POS as necessary and distribute revised versions promptly as changes occur. (8) Establish the rules and procedures that designated officials are to follow when facing the issues of succession to an office in emergency situations. (9) Include in succession procedures the conditions under which succession will take place, method of notification, and any temporal, geographical, or organizational limitations of authorities. (10) Assign successors to the extent possible among emergency teams established to perform essential operations, to ensure each team has an equitable share of duly constituted leadership. (11) Conduct orientation and training programs to prepare successors for their en	S	N	N	Mgmt
NPR 1040.1	3.3.6.3.c	30156	Automated Applications and Data: Office policy should require IT or LAN administrators to maintain separate master copies immediately upon implementation of approved changes, store the masters in a secure offsite location, together with copies of all applicable hardcopy documentation and operating manuals. (Requirement 30156)	S	N	N	Mgmt
NPR 1040.1	3.3.6.3.d	30157	Automated Applications and Data: A similar policy should require the appropriate individual(s) to prepare backup copies of all electronic files on a regular (e.g., not less than weekly) basis, to maintain copies of all required references and hardcopy files, and to store the backup copies in a secure offsite location. (Requirement 30157)	S	N	N	Mgmt
NPR 1040.1	3.3.6.3.f	30159	Automated Applications and Data: Headquarters and individual Center Data Centers and operational LAN's/WAN's make provisions for storing of these types of materials in support of Agency activities. (Requirement 30159)	S	N	N	Mgmt
NPR 1040.1	3.3.6.4.c	30164	IT-Based Services: The COOP planner must ensure that adequate compatible communications are available at the alternate site or that they can be provided during a disaster situation. (Requirement 30164)	S	N	N	Mgmt
NPR 1040.1	3.3.6.4.d(1)	30165	IT-Based Services: As appropriate, an agreement with a communications vendor must be negotiated. (Requirement 30165)	S	N	N	Mgmt
NPR 1040.1	3.3.6.4.d(2)	30166	IT-Based Services: This agreement must cover all necessary voice, data, and image communications. (Requirement 30166)	S	N	N	Mgmt
NPR 1040.1	3.3.6.4.e	30167	IT-Based Services: Separate agreements must also be negotiated with equipment vendors for modems, fax machines, telephones, encryptions devices, and keys, if required. (Requirement 30167)	S	N	N	Mgmt
NPR 1040.1	3.3.6.5.a	30174	Physical Infrastructure: Arrangements must be made for office space, furniture, data and communications processing capability, other support, and more, as applicable. (Requirement 30174)	S	N	N	Mgmt

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NPR 1040.1	3.3.6.5.b	30175	Physical Infrastructure: If the COOP calls for moving offsite to an alternate facility, procedures need to be developed to ensure a smooth transition back to the primary facility or to a new permanent location. (Requirement 30175)	S	N	N	Mgmt
NPR 1040.1	3.3.6.6.b	30181	Vital Records, Documents, and Papers: Copies of such records should be cycled on a schedule to be determined by the organization to ensure that the copies are current and acceptable. (Requirement 30181)	S	N	N	Mgmt
NPR 1040.1	3.3.6.6.d	30183	Vital Records, Documents, and Papers: Backup storage space should be located close enough to the primary site for convenience in placing items into storage on a regular basis, but not so close that it will be affected by the same disaster. (Requirement 30183)	S	N	N	Mgmt
NPR 1040.1	3.3.7.b	30187	Documenting Continuity of Operations Planning Strategies: The Continuity of Operations Plan needs to be written, kept up-to-date as the organization, systems, and other factors change, and stored in a safe place. (Requirement 30187)	S	N	N	Mgmt
NPR 1040.1	3.3.7.e	30190	Documenting Continuity of Operations Planning Strategies: It is generally helpful to store up-to-date copies of the Continuity of Operations Plan in several locations, including any offsite locations, such as alternate processing sites or backup data storage facilities. The structure of the Continuity of Operations Plan includes: (Requirement 30190) (1) Plan Overview - consists of an introduction, statement of policy, objectives, scope, assumptions, recovery strategy, and plan administration responsibilities. (2) Continuity Process Overview - outlines the four major stages of the process, after prevention (emergency response, resumption, recovery, and restoration), including the central activities and objectives of each stage, and the relationships among stages. (3) Continuity Team Organization - defines the specific organization set up to work towards survival and the resumption of time-sensitive essential operations. The teams associated with this plan represent office functional units and/or support operations developed to respond, resume, recover, or restore operations of the facility and/or system. Each team is comprised of individuals with specific responsibilities or tasks that must be complete	S	N	N	Mgmt
NPR 1040.1	3.3.8.a	30192	Test and Revise Strategy: A Continuity of Operations Plan should be tested to train personnel and to keep the plan in step with changes to the operating environment. (Requirement 30192)	S	N	N	Mgmt
NPR 1040.1	3.3.8.c.(3).c	30200	Test and Revise Strategy: Simulation and Test: Because the plan will become dated as time passes and resources change, responsibility for maintaining and updating the Continuity of Operations Plan should be specifically assigned. (Requirement 30200) Maintenance of the Continuity of Operations Plan can be incorporated into procedures for change management so that upgrades to hardware and software are reflected in the Plan.	S	N	N	Mgmt
NPR 1040.1	4.01.2	30204	The Continuity of Operations Plan will include the strategies, actions, and procedures established to resume mission-essential operations. (Requirement 30204)	S	N	N	Mgmt
NPR 1040.1	4.01.3(1)	30205	The Continuity of Operations Plan should also contain a statement of management policy. (Requirement 30205)	S	N	N	Mgmt
NPR 1040.1	4.01.3(2)	30206	The Continuity of Operations Plan: It identifies the plan's objectives, its scope and limitations, the assumptions made during its development, and guidelines for administering the plan's contents. (Requirement 30206)	S	N	N	Mgmt
NPR 1040.1	4.03.1	30212	Scope: The scope of the Continuity of Operations Plan will include mission-essential, time-sensitive, and less time-sensitive operations, supporting IT, and other supporting infrastructure. (Requirement 30212)	S	N	N	Mgmt
NPR 1040.1	4.03.2	30213	Scope: The Continuity of Operations Plan will be activated in the event that an essential function, or a portion of it, is involved in an emergency, or is declared unable to be performed in its primary location with primary support infrastructure (e.g., staff, data and communications systems, utilities, facility, furniture). (Requirement 30213)	S	N	N	Mgmt
NPR 1040.1	4.03.3	30214	Scope: The Continuity of Operations Plan will address resumption and recovery of essential operations, in a disastrous event situation. (Requirement 30214) It should not separately address building emergency and evacuation procedures or onsite resumption and recovery procedures, but should incorporate or reference existing emergency-preparedness procedures implemented under other NASA directives.	S	N	N	Mgmt
NPR 1040.1	4.03.4	30215	Scope: Actions related to the physical restoration process, in terms of primary site restoration, recovery deactivation, migration and reestablishment of normal operations, termination and shutdown of recovery operations at alternate sites, and post-recovery operations, will be addressed in individual continuity team tasks. (Requirement 30215)	S	N	N	Mgmt
NPR 1040.1	4.03.5	30216	Scope: The Continuity of Operations Plan will be based on NASA Center management knowledge, review and approval of those mission-critical essential operations, applications, and associated support operations identified as time and/or mission-sensitive. (Requirement 30216)	S	N	N	Mgmt
NPR 1040.1	4.03.5.a	30217	Scope: The time sensitivity of the essential operations and support activity performed by the organization will be documented during the preplanning process known as a business plan analysis outlined in chapter 3, paragraph 3.3.1. (Requirement 30217)	S	N	N	Mgmt
NPR 1040.1	4.03.5.c	30219	Scope: The resulting application of recovery priorities, on which the Continuity of Operations Plan is based will be documented in a report Essential Processes by Criticality to be included in Continuity of Operations Plan appendices. (Requirement 30219)	S	N	N	Mgmt
NPR 1040.1	4.06.2	30238	Recovery Strategy: The Continuity of Operations Plan will be developed to respond effectively to a significant event by using a predefined method for utilizing various facility, staff, and technical resources. (Requirement 30238) This method, known as the recovery strategy, is employed to help ensure that an affected organization can accomplish the resumption and recovery of mission-essential operations within stated timeframes at required levels of service.	S	N	N	Mgmt
NPR 1040.1	4.06.3	30239	Recovery Strategy: Consideration must be given to selecting a recovery strategy that is workable as well as cost efficient. (Requirement 30239)	S	N	N	Mgmt
NPR 1040.1	4.06.5	30241	Recovery Strategy: Alternate sites should be selected for their ability to support physical and technical infrastructure requirements while providing the best possible access to essential communications resources (e.g., telephones, WAN/LAN), as necessary to meet essential requirements. (Requirement 30241)	S	N	N	Mgmt

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NPR 1040.1	4.06.6	30242	Recovery Strategy: As appropriate, the Continuity of Operations Plan will ensure planning for continuity teams including relocating to selected alternate sites and preparing them for use as alternate operating sites should an event require activation of the Continuity of Operations Plan. (Requirement 30242)	S	N	N	Mgmt
NPR 1040.1	4.06.7	30243	Recovery Strategy: Where the Continuity of Operations Plan provides for pre-positioned equipment and services, COOP teams will activate those resources as necessary. (Requirement 30243)	S	N	N	Mgmt
NPR 1040.1	4.06.8	30244	Recovery Strategy: Where additional equipment and other services are needed to upgrade a site to full utilization, these items will be acquired and installed on an emergency basis. (Requirement 30244)	S	N	N	Mgmt
NPR 1040.1	4.06.9	30245	Recovery Strategy: Configuration details for current servers, and network management devices are included in the Continuity of Operations Plan to help expedite this "acquire time of disaster" strategy as are the current inventory of NASA contracts for which emergency requisitions will be drafted (included in the Continuity of Operations Plan appendices). (Requirement 30245)	S	N	N	Mgmt
NPR 1040.1	4.07.1	30247	Plan Administration: The scope of administrative duties and responsibilities includes, but is not limited to, the continued endorsement of the Continuity of Operations Plan by affected program management, through mandatory, documented review of the Continuity of Operations Plan by appropriate management personnel and team members, on no less than an annual basis. (Requirement 30247)	S	N	N	Mgmt
NPR 1040.1	4.07.2	30248	Plan Administration: A report on the plan's administration, prepared by the responsible program or project management, will be reviewed and approved by the Agency Senior Management official responsible for the COOP program, annually or as otherwise required. (Requirement 30248)	S	N	N	Mgmt
NPR 1040.1	4.07.3	30249	Plan Administration: The affected Program Manager, or his/her designee, is responsible for administration of the plan. (Requirement 30249)	S	N	N	Mgmt
NPR 1040.1	4.07.3.a	30250	Plan Administration: The affected Program Manager, or his/her designee, is responsible for - He/she will ensure that NASA standards and procedures are developed to address COOP administrative needs. (Requirement 30250)	S	N	N	Mgmt
NPR 1040.1	4.07.3.b	30251	Plan Administration: The affected Program Manager, or his/her designee, is responsible for - He/she will also include any relevant, related documentation in the plan. (Requirement 30251)	S	N	N	Mgmt
NPR 1040.1	4.07.3.c	30252	Plan Administration: The affected Program Manager, or his/her designee, is responsible for - As custodian and administrator of the Continuity of Operations Plan, he/she must have a thorough knowledge of all plan contents. (Requirement 30252)	S	N	N	Mgmt
NPR 1040.1	4.07.3.d(1)	30253	Plan Administration: The affected Program Manager, or his/her designee, is responsible for - As a further safeguard, he/she should never be the sole person in the organization with extensive knowledge of the structure and contents of the plan. (Requirement 30253)	S	N	N	Mgmt
NPR 1040.1	4.07.3.d(2)	30254	Plan Administration: The affected Program Manager, or his/her designee, is responsible for - An alternate COOP coordinator will be a full participant in all plan maintenance and exercise activities. (Requirement 30254)	S	N	N	Mgmt
NPR 1040.1	4.07.4	30255	Plan Administration: Responsibility for maintaining specific sections of the Continuity of Operations Plan resides with each COOP Team Leader in accordance with the Team's objectives and functional responsibilities for Prevention, Response, Resumption, Recovery, and Restoration. (Requirement 30255)	S	N	N	Mgmt
NPR 1040.1	4.07.4.a	30256	Plan Administration: Team leaders must ensure compliance with these documented procedures for plan administration. (Requirement 30256)	S	N	N	Mgmt
NPR 1040.1	4.07.4.b	30257	Plan Administration: Each employee, regardless of their role as a COOP team member, is responsible for providing updated personal contact information to the responsible Program or Project Manager, as changes occur. (Requirement 30257)	S	N	N	Mgmt
NPR 1040.1	4.07.5	30258	Plan Administration: Each employee is responsible for the maintenance of the affected organization's capability to respond and resume essential operations following a disaster. (Requirement 30258)	S	N	N	Mgmt
NPR 1040.1	4.07.5.b	30260	Plan Administration: Each employee is responsible for - Each individual must be aware of the necessity for the preservation of such a continuity capability and must ensure that the Prevention, Response, Resumption, Recovery, or Restoration capability is truly viable. (Requirement 30260)	S	N	N	Mgmt
NPR 1040.1	4.07.5.c	30261	Plan Administration: Each employee is responsible for - Should a plan review necessitate changes or updates, the COOP Coordinator is responsible for implementing the changes and issuing updated plan documentation. (Requirement 30261)	S	N	N	Mgmt
NPR 1040.1	4.07.5.d	30262	Plan Administration: Each employee is responsible for - Individuals in responsible management positions will be called upon periodically to provide information necessary for maintaining a viable plan and an exercised continuity capability. (Requirement 30262)	S	N	N	Mgmt
NPR 1040.1	4.08.5	30268	Emergency Response: Following the notification of the emergency incident or situation, and in accordance with Agency and individual Center Emergency Preparedness Response Plans, a team of key COOP personnel, the COOP Assessment team, will first assemble at the incident site, or other staging area if the incident site is deemed unsafe, contaminated, or otherwise unsuitable for use, and begin to assess and evaluate the site. (Requirement 30268)	S	N	N	Mgmt
NPR 1040.1	4.08.5.c	30271	Activation of the disaster recovery portion of the Continuity of Operations Plan requires significant expenditures of time, personnel, and financial resources. The appropriate affected program management team will determine whether or not the expenditure of resources are warranted and to what extent they are justified, based on the information and recommendations provided by the Assessment Team. (Requirement 30271)	S	N	N	Mgmt

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NPR 1040.1	4.08.6	30272	The appendices of the Continuity of Operations Plan will contain up-to-date contact lists, team assignments, checklists of specific tasks to be performed, and copies of any individual contingency plans developed under OMB Circular A-130. (Requirement 30272) The flowchart below (Figure 3) provides a graphical overview of the NASA COOP Emergency Response Process.	S	N	N	Mgmt
NPR 1040.1	4.09.2	30275	Incident Alert: The Continuity of Operations Plan will provide instructions for the proper and timely notification of an emergency situation, including notification to Center management, Center Emergency Response management personnel, and appropriate Headquarters personnel per requirements of NPD 8710.1, Emergency Preparedness Program, and NPR 8715.2, NASA Emergency Preparedness Plan Procedural Requirements. (Requirement 30275)	S	N	N	Mgmt
NPR 1040.1	4.09.3(1)	30276	Incident Alert: The Continuity of Operations Plan will provide specific instructions and guidelines for contacting members of the continuity management team and the various response teams. (Requirement 30276)	S	N	N	Mgmt
NPR 1040.1	4.09.3(2)	30277	Incident Alert: The Continuity of Operations Plan: Notification procedures will also include requirements for maintaining records of all notifications made. (Requirement 30277)	S	N	N	Mgmt
NPR 1040.1	4.09.4.a(1)	30279	Incident Alert: Notification Guidelines: All team leaders and team members should be assigned call tree responsibilities that will be followed during the emergency notification. (Requirement 30279)	S	N	N	Mgmt
NPR 1040.1	4.09.4.a(2)	30280	Incident Alert: Notification Guidelines: The appropriate Center Director will determine if the facility should be declared a disaster, based on a preliminary assessment of the situation. (Requirement 30280)	S	N	N	Mgmt
NPR 1040.1	4.09.4.b	30281	Incident Alert: Notification Guidelines: If emergency notification procedures are initiated, each team leader will be responsible for contacting their alternate team leader and team members with specific instructions. (Requirement 30281)	S	N	N	Mgmt
NPR 1040.1	4.09.4.c	30282	Incident Alert: Notification Guidelines: If the team leader is not available, the alternate team leader will assume the team leader's responsibilities. (Requirement 30282)	S	N	N	Mgmt
NPR 1040.1	4.09.4.d	30283	Incident Alert: Notification Guidelines: In the event the alternate team leader is also not available, the management team will assign someone to complete the notifications until the primary or alternate team leaders become available and resume their responsibilities. (Requirement 30283) It is important that all key personnel be notified of the disaster as soon as possible to begin resumption of essential operations.	S	N	N	Mgmt
NPR 1040.1	4.09.4.e	30284	Incident Alert: Notification Guidelines: An Employee and Contractor Notification List will be developed and maintained that has the telephone numbers of essential personnel to be notified in a predetermined sequence. (Requirement 30284)	S	N	N	Mgmt
NPR 1040.1	4.10.1	30287	Resumption: Establishing and organizing a Command Center from which to manage resumption activities. (Requirement 30287) a. This Command Center may be collocated with the Center Emergency Operations Center (EOC) if activated by Center Management. b. If the disastrous event is of a scale that impacts the entire Center, multiple COOP activity may be implemented. c. Refer to the Center Emergency Preparedness and Response Plan for guidance.	S	N	N	Mgmt
NPR 1040.1	4.10.2	30288	Resumption: Activating and mobilizing the continuity teams needed to resume time-sensitive restoration activity. (Requirement 30288)	S	N	N	Mgmt
NPR 1040.1	4.10.3	30289	Resumption: Evaluating alternate site equipment and network service for the necessary enhancement to support time-sensitive application recovery. (Requirement 30289)	S	N	N	Mgmt
NPR 1040.1	4.10.4	30290	Resumption: Mobilizing and activating the support teams needed to support enhancement and use of the alternate site(s). (Requirement 30290)	S	N	N	Mgmt
NPR 1040.1	4.10.5	30291	Resumption: Notifying and informing clients and NASA Senior Management of the situation. (Requirement 30291)	S	N	N	Mgmt
NPR 1040.1	4.10.6	30292	Resumption: Alerting employees and contractors not assigned to the continuity organization, vendors, and other key organizations to the situation and their role, if any, during resumption and recovery. (Requirement 30292)	S	N	N	Mgmt
NPR 1040.1	4.10.7(1)	30293	Resumption: Once mobilized, the support teams will be instructed in their reporting and action requirements. (Requirement 30293)	S	N	N	Mgmt
NPR 1040.1	4.10.7(2)	30294	Resumption: The necessary site assessments, evaluations, and the initiation of salvage operations will be completed once the Command Center is established. (Requirement 30294)	S	N	N	Mgmt
NPR 1040.1	4.10.7(3)	30295	Resumption: Additional alerts to supporting vendors, management, and customers will also be conducted from the Command Center. (Requirement 30295)	S	N	N	Mgmt
NPR 1040.1	4.10.8	30296	Resumption: Based on the information and recommendations provided by the Assessment and Salvage Team, the COOP Management Team will determine whether or not the expenditure of resources are warranted, to what extent they are justified, and what other actions will be taken. (Requirement 30296)	S	N	N	Mgmt
NPR 1040.1	4.11.1(1)	30299	Command Center: A Command Center will be established if management decides to continue and escalate the situation from emergency response to resumption operations. (Requirement 30299)	S	N	N	Mgmt
NPR 1040.1	4.11.1(2)	30300	Command Center: The site for the Command Center should be identified in advance. (Requirement 30300) Initial activities performed at the Command Center are described below.	S	N	N	Mgmt
NPR 1040.1	4.11.1.a	30301	Command Center: If the facility can be accessed, further assessments and evaluations of the onsite conditions, the damage impact and extent of the emergency incident or situation will be completed. (Requirement 30301)	S	N	N	Mgmt
NPR 1040.1	4.11.1.d	30304	Command Center: If the emergency incident or situation is such that the resumption operation needs to be continued or further escalated, and/or a disaster declared, the Command Center should be organized and the appropriate support and resumption teams notified and activated as required. (Requirement 30304)	S	N	N	Mgmt

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NPR 1040.1	4.12.1.a	30307	Recovery: Management, through development and implementation of the Continuity of Operations Plan will initiate recovery-stage operations if the estimate of total outage indicate the need to expand service delivery using alternative locations and resources. (Requirement 30307)	S	N	N	Mgmt
NPR 1040.1	4.12.3	30312	Recovery: Command Center During the Recovery Stage: The level of support maintained at the Command Center during recovery will be determined by the Management Team based upon -- (Requirement 30312) a. Scope of the disaster, b. Number of essential operations affected, c. Level of support required for the recovery of essential operations, and d. Perception of ongoing risks and/or exposures.	S	N	N	Mgmt
NPR 1040.1	4.13.1	30314	Restoration: When Center Emergency Response officials allow access to the facility, the COOP Management Team will initiate the restoration phase of the Continuity of Operations Plan. (Requirement 30314)	S	N	N	Mgmt
NPR 1040.1	4.13.3.a	30317	Restoration: Environmental contamination of the affected areas, (Requirement 30317)	S	N	N	Mgmt
NPR 1040.1	4.13.3.b	30318	Restoration: Structural integrity of the building, and (Requirement 30318)	S	N	N	Mgmt
NPR 1040.1	4.13.3.c	30319	Restoration: Damage to furniture, fixtures, and equipment. (Requirement 30319)	S	N	N	Mgmt
NPR 1040.1	4.13.4	30320	Restoration: Restoration will begin when reliable estimates of contamination, structural damage, and asset loss can be obtained and personnel resources can be dedicated to the management and coordination of the process. (Requirement 30320) This phase may be executed sequential to, or concurrent with, the resumption and/or recovery stages.	S	N	N	Mgmt
NPR 1040.1	4.14.01	30323	Continuity Team Organization: In the event of a disaster, the normal structure of the unit must shift to that of the continuity organization. (Requirement 30323)	S	N	N	Mgmt
NPR 1040.1	4.14.05	30326	Continuity Team Organization: Each team is comprised of individuals with specific responsibilities or tasks that must be completed to fully execute the Continuity of Operations Plan. (Requirement 30326)	S	N	N	Mgmt
NPR 1040.1	4.14.06	30327	Continuity Team Organization: A primary and alternate team leader who is responsible to the affected Program Manager, or his/her designee, leads each team. (Requirement 30327)	S	N	N	Mgmt
NPR 1040.1	4.14.08	30329	Continuity Team Organization: Each team is structured to provide dedicated, focused support, in the areas of its particular experience and expertise, for specific response, resumption, and recovery tasks, responsibilities, and objectives. (Requirement 30329)	S	N	N	Mgmt
NPR 1040.1	4.14.11	30332	Continuity Team Organization: Each team leader will report status and progress updates to its management team throughout the continuity process. (Requirement 30332)	S	N	N	Mgmt
NPR 1040.1	4.14.12	30333	Continuity Team Organization: Close coordination must be maintained with the appropriate management personnel and each of the other teams throughout the resumption and recovery operations. (Requirement 30333)	S	N	N	Mgmt
NPR 1040.1	4.14.13.a	30335	Continuity Team Organization: Protect employees and information assets until normal business operations are resumed. (Requirement 30335)	S	N	N	Mgmt
NPR 1040.1	4.14.13.b	30336	Continuity Team Organization: Ensure that a viable capability exists to respond to an incident. (Requirement 30336)	S	N	N	Mgmt
NPR 1040.1	4.14.13.c	30337	Continuity Team Organization: Manage all response, resumption, recovery, and restoration activities. (Requirement 30337)	S	N	N	Mgmt
NPR 1040.1	4.14.13.d	30338	Continuity Team Organization: Support and communicate with NASA Senior Management and other locations, as necessary. (Requirement 30338)	S	N	N	Mgmt
NPR 1040.1	4.14.13.e	30339	Continuity Team Organization: Accomplish rapid and efficient resumption of time-sensitive business operations. (Requirement 30339)	S	N	N	Mgmt
NPR 1040.1	4.14.13.f	30340	Continuity Team Organization: Ensure that all statutory and regulatory requirements are satisfied (e.g., environmental, records retention). (Requirement 30340)	S	N	N	Mgmt
NPR 1040.1	4.14.13.g	30341	Continuity Team Organization: Exercise impact resumption and recovery expenditure decisions. (Requirement 30341)	S	N	N	Mgmt
NPR 1040.1	4.14.13.h	30342	Continuity Team Organization: Streamline the reporting of resumption and recovery progress among the teams and with the affected program management team and NASA Senior Management. (Requirement 30342)	S	N	N	Mgmt
NPR 1040.1	4.14.14.a	30344	Continuity Team Organization: Establish an immediate and controlled presence at or near the incident site and await instructions from Center emergency response personnel. (Requirement 30344)	S	N	N	Mgmt
NPR 1040.1	4.14.14.b	30345	Continuity Team Organization: Determine if and/or when access to the facility will be allowed. (Requirement 30345)	S	N	N	Mgmt
NPR 1040.1	4.14.14.c	30346	Continuity Team Organization: Upon being granted permission to enter impacted facility, conduct a preliminary assessment of incident impact, extent of damage, disruption to the affected organization's services and essential operations. (Requirement 30346)	S	N	N	Mgmt
NPR 1040.1	4.14.14.d	30347	Continuity Team Organization: Provide Center Senior Management with the facts necessary to make informed decisions regarding subsequent resumption and recovery activity. (Requirement 30347)	S	N	N	Mgmt
NPR 1040.1	4.14.15.a	30349	Continuity Team Organization: Establish and organize a Command Center for the resumption operations. (Requirement 30349)	S	N	N	Mgmt
NPR 1040.1	4.14.15.b	30350	Continuity Team Organization: Notify and apprise team leaders of the situation. (Requirement 30350)	S	N	N	Mgmt
NPR 1040.1	4.14.15.c	30351	Continuity Team Organization: Mobilize and activate the operations teams necessary to facilitate the resumption process. (Requirement 30351)	S	N	N	Mgmt
NPR 1040.1	4.14.15.d	30352	Continuity Team Organization: Alert employees, vendors, and other internal and external individuals and organizations. (Requirement 30352)	S	N	N	Mgmt
NPR 1040.1	4.14.16.a	30354	Continuity Team Organization: Prepare for and/or implement procedures to facilitate and support the recovery of less time-sensitive operations. (Requirement 30354)	S	N	N	Mgmt
NPR 1040.1	4.14.16.b	30355	Continuity Team Organization: Mobilize additional continuity teams and support organizations as required. (Requirement 30355)	S	N	N	Mgmt

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NPR 1040.1	4.14.16.c	30356	Continuity Team Organization: Maintain an information flow regarding the status of recovery operations among employees, vendors, and other internal and external individuals, and organizations. (Requirement 30356)	S	N	N	Mgmt
NPR 1040.1	4.14.17.a	30358	Continuity Team Organization: Manage salvage, repair and/or refurbishment efforts at the affected facility. (Requirement 30358)	S	N	N	Mgmt
NPR 1040.1	4.14.17.b	30359	Continuity Team Organization: Prepare procedures necessary for the relocation or migration of operations to a new or repaired facility. (Requirement 30359)	S	N	N	Mgmt
NPR 1040.1	4.14.17.c	30360	Continuity Team Organization: Implement procedures necessary to mobilize operations, support, and technology relocation or migration. (Requirement 30360)	S	N	N	Mgmt
NPR 1040.1	4.14.17.d	30361	Continuity Team Organization: Manage the relocation/migration effort as well as perform employee, vendor, and customer notification before, during, and after relocation or migration. (Requirement 30361)	S	N	N	Mgmt
NPR 1040.1	4.15.1(1)	30363	Plan Activation: Activation of the Continuity of Operations Plan should only be executed when an emergency occurs that necessitates a response beyond the scope of daily standard operating procedures. (Requirement 30363)	S	N	N	Mgmt
NPR 1040.1	4.15.1(2)	30364	Plan Activation: In accordance with Agency and/or individual Center Emergency Preparedness Program Plans, only the following selected personnel may activate the entire plan, or any phase thereof, and/or declare a disaster situation for NASA. (Requirement 30364)	S	N	N	Mgmt
NPR 1040.1	4.15.1.b	30366	Plan Activation: The Center Director or his/her designee will decide whether or not to activate the respective organizational Continuity of Operations Plan and/or declare a disaster. (Requirement 30366)	S	N	N	Mgmt
NPR 1040.1	4.15.2	30367	Plan Activation: Their decision will be based on a preliminary assessment of the business interruption incident, including any physical impairment to the facility. Pending their decision, emergency notification of NASA personnel will be initiated, and the entire COOP, or any phase thereof, will be activated, as directed. (Requirement 30367)	S	N	N	Mgmt
NPR 1040.1	4.15.3(1)	30368	Plan Activation: Technology teams focused on restoring communications, data, networks, will be activated only as directed by the management team. (Requirement 30368)	S	N	N	Mgmt
NPR 1040.1	4.15.3(2)	30369	Plan Activation: Technology teams: Each team consists of unique procedures, tasks, contact, and resource information. Programs and applications will be restored according to established priorities. (Requirement 30369)	S	N	N	Mgmt
NPR 1040.1	4.15.4(1)	30370	Plan Activation: Organization restoration teams will be activated only as directed by the Management Team based on the impact of the disruption. (Requirement 30370)	S	N	N	Mgmt
NPR 1040.1	4.15.4(2)	30371	Plan Activation: Organization restoration teams: Restoration priorities will be established in response to the disruption. (Requirement 30371)	S	N	N	Mgmt
NPR 1040.1	4.15.4(3)	30372	Plan Activation: Organization restoration teams: Staff will focus on reestablishing essential office operations and ensuring that the restoration teams focus on communications, application, and program recovery priorities. (Requirement 30372)	S	N	N	Mgmt
NPR 1040.1	4.16.1	30374	Team Roles and Responsibilities: Following the response phase of the COOP, the affected organization will organize into teams to execute its resumption and recovery activities on behalf of NASA. (Requirement 30374)	S	N	N	Mgmt
NPR 1040.1	4.16.2	30375	Team Roles and Responsibilities: To accomplish the tasks assigned, each team will draw upon the expertise of supporting organizations, both internal and external, as necessary. (Requirement 30375)	S	N	N	Mgmt
NPR 1040.1	4.16.3	30376	Team Roles and Responsibilities: This section of the Continuity of Operations Plan will identify the major groups of teams required to accomplish recovery. (Requirement 30376)	S	N	N	Mgmt
NPR 1040.1	4.16.4	30377	Team Roles and Responsibilities: Each team has a minimum of a leader and one or more members representing the skills appropriate to the team's role. (Requirement 30377)	S	N	N	Mgmt
NPR 1040.1	4.16.5	30378	Team Roles and Responsibilities: Team leaders/alternates must be thoroughly familiar with the responsibilities not only of their team but also of all the teams with which they must interact. (Requirement 30378)	S	N	N	Mgmt
NPR 1040.1	4.16.6	30379	Team Roles and Responsibilities: A detailed list of teams and their current team members will be located in the Plan Implementation section of the Continuity of Operations Plan. (Requirement 30379)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(01)	30382	Team Roles and Responsibilities: Affected Program Management: Approve the activation of the plan or the declaration of a disaster. (Requirement 30382)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(02)	30383	Team Roles and Responsibilities: Affected Program Management: Approve expenditures as required. (Requirement 30383)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(03)	30384	Team Roles and Responsibilities: Affected Program Management: Coordinate temporary relocation logistics with support services organizations. (Requirement 30384)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(04)	30385	Team Roles and Responsibilities: Affected Program Management: Coordinate with NASA Senior Management on the issuance of related news releases to the press and media. (Requirement 30385)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(05)	30386	Team Roles and Responsibilities: Affected Program Management: Monitor all activities with the Recovery and Restoration Management Teams. (Requirement 30386)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(06)	30387	Team Roles and Responsibilities: Affected Program Management: Provide Senior Management direction and counsel to activated teams as required. (Requirement 30387)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(07)	30388	Team Roles and Responsibilities: Affected Program Management: Coordinate all personnel matters and issues involving employee fatalities and injuries and notifications to employee's families and dependents with NASA management. (Requirement 30388) This may also include professional counseling and financial support for employees.	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(08)	30389	Team Roles and Responsibilities: Affected Program Management: Review progress and status with Center and NASA Senior Management. (Requirement 30389)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(09)	30390	Team Roles and Responsibilities: Affected Program Management: Manage the resumption and recovery of all business operations and service delivery. (Requirement 30390)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(10)	30391	Team Roles and Responsibilities: Affected Program Management: Establish and organize a business resumption operation at an alternate site. (Requirement 30391)	S	N	N	Mgmt

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NPR 1040.1	4.16.7.a.(11)	30392	Team Roles and Responsibilities: Affected Program Management: Organize the business resumption Command Center. (Requirement 30392)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(12)	30393	Team Roles and Responsibilities: Affected Program Management: Direct and support team leaders and make assignments, as appropriate. (Requirement 30393)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(13)	30394	Team Roles and Responsibilities: Affected Program Management: Ensure that a damage assessment and salvage operation is conducted at the primary site. (Requirement 30394)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(14)	30395	Team Roles and Responsibilities: Affected Program Management: Control the activation of the business resumption procedures. (Requirement 30395)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(15)	30396	Team Roles and Responsibilities: Affected Program Management: Coordinate the eventual restoration and relocation of the primary site. (Requirement 30396)	S	N	N	Mgmt
NPR 1040.1	4.16.7.a.(16)	30397	Team Roles and Responsibilities: Affected Program Management: Report resumption and recovery progress to NASA Senior Management. (Requirement 30397)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(01)	30398	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Contact key personnel required for resumption of time-sensitive operations. (Requirement 30398)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(02)	30399	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Alert all personnel and instruct them to report to their designated areas, as required. (Requirement 30399)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(03)	30400	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Perform tasks to resume time-sensitive operations, as required. (Requirement 30400)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(04)	30401	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Work with support teams to obtain support required for task accomplishment. (Requirement 30401)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(05)	30402	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Report the status of resumption activity to management team. (Requirement 30402)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(06)	30403	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Manage all administrative activities associated with the resumption and recovery operations. (Requirement 30403)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(07)(1)	30404	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Notify alternate backup sites and/or vendors of disaster declaration. (Requirement 30404)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(07)(2)	30405	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Ensure that backup sites are prepared to accept staff for resumption of operations. (Requirement 30405)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(08)	30406	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Identify and coordinate procurement actions for equipment and services for alternate site installation, if not a redundant site. (Requirement 30406)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(09)	30407	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Identify and retrieve all backup files and other vital records from offsite or remote storage. (Requirement 30407)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(10)	30408	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Request and coordinate installation of data and telecommunications capability if necessary. (Requirement 30408)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(11)	30409	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Execute IT systems resumption procedures. (Requirement 30409)	S	N	N	Mgmt
NPR 1040.1	4.16.7.b.(12)	30410	Team Roles and Responsibilities: IT Resources, Communications and Data Recovery Management: Manage IT systems operations at the alternate and primary sites if necessary. (Requirement 30410)	S	N	N	Mgmt
NPR 1040.1	4.16.7.c.(1)	30412	Team Roles and Responsibilities: Organization Restoration Management: Coordinate salvage and/or reconstruction of the affected facility, records, and file reports, as appropriate. (Requirement 30412)	S	N	N	Mgmt
NPR 1040.1	4.16.7.c.(2)	30413	Team Roles and Responsibilities: Organization Restoration Management: Coordinate the acquisition and outfitting of a new permanent site, if necessary. (Requirement 30413)	S	N	N	Mgmt
NPR 1040.1	4.16.7.c.(3)	30414	Team Roles and Responsibilities: Organization Restoration Management: Identify and coordinate procurement for equipment and services for the permanent site. (Requirement 30414)	S	N	N	Mgmt
NPR 1040.1	4.16.7.c.(4)	30415	Team Roles and Responsibilities: Organization Restoration Management: Work with NASA support teams to obtain required services to restore and outfit a permanent office location. (Requirement 30415)	S	N	N	Mgmt
NPR 1040.1	4.16.7.c.(5)	30416	Team Roles and Responsibilities: Organization Restoration Management: Manage preparation of a migration plan from the alternate site to the permanent site. (Requirement 30416)	S	N	N	Mgmt
NPR 1040.1	4.16.7.c.(6)	30417	Team Roles and Responsibilities: Organization Restoration Management: Coordinate migration and move-in logistics with the affected management, IT Communications and Data Recovery teams, and with NASA support services. (Requirement 30417)	S	N	N	Mgmt
NPR 1040.1	4.17	30418	Reporting Structure: The Program Manager, or his/her designee, will develop a reporting structure for the continuity organization that reflects the overall team organization and reporting requirements that will be employed during response, resumption, recovery, and restoration processes. (Requirement 30418)	S	N	N	Mgmt
NPR 1040.1	4.18.2.c	30424	The Program Manager, or his/her designee, is responsible for initiating scheduled maintenance activities in consultation with the Management Team. (Requirement 30424)	S	N	N	Mgmt
NPR 1040.1	4.18.2.d(1)	30425	The Program Manager, or his/her designee, shall initiate semiannual continuity plan reviews. (Requirement 30425)	S	N	N	Mgmt

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NPR 1040.1	4.18.2.d(2)	30897	The Program Manager, or his/her designee: He or she shall notify all continuity organization team leaders and alternate team leaders to review the response, resumption, recovery, and restoration task lists, contact information and procedures for changes that may be required. (Requirement 30897)	S	N	N	Mgmt
NPR 1040.1	4.18.2.g(1)	30428	Teams shall submit changes to the Program Manager, or his/her designee, as they are needed. (Requirement 30428)	S	N	N	Mgmt
NPR 1040.1	4.18.2.g(2)	30429	The Program Manager, or his/her designee, shall incorporate all changes to the Continuity of Operations Plan and distribute updated copies, as required. (Requirement 30429)	S	N	N	Mgmt
NPR 1040.1	4.18.3.c	30433	The Program Manager, or his/her designee, must be made aware, in writing, of all changes to the Continuity of Operations Plan resulting from unscheduled maintenance. (Requirement 30433)	S	N	N	Mgmt
NPR 1040.1	4.18.3.d	30434	The Program Manager, or his/her designee, shall then notify all continuity organization team leaders and alternate team leaders to review the Continuity of Operations Plan for changes that will be required as a result of the item that has triggered the review. (Requirement 30434)	S	N	N	Mgmt
NPR 1040.1	4.18.3.e	30435	Team leaders will submit actual change data to the COOP Coordinator. (Requirement 30435)	S	N	N	Mgmt
NPR 1040.1	4.18.3.f	30436	The Program Manager, or his/her designee, will team up with the person submitting the change and either update the Continuity of Operations Plan or assign the update responsibility to the affected continuity team(s). (Requirement 30436) Cross-team coordination should be completed within 2 weeks of the review.	S	N	N	Mgmt
NPR 1040.1	4.18.3.g	30437	The Program Manager, or his/her designee, is responsible for any required updates to the Plan, which result from the review. (Requirement 30437)	S	N	N	Mgmt
NPR 1040.1	4.18.3.h	30438	The Program Manager, or his/her designee, shall print hard copies of the Plan, and distribute as required. (Requirement 30438)	S	N	N	Mgmt
NPR 1040.1	4.19.1	30440	The Continuity of Operations Plan maintenance process should include a periodic re-evaluation of the minimum staffing, technical support, and services required to provide short-term response, resumption, recovery, and restoration capability. (Requirement 30440)	S	N	N	Mgmt
NPR 1040.1	4.19.2	30441	When IT support is integral to the continuation of essential operations, the reevaluation process must also address the capacity growth requirements associated with the increase of transaction processing volumes of the production application systems, as well as the addition of new systems to the production environment. (Requirement 30441) a. Based on the existing configuration and requirements, it is assumed that the most effective configuration for supporting long-term recovery and restoration will be the installation of the computer hardware required to support normal to near-normal levels of processing in a temporary environment. b. Special attention is required to ensure continuing compatibility of existing equipment with that which is installed at the alternate site.	S	N	N	Mgmt
NPR 1040.1	4.20.2.c	30447	Type and Scope of Exercises or Tests: At a minimum, organizations having responsibility for COOP activity will test and document the COOP at least annually, using one or more of the suggested exercise types: (Requirement 30447) (1) Structured Walk-Through (a) In the structured walk-through, a disaster scenario is established, and COOP Teams "walk through" their assigned tasks. (b) This is a "role-playing" activity that requires the participation of at least the team leaders and their alternates. (c) The developed scenario will be made available in advance of the exercise to allow team members to review their assigned tasks in response to the exercise scenario. (d) During the structured walk-through, the Continuity of Operations Plan is checked for any errors or omissions. (e) At the end of the structured walk-through, any changes to the Continuity of Operations Plan that are found to be necessary are implemented. (f) This type of exercise can be conducted with or without an independent "monitor." (2) Tactical (a) A tactical exercise is a simulated exercise, conducted in a "war game" format. (b) All members of the individual continuity team are required to participate and perform their tasks and procedu	S	N	N	Mgmt
NPR 1040.1	4.20.2.d.(1)	30449	Exercises or Tests will be conducted when-- (1) The Continuity of Operations Plan is first developed and implemented, (Requirement 30449)	S	N	N	Mgmt
NPR 1040.1	4.20.2.d.(2)	30450	Exercises or Tests will be conducted when-- (2) A major revision to the Continuity of Operations Plan has been completed, (Requirement 30450)	S	N	N	Mgmt
NPR 1040.1	4.20.2.d.(3)	30451	Exercises or Tests will be conducted when-- (3) When significant changes in operating systems, applications and/or data communications has occurred, (Requirement 30451)	S	N	N	Mgmt
NPR 1040.1	4.20.2.d.(4)	30452	Exercises or Tests will be conducted when-- (4) The preparedness level of continuity teams must be verified, and (Requirement 30452)	S	N	N	Mgmt
NPR 1040.1	4.20.2.d.(5)	30453	Exercises or Tests will be conducted when-- (5) At least annually. (Requirement 30453)	S	N	N	Mgmt
NPR 1040.1	4.20.2.e.(1)	30455	The Program Manager, or his/her designee, operating under COOP, is responsible for developing the strategy for each exercise. (Requirement 30455)	S	N	N	Mgmt
NPR 1040.1	4.20.2.e.(2)	30456	Development of procedures that measure the effectiveness of the Continuity of Operations Plan will address the following plan elements: (Requirement 30456) i. Notification ii. Organization iii. Resources and Vital Records iv. Operations	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(1)	30459	Exercise and Test Evaluation: An unbiased evaluation team should be assigned and will evaluate the results of each exercise or test. (Requirement 30459)	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(2)	30460	Exercise and Test Evaluation: This team should be made up of personnel external to the organization conducting the exercise or test. (Requirement 30460)	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(3)	30461	Exercise and Test Evaluation: The evaluation team must be focused entirely on the validity, currency, and capability of the COOP to recover and restore NASA time-sensitive application systems at the alternate site(s). (Requirement 30461)	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(5).i	30464	Exercise and Test Evaluation: The Exercise Evaluation Team is charged with the following responsibilities--Familiarization with the overall Continuity of Operations Plan. (Requirement 30464)	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(5).ii	30465	Exercise and Test Evaluation: The Exercise Evaluation Team is charged with the following responsibilities--Understanding thoroughly the objectives of the exercise or test to be conducted. (Requirement 30465)	S	N	N	Mgmt

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NPR 1040.1	4.20.2.g.(5).iii	30466	Exercise and Test Evaluation: The Exercise Evaluation Team is charged with the following responsibilities--Monitoring and observing all the activities of the teams involved in the exercise or test. (Requirement 30466)	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(5).iv	30467	Exercise and Test Evaluation: The Exercise Evaluation Team is charged with the following responsibilities--Ensuring that the exercise or test objectives are met, from the organization's and client's perspective. (Requirement 30467)	S	N	N	Mgmt
NPR 1040.1	4.20.2.g.(5).v	30468	Exercise and Test Evaluation: The Exercise Evaluation Team is charged with the following responsibilities--Documenting findings relating to the strengths and weaknesses observed during the exercise or test. (Requirement 30468)	S	N	N	Mgmt
NPR 1040.1	4.20.2.h.(1)	30470	Reviewing Exercise and Test Results: Team leaders and program management will document exercise or test results as soon as possible, but not later than 2 weeks after completion of an announced or unannounced exercise or test. (Requirement 30470)	S	N	N	Mgmt
NPR 1040.1	4.20.2.h.(2)	30471	Reviewing Exercise and Test Results: Selected members of the continuity organization will review the exercise and test results and resolve weaknesses and problems. (Requirement 30471)	S	N	N	Mgmt
NPR 1040.1	4.20.2.h.(3)	30472	Reviewing Exercise and Test Results: The project manager, or his/her designee, will chair the review and coordinate appropriate changes and updates to the Continuity of Operations Plan. (Requirement 30472)	S	N	N	Mgmt
NPR 1040.1	4.20.2.h.(4)	30473	Reviewing Exercise and Test Results: The results of the review will be presented to the Center Director, appropriate management personnel, and the appropriate Enterprise Business Continuity Official(s). (Requirement 30473)	S	N	N	Mgmt
NPR 1040.1	4.20.2.h.(5)	30474	Reviewing Exercise and Test Results: A copy of the exercise or test results will be provided to the Agency and Center COOP coordinators, respectively. (Requirement 30474)	S	N	N	Mgmt
NPR 1040.1	4.20.2.i.(1)	30476	Schedule of Exercises: The Program Manager, or his/her designee, will schedule exercises in coordination with the Center COOP Coordinator. (Requirement 30476)	S	N	N	Mgmt
NPR 1040.1	4.20.2.i.(2)	30477	Schedule of Exercises: Exercises should be scheduled with consideration to seasonal production and business cycles, the number of processing systems or platforms in production, and the time required to exercise both time-sensitive processes to full production systems. (Requirement 30477)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(2)	30480	Education and Training: This awareness will be achieved through formal education and training sessions conducted on at least an annual basis. (Requirement 30480)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(5)	30483	Education and Training: The individual Center COOP Coordinator will schedule educational seminars addressing individual COOP activity at least, but not less than, semiannually. (Requirement 30483)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(6).i	30485	Education and Training: These seminars will include overviews of the--Continuity strategy, priorities, and timeframes. (Requirement 30485)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(6).ii	30486	Education and Training: These seminars will include overviews of the--Business continuity organization structure and responsibilities. (Requirement 30486)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(6).iii	30487	Education and Training: These seminars will include overviews of the--Individual Continuity of Operations Plan structure and contents. (Requirement 30487)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(6).iv	30488	Education and Training: These seminars will include overviews of the--Data preservation methodologies and practices. (Requirement 30488)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(6).v	30489	Education and Training: These seminars will include overviews of the--Mobilization, transportation, transfer of actions to alternate site(s). (Requirement 30489)	S	N	N	Mgmt
NPR 1040.1	4.20.2.j.(6).vi	30490	Education and Training: These seminars will include overviews of the--Plan administration, maintenance, and exercises. (Requirement 30490)	S	N	N	Mgmt
NPR 7120.5D	2.2.3.1	55523	NASA Life Cycles for Space Flight Programs and Projects: Program Life Cycle: Program formulation and implementation require the preparation and approval of three key documents - a program Formulation Authorization Document (FAD), a Program Commitment Agreement (PCA), and a Program Plan - each of which is now described: To initiate planning for individual programs, a Mission Directorate prepares a program FAD following an ASP meeting. The program FAD authorizes a Program Manager to initiate the planning of a new program, and to perform the Analysis of Alternatives (AoA) required to formulate a sound Program Plan that contains project elements, requirements, schedules, risk assessments, and budgets. The FAD template is found in Appendix C. Because the creation of a new program represents a major commitment of the Agency and may require coordination with OMB and/or the Congress, the FAD requires the approval of the MDAA. The program FAD contains a statement of purpose for the proposed program and defines its relationship to the Agency's strategic goals and objectives; establishes the scope of work to be accomplished; provides initial constraints (including resou	E	N	N	Mgmt
NPR 7120.5D	2.2.3.2	55524	NASA Life Cycles for Space Flight Programs and Projects: Program Life Cycle: Program formulation and implementation require the preparation and approval of three key documents - a program Formulation Authorization Document (FAD), a Program Commitment Agreement (PCA), and a Program Plan - each of which is now described: The Program Commitment Agreement (PCA) is the agreement between the MDAA and the NASA AA (Decision Authority) that authorizes transition from formulation to implementation (KDP I). The PCA is prepared by the Mission Directorate with support from the Program Manager, as requested. The PCA documents Agency requirements, program objectives, management and technical approach and associated architecture, technical performance, schedule, cost, safety and risk factors, internal and external agreements, independent reviews, and all attendant top-level program requirements. A PCA can be considered an executive summary of the Program Plan and is updated and approved during the program life cycle, as appropriate. At a minimum, a significant change in program content, including the addition or deletion of a constituent project, warrants a change in the PCA	E	N	N	Mgmt

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NPR 7120.5D	2.2.3.3	55525	NASA Life Cycles for Space Flight Programs and Projects: Program Life Cycle: Program formulation and implementation require the preparation and approval of three key documents - a program Formulation Authorization Document (FAD), a Program Commitment Agreement (PCA), and a Program Plan - each of which is now described: The Program Plan is an agreement between the MDAA (who has approval authority for the plan), the Center Director(s), and the Program Manager that documents at a high level the program's objectives and requirements, scope, implementation approach, interfaces with other programs, the environment within which the program operates, budget by fiscal year, and the commitments of the program. The Program Plan is prepared by the Program Manager with the support of program personnel. Implementation of a program, project, or task at a NASA Center is performed in accordance with the Program Plan and consistent with that Center's best practices, as negotiated and documented in the Program Plan. The agreements between the Program Manager and the Center Directors of participating NASA Centers are documented in the Program Plan along with the Program M	E	N	N	Mgmt
NPR 7120.5D	2.2.3.3.1	55526	NASA Life Cycles for Space Flight Programs and Projects: Program Life Cycle: Program formulation and implementation require the preparation and approval of three key documents - a program Formulation Authorization Document (FAD), a Program Commitment Agreement (PCA), and a Program Plan - each of which is now described: The Program Plan is an agreement between the MDAA (who has approval authority for the plan), the Center Director(s), and the Program Manager that documents at a high level the program's objectives and requirements, scope, implementation approach, interfaces with other programs, the environment within which the program operates, budget by fiscal year, and the commitments of the program. The Program Plan is prepared by the Program Manager with the support of program personnel. Implementation of a program, project, or task at a NASA Center is performed in accordance with the Program Plan and consistent with that Center's best practices, as negotiated and documented in the Program Plan. The agreements between the Program Manager and the Center Directors of participating NASA Centers are documented in the Program Plan along with the Program M	E	N	N	Mgmt
NPR 7120.5D	2.2.3.3.2	55527	NASA Life Cycles for Space Flight Programs and Projects: Program Life Cycle: Program formulation and implementation require the preparation and approval of three key documents - a program Formulation Authorization Document (FAD), a Program Commitment Agreement (PCA), and a Program Plan - each of which is now described: The Program Plan is an agreement between the MDAA (who has approval authority for the plan), the Center Director(s), and the Program Manager that documents at a high level the program's objectives and requirements, scope, implementation approach, interfaces with other programs, the environment within which the program operates, budget by fiscal year, and the commitments of the program. The Program Plan is prepared by the Program Manager with the support of program personnel. Implementation of a program, project, or task at a NASA Center is performed in accordance with the Program Plan and consistent with that Center's best practices, as negotiated and documented in the Program Plan. The agreements between the Program Manager and the Center Directors of participating NASA Centers are documented in the Program Plan along with the Program M	E	N	N	Mgmt
NPR 7120.5D	2.3.2.1	55533	NASA Life Cycles for Space Flight Programs and Projects: Project Life Cycle: To initiate a new project, a Mission Directorate, working through a program office, usually provides a small amount of discretionary resources for concept studies (i.e., Pre-Phase A). These pre-formulation activities involve design reference mission analysis, feasibility studies, technology needs analyses of alternatives that should be performed before a specific project concept emerges. These trade studies are not considered part of formal project planning since there is no certainty that a specific project proposal will emerge: An MDAA has the authority to initiate a project and begin formulation activities. To effect a project's official entry into formulation, the Program Manager prepares a draft project FAD or equivalent (such as a Program Plan section, MDAA letter selecting a specific AO proposal, or a Program Directive that is used in the Space Station and Shuttle Programs). Following an ASP meeting, the updated project FAD is forwarded to the MDAA for final signature. Once the MDAA signs the project FAD, a project formally enters formulation.	E	N	N	Mgmt
NPR 7120.5D	2.3.3	55535	NASA Life Cycles for Space Flight Programs and Projects: Project Life Cycle: The Project Manager supports, as requested, the Mission Directorate and Program Manager in the development of program-level documentation and flows information down into project-level documentation. If requested by the Program Manager, the Project Manager assists in preparing a revised PCA and/or Program Plan. The Project Manager also supports, as requested, generation of the program requirements on the project and their formal documentation in the Program Plan (or as an appendix to the Program Plan). After the program requirements on the project are established, the Project Manager and the project team develop technical approaches and management plans to implement the requirements; these products are formally documented in the Project Plan. The Project Manager is then responsible for the evolution of the project concept and the ultimate project success.	E	N	N	Mgmt
NPR 7120.5D	2.3.4.1	55537	NASA Life Cycles for Space Flight Programs and Projects: Project Life Cycle: NASA places significant emphasis on the project formulation because adequate preparation of project concepts and plans is vital to success. During formulation, the project establishes performance metrics, explores the full range of implementation options, defines an affordable project concept to meet requirements specified in the Program Plan, develops needed technologies, and develops and documents the Project Plan. Formulation is an iterative set of activities rather than discrete linear steps. System engineering plays a major role during formulation, exercising an iterative set of activities as described in NPR 7123.1, NASA Systems Engineering Processes and Requirements. Activities include developing the system architecture and system design; flowing down requirements to the system/subsystem level; establishing the internal management control functions that will be used throughout the life of the project; assessing the technology requirements and developing the plans for achieving them; identifying options for partnering and commercialization; performing life-cycle cost (LCC) and mission effectiveness analyses fo	E	N	N	Mgmt

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NPR 7120.5D	2.4.3.1	55543	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: The ensure the appropriate level of management oversight, NASA has established two levels of Program Management Councils (PMCs) - the Agency PMC and Mission Directorate PMCs. The PMCs have the responsibility of periodically evaluating the cost, schedule, risk, technical performance, and content of a program or project under its purview. The evaluation focuses on whether the program or project is meeting its commitments to the Agency. Each program and project has a governing PMC, which acts as the highest PMC for that program or project. For all programs, the governing PMC is the Agency PMC; for projects, the governing PMC is determined by the established project category. Table 2-2 shows the relationship between programs and projects (by category) and the PMCs: The Agency PMC is the governing PMC for all programs and Category 1 projects. In that capacity, it evaluates them immediately prior to KDPs and then recommends approval or disapproval to the Decision Authority regarding entrance to the next life-cycle phase. The Agency PMC also performs program oversight during	E	N	N	Mgmt
NPR 7120.5D	2.4.3.2	55544	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: The ensure the appropriate level of management oversight, NASA has established two levels of Program Management Councils (PMCs) - the Agency PMC and Mission Directorate PMCs. The PMCs have the responsibility of periodically evaluating the cost, schedule, risk, technical performance, and content of a program or project under its purview. The evaluation focuses on whether the program or project is meeting its commitments to the Agency. Each program and project has a governing PMC, which acts as the highest PMC for that program or project. For all programs, the governing PMC is the Agency PMC; for projects, the governing PMC is determined by the established project category. Table 2-2 shows the relationship between programs and projects (by category) and the PMCs: A Mission Directorate PMC (MDPMC) evaluates all programs and projects executed within the Mission Directorate and provides input to the MDAA. For programs and Category 1 projects, the MDAA carries forward the MDPMC findings and recommendations to the Agency PMC. For Category 2 and 3 projects, the MDPMC	E	N	N	Mgmt
NPR 7120.5D	2.4.6.a	55551	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: The governing PMC review recommendation.	E	N	N	Mgmt
NPR 7120.5D	2.4.6.b	55552	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: The Standing Review Board report (see Section 2.5).	E	N	N	Mgmt
NPR 7120.5D	2.4.6.c	55553	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: The MDAA recommendation (for programs and Category 1 projects).	E	N	N	Mgmt
NPR 7120.5D	2.4.6.d	55554	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: The Program Manager recommendation.	E	N	N	Mgmt
NPR 7120.5D	2.4.6.e	55555	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: The Project Manager recommendation (for project KDPs).	E	N	N	Mgmt
NPR 7120.5D	2.4.6.f	55556	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: The CMC recommendation.	E	N	N	Mgmt
NPR 7120.5D	2.4.6.g	55557	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Oversight and Approval: To support the decision process, appropriate supporting materials are submitted to the Decision Authority. These materials include: Program/project documents (FAD, Program Plan, PCA, Project Plan, or updates) that are ready for signature and agreements (MOUs, MOAs, waivers, etc.).	E	N	N	Mgmt
NPR 7120.5D	2.5.2.2	55571	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Reviews: At the completion of the internal technical and programmatic reviews described in paragraph 2.5.1, an independent life-cycle review is conducted by a Standing Review Board (SRB). ¹¹ The independent life-cycle review is conducted under documented Agency and Center review processes. Programs and projects are required to document in their Program and Project Plans their approach to conducting program/project internal reviews and how they will support the independent life-cycle reviews. Consistent with these processes and plans, the Terms of Reference (ToR) for each independent life-cycle review are jointly developed and approved/concurred by the respective individuals in Table 2-3: The SRB's role ¹³ is advisory to the program/project and the convening authorities and does not have authority over any program/project content. Its review provides expert assessments of the technical and programmatic approach, risk posture, and progress against the program/project baseline. When appropriate, it may offer recommendations to improve performance and/or reduce risk. Its outputs are b	E	N	N	Mgmt
NPR 7120.5D	2.5.2.9.c	55581	NASA Life Cycles for Space Flight Programs and Projects: Program and Project Reviews: At the completion of the internal technical and programmatic reviews described in paragraph 2.5.1, an independent life-cycle review is conducted by a Standing Review Board (SRB). ¹¹ The independent life-cycle review is conducted under documented Agency and Center review processes. Programs and projects are required to document in their Program and Project Plans their approach to conducting program/project internal reviews and how they will support the independent life-cycle reviews. Consistent with these processes and plans, the Terms of Reference (ToR) for each independent life-cycle review are jointly developed and approved/concurred by the respective individuals in Table 2-3. ¹¹ A project already in Phase D (or beyond) at the effective date of this document need not have a new review board established: The SRB is used for all independent life-cycle reviews shown on the program and project life cycles with the following exceptions: The FRR and PFAR for tightly coupled programs at the discretion of the MDAA. (Rather than utilizing a complete independent review board for t	E	N	N	Mgmt

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NPR 7120.5D	3.1.2.b	55592	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: NASA Associate Administrator - is responsible for the technical and programmatic integration of programs at the Agency level, chairing the Agency PMC, serving as KDP Decision Authority for programs and Category 1 projects, and approving the PCA.	E	N	N	Mgmt
NPR 7120.5D	3.1.2.c	55593	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Associate Administrator, PA&E - is responsible for independent assessment of programs, Category 1 and 2 projects, and other projects as assigned in the areas of cost and management systems; conducting special studies; developing the Agency's Annual Performance Plans and Strategic Plan; and providing strategic guidance recommendations.	E	N	N	Mgmt
NPR 7120.5D	3.1.2.e	55595	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Chief Safety and Mission Assurance Officer - assures the existence of robust safety and mission assurance processes and activities through the development, implementation, assessment, and functional oversight of Agency-wide safety, reliability, maintainability, and quality policies and procedures; serves as principal advisor to the Administrator and other senior officials on Agency-wide safety, reliability, maintainability, and quality assurance matters; performs independent program and project compliance verification audits, and implements the SMA technical authority process.	E	N	N	Mgmt
NPR 7120.5D	3.1.2.f	55596	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Chief Health and Medical Officer - establishes policy, oversight, and assessment on all health and medical matters associated with NASA missions and is responsible for implementation of medical/health technical authority process; serves as principal advisor to the Administrator and other senior officials on health and medical issues related to the Agency workforce.	E	N	N	Mgmt
NPR 7120.5D	3.1.2.g	55597	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Chief Financial Officer - is responsible for ensuring that financial records and reports accurately reflect the status of all program and project capital acquisitions, including property, plant, and equipment (PP&E), and for the necessary controls to support such activities.	E	N	N	Mgmt
NPR 7120.5D	3.1.2.h	55598	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Mission Directorate Associate Administrator - is primarily responsible for managing programs within the Mission Directorate; recommends the assignment of programs and Category 1 projects to Centers; assigns Category 2 and 3 projects to Centers; serves as the KDP Decision Authority for Category 2 and 3 projects; and has responsibility for all program requirements, including budgets, schedules, and the high-level programmatic requirements levied on projects within the Mission Directorate. The MDAA may designate a Program Director or Program Executive to support the MDAA and the Program Manager in defining, integrating, and assessing program/project activities and to provide policy direction and guidance to the p	E	N	N	Mgmt
NPR 7120.5D	3.1.2.i	55599	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Center Director - is responsible for establishing, developing, and maintaining the institutional capabilities (processes and procedures, human capital, facilities, and infrastructure) required for the execution of programs and projects, including the system of checks and balances to ensure the technical integrity of programs and projects assigned to the Center.	E	N	N	Mgmt

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NPR 7120.5D	3.1.2.j	55600	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Program Manager - is responsible for the formulation and implementation of the project per the governing agreement with the sponsoring Mission Directorate.	E	N	N	Mgmt
NPR 7120.5D	3.1.2.k	55601	Program and Project Management Roles and Responsibilities: Overview of Roles and Responsibilities: The roles and responsibilities of senior NASA management, along with fundamental principles of governance, are defined in NPD 1000.0, the NASA Strategic Management and Governance Handbook, and further outlined in NPD 1000.3, The NASA Organization. The key roles and responsibilities specific to program and projects consistent with NPD 1000.0 can be summarized as follows: Project Manager - is responsible for the formulation and implementation of the project per the governing agreement with the Program Manager.	E	N	N	Mgmt
NPR 7120.5D	3.3.2	55609	Program and Project Management Roles and Responsibilities: Process for Handling Dissenting Opinions: Unresolved issues of any nature (e.g., programmatic, safety, engineering, acquisition, accounting, etc.) within a team should be quickly elevated to achieve resolution at the appropriate level. At the discretion of the dissenting person(s), a decision may be appealed to the next higher level of management for resolution. Dissenting opinions raised by a Technical Authority (TA) are handled by the process set forth in Section 3.4.	E	N	N	Mgmt
NPR 7120.5D	3.4.1.1.a	55615	Program and Project Management Roles and Responsibilities: Technical Authority: The NASA governance model prescribes a management structure that employs checks and balances between key organizations to ensure that decisions have the benefit of different points of view and are not made in isolation. Consequently, NASA has adopted two basic authority processes: the programmatic authority and the technical authority process. The programmatic authority process is largely described by the roles and responsibilities of the NASA AA, MDAAs, and program and project managers in Section 3.1 and 3.2. This section describes the technical authority process: The technical authority process provides for the selection of individuals at different levels of responsibility who provide an independent view of matters within their respective areas of expertise. In this document, the term Technical Authority is used to refer to such an individual, but is also used (without capitalization) to refer to elements of the technical authority process. There are three distinct types of Technical Authorities (TAs): Engineering TAs, SMA TAs, and Health and Medical TAs, each of whom is discussed in this section. A key aspect of	E	N	N	Mgmt
NPR 7120.5D	3.4.1.1.b	55616	Program and Project Management Roles and Responsibilities: Technical Authority: The NASA governance model prescribes a management structure that employs checks and balances between key organizations to ensure that decisions have the benefit of different points of view and are not made in isolation. Consequently, NASA has adopted two basic authority processes: the programmatic authority and the technical authority process. The programmatic authority process is largely described by the roles and responsibilities of the NASA AA, MDAAs, and program and project managers in Section 3.1 and 3.2. This section describes the technical authority process: The technical authority process provides for the selection of individuals at different levels of responsibility who provide an independent view of matters within their respective areas of expertise. In this document, the term Technical Authority is used to refer to such an individual, but is also used (without capitalization) to refer to elements of the technical authority process. There are three distinct types of Technical Authorities (TAs): Engineering TAs, SMA TAs, and Health and Medical TAs, each of whom is discussed in this section. A key aspect of	E	N	N	Mgmt
NPR 7120.5D	3.4.2.2.a	55625	Program and Project Management Roles and Responsibilities: Technical Authority: The Engineering Technical Authority establishes and is responsible for the engineering design processes, specifications, rules, best practices, etc., necessary to fulfill programmatic mission performance requirements. Engineering technical authority responsibilities originate with the NASA Administrator and are formally delegated to the NASA Chief Engineer. Specific engineering technical authority responsibilities may then be formally delegated from the NASA Chief Engineer to Center, program, project, and system-level Engineering Technical Authorities: The Center Director (or designee) develops the Center's engineering technical authority policies and practices, consistent with Agency policies and standards. The following individuals are responsible for implementing engineering technical authority at the Center: Center Director (CD) - The CD (or the Center Engineering Director, or designee) is the Center Engineering Technical Authority responsible for Center engineering design processes, specifications, rules, best practices, etc., necessary to fulfill mission performance requirements for projects or major systems imple	E	N	N	Mgmt
NPR 7120.5D	3.4.2.2.b	55626	Program and Project Management Roles and Responsibilities: Technical Authority: The Engineering Technical Authority establishes and is responsible for the engineering design processes, specifications, rules, best practices, etc., necessary to fulfill programmatic mission performance requirements. Engineering technical authority responsibilities originate with the NASA Administrator and are formally delegated to the NASA Chief Engineer. Specific engineering technical authority responsibilities may then be formally delegated from the NASA Chief Engineer to Center, program, project, and system-level Engineering Technical Authorities: The Center Director (or designee) develops the Center's engineering technical authority policies and practices, consistent with Agency policies and standards. The following individuals are responsible for implementing engineering technical authority at the Center: Program/Project Chief Engineer (PCE) - The PCE (or equivalent as per footnote below) is the Engineering Technical Authority for the program/project and is the single point of contact for the engineering technical authority process within the program/project. In executing this role, the PCE works	E	N	N	Mgmt

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NPR 7120.5D	3.4.2.2.c	55627	Program and Project Management Roles and Responsibilities: Technical Authority: The Engineering Technical Authority establishes and is responsible for the engineering design processes, specifications, rules, best practices, etc., necessary to fulfill programmatic mission performance requirements. Engineering technical authority responsibilities originate with the NASA Administrator and are formally delegated to the NASA Chief Engineer. Specific engineering technical authority responsibilities may then be formally delegated from the NASA Chief Engineer to Center, program, project, and system-level Engineering Technical Authorities: The Center Director (or designee) develops the Center's engineering technical authority policies and practices, consistent with Agency policies and standards. The following individuals are responsible for implementing engineering technical authority at the Center: Lead Discipline Engineer (LDE) - The LDE is a senior technical engineer in a specific discipline who is designated as the Engineering Technical Authority for that discipline at the Center. To ensure independence, the LDE is organizationally separate from the program/project. The LDE assists the prog	E	N	N	Mgmt
NPR 7120.5D	3.4.3	55629	Program and Project Management Roles and Responsibilities: Technical Authority: The SMA Technical Authority establishes and is responsible for the SMA design process, specifications, rules, best practices, etc., necessary to fulfill programmatic mission performance requirements.	E	N	N	Mgmt
NPR 7120.5D	3.4.3.1	55630	Program and Project Management Roles and Responsibilities: Technical Authority: The SMA Technical Authority establishes and is responsible for the SMA design process, specifications, rules, best practices, etc., necessary to fulfill programmatic mission performance requirements: For tightly coupled programs, SMA Technical Authority starts with the NASA Chief SMA Officer and flows to the Center SMA Director and Chief Safety Officer. For other programs, SMA Technical Authority starts with the NASA Chief SMA Officer and flows down to the Center SMA Director, and then to the Program SMA Lead. For projects, SMA Technical Authority originates with the NASA Chief SMA Officer and flows down to the Center Director, and then to the Center SMA Director, and from there, to the Project SMA Lead. To ensure independence, SMA Technical Authority personnel are organizationally separate from the program/project.	E	N	N	Mgmt
NPR 7120.5D	3.4.3.2	55631	Program and Project Management Roles and Responsibilities: Technical Authority: The SMA Technical Authority establishes and is responsible for the SMA design process, specifications, rules, best practices, etc., necessary to fulfill programmatic mission performance requirements: The Center SMA Director is responsible for establishing and maintaining institutional SMA policies and practices, consistent with Agency policies and standards. The Center SMA Director is also responsible for assuring that the program/project complies with both the program/project and Center SMA requirements. The program/project SMA Plan, which describes how the program/project will comply with these requirements, is part of the Program/Project Plan.	E	N	N	Mgmt
NPR 7120.5D	3.4.4	55632	Program and Project Management Roles and Responsibilities: Technical Authority: The Health and Medical Technical Authority is the NASA Chief Health and Medical Officer (CHMO). The Center Chief Medical Officer is responsible for assuring that the program/project complies with the health and medical requirements through the process specified in the Center Health and Medical Authority (HMA) implementation plan, which is compliant with NPD 8900.5, NASA Health and Medical Policy for Human Space Flight Exploration, and NID NM 1240-41, NASA Health and Medical Authority. The CHMO hears appeals of HMA decisions when issues cannot be resolved below the Agency level.	E	N	N	Mgmt
NPR 7120.5D	3.4.5.b	55635	Program and Project Management Roles and Responsibilities: Technical Authority: Program/project internal control boards, change boards, and review boards (or their equivalents) are fundamental to program/project management. These boards comply with the following: The Technical Authorities (engineering, SMA and, where appropriate, health and medical) are represented on the boards.	E	N	N	Mgmt
NPR 7120.5D	3.5.1	55637	Program and Project Management Roles and Responsibilities: Center Reimbursable Work: A Center negotiating reimbursable work for another agency must propose NPR 7120.5D as the basis by which it will perform the work. If the sponsoring agency does not want NPR 7120.5D requirements (or a subset of those requirements) to be followed, then the inter-agency MOU/MOA or the contract must explicitly identify those requirements that will not be followed, along with the substitute requirements for equivalent processes and any additional program/project management requirements the sponsoring agency wants. The Center must obtain a formal waiver by the NASA CE for those NPR 7120.5D requirements that are not to be followed, or the Agency will direct the Center not to accept the work.	E	N	N	Mgmt
NPR 7120.5D	3.6.2	55640	Program and Project Management Roles and Responsibilities: Waiver Approval Authority: Requests for waivers to NPR 7120.5D requirements are documented and submitted for approval using the NPR 7120.5D Waiver Form below. (The form is available electronically on the POLARIS website at https://polaris.nasa.gov .) Prior to the KPD I for programs (KDP II for single-project programs) and KDP C for projects, these requests may be documented and attached to a single waiver to assure proper routing and control. Waivers impacting formulation or requiring long lead time may be submitted individually to the appropriate authority.	E	N	N	Mgmt
NPR 7120.5D	3.6.3.a	55642	Program and Project Management Roles and Responsibilities: Waiver Approval Authority: Evaluation and disposition of all other requirements change requests and waivers (including waivers of Agency-level requirements and standards) must comply with the following: The organizations and the organizational levels that agreed to the establishment of a requirement must agree to the change or waiver of that requirement, unless this has been formally delegated elsewhere.	E	N	N	Mgmt
NPR 7120.5D	3.6.3.b	55643	Program and Project Management Roles and Responsibilities: Waiver Approval Authority: Evaluation and disposition of all other requirements change requests and waivers (including waivers of Agency-level requirements and standards) must comply with the following: The next higher programmatic authority and Technical Authority are informed in a timely manner of change requests or waivers that could affect that level.	E	N	N	Mgmt

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NPR 7120.5D	4.1.2.a.01	55649	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Plan, prepare for, and support the Acquisition Strategy Meeting (ASM) prior to partnership commitments and obtain the ASM minutes. (Requirement 55649)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.02	55650	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Support the MDAA in developing and obtaining approval of the FAD, PCA, and appropriate annual budget submissions. (Requirement 55650)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.03	55651	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Prepare and obtain approval of the Program Plan that follows the template in Appendix E. (See Table 4-2 for a list of required Program Plan Control Plans and their required maturity.) (Requirement 55651)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.04	55652	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Support the MDAA and the NASA HQ Office of External Relations in obtaining approved interagency and international agreements (including the planning and negotiation of agreements and recommendations on joint participation in reviews, integration and test, and risk management). (Requirement 55652)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.05	55653	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Document the traceability of program requirements on individual projects to Agency needs, goals, and objectives, as described in the NASA Strategic Plan.	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.06	55654	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Initiate the development of technologies that cut across multiple projects within the program. (Requirement 55654)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.07	55655	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Prior to the program life-cycle formulation reviews shown in Figure 2-3, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55655)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.08	55656	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Plan, prepare for, and support the program life-cycle formulation reviews shown in Figure 2-3 in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55656)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.09	55657	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: If required by the DA, obtain KDP 0 readiness products as shown in Table 4-1. (Requirement 55657)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.10	55658	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: If required by the DA, plan, prepare for, and support the governing PMC review prior to KDP 0. (Requirement 55658)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.11	55659	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Obtain KDP I readiness products as shown in Table 4-1. (Requirement 55659)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.a.12	55660	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For all programs: Plan, prepare for, and support the governing PMC review prior to KDP I. (Requirement 55660)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.b.1	55662	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For single-project and tightly coupled programs - implement the requirements in paragraphs 4.3.2 and 4.4.2 (Pre-Phase A and Phase A) with the following stipulations: In single-project programs, the Project Plan may serve as the Program Plan, and KDP 0 (if required by the DA) and KDP I serve in lieu of KDP A and KDP B, respectively. In keeping with this, single-project programs are approved for implementation at KDP II. (At the discretion of the MDAA, there may also be a Project Plan separate from the Program Plan. In either case, all content required in Program and Project Plan templates must be included.) (Requirement 55662)	E	N	N	Mgmt
NPR 7120.5D	4.1.2.b.2	55663	Program and Project Requirements by Phase: Programs -- Formulation Phase: Requirements: During program formulation, the Program Manager and the program team shall: For single-project and tightly coupled programs - implement the requirements in paragraphs 4.3.2 and 4.4.2 (Pre-Phase A and Phase A) with the following stipulations: In tightly coupled programs, separate Project Plans are prepared for projects during their formulation. The Program Manager may allocate portions of the Program Plan to these individual Project Plans. (Requirement 55663)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.01	55668	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Execute the Program Plan. (Requirement 55668)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.02	55669	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Support the MDAA in updating the PCA, as appropriate. (Requirement 55669)	E	N	N	Mgmt

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NPR 7120.5D	4.2.2.a.03	55670	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Update the baseline Program Plan at KDP II and other KDPs, as appropriate. See Table 4-2 for a list of required Program Plan Control Plans and their required maturity. (Requirement 55670)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.04	55671	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Support the MDAA and the NASA HQ Office of External Relations in obtaining updated interagency and international agreements (including the planning and negotiation of updated agreements and recommendations on joint participation in reviews, integration and test, and risk management). (Requirement 55671)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.05	55672	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Conduct planning, program-level systems engineering, and integration, as appropriate, to support the MDAA in initiating the project selection process. (Requirement 55672)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.06	55673	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Support the MDAA in the selection of projects, either assigned or through a competitive process. (Requirement 55673)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.07	55674	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Approve project FADs and Project Plans. (Requirement 55674)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.08	55675	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Prior to the program life-cycle implementation reviews shown in Figure 2-3, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55675)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.09	55676	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Plan, prepare for, and support the program life-cycle implementation reviews shown in Figure 2-3 in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55676)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.10	55677	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Maintain programmatic and technical oversight of the projects within the program and report their status periodically. (Requirement 55677)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.11	55678	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Review and approve annual project budget submission inputs and prepare annual program budget submissions. (Requirement 55678)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.12	55679	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Continue to develop technologies that cut across multiple projects within the program. (Requirement 55679)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.13	55680	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Obtain KDP readiness products as shown in Table 4-1. (Requirement 55680)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.a.14	55681	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For all programs: Conduct program-level completion activities for each project in accordance with the project life cycle for Phase F (see paragraph 4.9.2). (Requirement 55681)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.b.1	55683	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For single-project programs: For KDP II, implement the requirements in paragraph 4.5.2 (Phase B). (Requirement 55683)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.b.2	55684	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For single-project programs: For KDP III, implement the requirements of paragraph 4.6.2 (Phase C). (Requirement 55684)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.b.3	55685	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For single-project programs: For KDP IV, implement the requirements of paragraph 4.7.2 (Phase D). (Requirement 55685)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.b.4	55686	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For single-project programs: For KDP V, implement the requirements of paragraph 4.8.2 (Phase E). (Requirement 55686)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.c.1	55688	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For tightly coupled programs: For KDP II, implement the requirements in paragraph 4.5.2 (Phase B) in the manner documented in the Program Plan (except those requirements allocated to specific projects and documented in their Project Plans). (Requirement 55688)	E	N	N	Mgmt

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NPR 7120.5D	4.2.2.c.2	55689	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For tightly coupled programs: For KDP III, implement the requirements in paragraph 4.6.2 (Phase C) in the manner documented in the Program Plan (except those requirements allocated to specific projects and documented in their Project Plans). (Requirement 55689)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.c.3	55690	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For tightly coupled programs: For KDP IV, implement the requirements of paragraph 4.7.2 (Phase D) in the manner documented in the Program Plan (except those requirements allocated to specific projects and documented in their Project Plans). (Requirement 55690)	E	N	N	Mgmt
NPR 7120.5D	4.2.2.c.4	55691	Program and Project Requirements by Phase: Programs -- Implementation Phase: Requirements: During program implementation, the Program Manager and the program team shall: For tightly coupled programs: For KDP V, implement the requirements of paragraph 4.8.2 (Phase E) in the manner documented in the Program Plan (except those requirements allocated to specific projects and documented in their Project Plans). (Requirement 55691)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.a.1	55696	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Support Headquarters- and program-related activities, in particular: Obtain an approved project FAD. (Requirement 55696)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.a.2	55697	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Support Headquarters- and program-related activities, in particular: Support the Program Manager and the MDAA in the development of the draft program requirements on the project. (Requirement 55697)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.b.1	55699	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform technical activities: Develop and document preliminary mission concept(s). (Requirement 55699)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.b.2	55700	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform technical activities: Prior to the project independent life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55700)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.b.3	55701	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform technical activities: Plan, prepare for, and support the project independent life-cycle reviews shown in Figure 2-4 for this phase in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55701)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.c.1.i	55704	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform project planning, costing, and scheduling activities: Develop and document a draft Integrated Baseline for all work to be performed by the project that includes the following: A high-level Work Breakdown Structure (WBS) consistent with the NASA standard space flight project WBS (Appendix G), a schedule, and a rough-order-of-magnitude cost estimate and cost range. (Requirement 55704)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.c.1.ii	55705	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform project planning, costing, and scheduling activities: Develop and document a draft Integrated Baseline for all work to be performed by the project that includes the following: An assessment of potential technology needs versus current and planned technology readiness levels, as well as potential opportunities to use commercial, academic, and other government agency sources of technology. (Requirement 55705)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.c.1.iii	55706	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform project planning, costing, and scheduling activities: Develop and document a draft Integrated Baseline for all work to be performed by the project that includes the following: An assessment of potential infrastructure and workforce needs versus current plans, as well as opportunities to use infrastructure and workforce in other government agencies, industry, academia, and international organizations. (Requirement 55706)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.c.1.iv	55707	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform project planning, costing, and scheduling activities: Develop and document a draft Integrated Baseline for all work to be performed by the project that includes the following: Identification of potential partnerships. (Requirement 55707)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.c.1.v	55708	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Perform project planning, costing, and scheduling activities: Develop and document a draft Integrated Baseline for all work to be performed by the project that includes the following: Identification of conceptual acquisition strategies for proposed major procurements. (Requirement 55708)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.d.1	55710	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Conduct KDP readiness activities: Obtain KDP readiness products as shown in Table 4-3. (Requirement 55710)	E	N	N	Mgmt
NPR 7120.5D	4.3.2.d.2	55711	Program and Project Requirements by Phase: Projects - Pre-Phase A: Requirements: During Pre-Phase A, the pre-project manager and team shall: Conduct KDP readiness activities: Plan, prepare for, and support the governing PMC review prior to KDP A. (Requirement 55711)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.a.1	55716	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Support Headquarters- and program-related activities: Support the Program Manager and the MDAA in the development of the baseline program requirements on the project.^17 (Requirement 55716) ^17 Program requirements on the project are contained in the Program Plan.	E	N	N	Mgmt

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NPR 7120.5D	4.4.2.a.2	55717	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Support Headquarters- and program-related activities: Plan, prepare for, and support the Acquisition Strategy Meeting (ASM) prior to partnership agreements and obtain the ASM minutes. (Requirement 55717)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.a.3	55718	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Support Headquarters- and program-related activities: Support the Program Manager, the MDAA, and the NASA HQ Office of External Relations in initiating interagency and international agreements (including the planning and negotiation of agreements and recommendations on joint participation in reviews, integration and test, and risk management). (Requirement 55718)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.1	55720	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Develop preliminary system-level (and lower-level, as needed) requirements. (Requirement 55720)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.2	55721	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Develop and document a baseline mission concept (including key risk drivers and mitigation options and mission descope options). (Requirement 55721)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.3	55722	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Develop a preliminary mission operations concept. (Requirement 55722)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.4	55723	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Initiate technology developments, as required. (Requirement 55723)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.5	55724	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Develop an initial orbital debris assessment in accordance with NASA Safety Standard 1740.14, Guidelines and Assessment Procedures for Limiting Orbital Debris. (Requirement 55724)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.6	55725	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Prior to the project independent life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55725)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.b.7	55726	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform technical activities: Plan, prepare for, and support the project independent life-cycle reviews shown in Figure 2-4 for this phase in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55726)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.01	55728	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: As early as practical, prepare and finalize Phase A work agreements. (Requirement 55728)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.02	55729	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Prepare a preliminary Project Plan that follows the template in Appendix F. See Table 4-4 for a list of the Control Plans and their required maturity by phase. (Requirement 55729)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.03	55730	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: For contracts requiring Earned Value Management (EVM) (see Appendix F, paragraph 3.1.c(6)), conduct required Integrated Baseline Reviews (IBRs). (Requirement 55730)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.04	55731	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: For Category 1 and 2 projects, develop 60 days prior to KDP B a preliminary Cost Analysis Data Requirement (CADRe) that is based on the project's technical baseline/mission concept and consistent with the NASA Cost Estimating Handbook.^18 (Note: For competed projects, the requirements for a preliminary CADRe is met by the submission of a copy of the winning proposal and concept study report.) (Requirement 55731) ^18 The current version of the NASA Cost Estimating Handbook can be found at www.nasa.gov/offices/pae/organization/cost_analysis_division.html .	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.05.i	55733	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop and document a preliminary Integrated Baseline for all work to be performed by the project, noting the following: The project's preliminary Integrated Baseline is consistent with the NASA standard space flight project WBS (see Appendix G) and has an associated WBS dictionary. (Requirement 55733)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.05.ii	55734	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop and document a preliminary Integrated Baseline for all work to be performed by the project, noting the following: The project's preliminary Integrated Baseline includes a preliminary integrated master schedule, preliminary life-cycle cost estimate, workforce estimates, and the project's technical baseline/mission concept, all consistent with the program requirements levied on the project. (Requirement 55734)	E	N	N	Mgmt

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NPR 7120.5D	4.4.2.c.05.iii	55735	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop and document a preliminary Integrated Baseline for all work to be performed by the project, noting the following: The preliminary life-cycle cost estimate is based on the project's technical baseline/mission concept and preliminary integrated master schedule. (Requirement 55735)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.05.iv	55736	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop and document a preliminary Integrated Baseline for all work to be performed by the project, noting the following: The preliminary life-cycle cost estimate uses the latest available full-cost accounting initiative guidance and practices. (Requirement 55736)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.05.v	55737	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop and document a preliminary Integrated Baseline for all work to be performed by the project, noting the following: The preliminary life-cycle cost estimate includes reserves, along with the level of confidence estimate provided by the reserves based on a cost-risk analysis. (Requirement 55737)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.05.vi	55738	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop and document a preliminary Integrated Baseline for all work to be performed by the project, noting the following: The preliminary life-cycle cost estimate is time-phased by Government Fiscal Year (GFY) to WBS Level 2. (Requirement 55738)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.06	55739	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Complete a preliminary business case analysis for infrastructure for each proposed project real property infrastructure investment consistent with NPD 8820.2, Design and Construction of Facilities and NPR 8820.2, Facility Project Implementation Guide, and for the acquisition of new aircraft consistent with NPR 7900.3, NASA Aircraft Operations Management. ¹⁹ See the NASA Business Case Guide for Facilities Projects at http://www.hq.nasa.gov/office/codejx/codejx/codejx.html	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.07	55740	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Work with the appropriate NASA Headquarters offices to initiate the development of MOUs/MOAs with external partners, as needed. (Requirement 55740)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.08	55741	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Obtain a planetary protection certification for the mission (if required) in accordance with NPD 8020.7, Biological Contamination Control for Outbound and Inbound Planetary Spacecraft, and NPR 8020.12, Planetary Protection Provisions for Robotic Extraterrestrial Missions. (Requirement 55741)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.09	55742	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Develop a Nuclear Safety Launch Approval Plan (for mission with nuclear materials) in accordance with NPR 8715.3, NASA General Safety Program Requirements. (Requirement 55742)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.10	55743	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Prepare and finalize work agreements for Phase B. (Requirement 55743)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.11	55744	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: Prepare for approval by the Program Manager a list of long-lead procurements that need to be procured in Phase B. (Requirement 55744)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.12	55745	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: In accordance with NPR 2190.1, NASA Export Control Program, support the appropriate NASA export control officials to identify and assess export-controlled technical data that potentially will be provided to foreign partners and the approval requirements for release of that data, all as a part of developing the project's Export Control Plan. (Requirement 55745)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.c.13	55746	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Perform project planning, costing, and scheduling activities: In coordination with OCFO, complete the Alternative Future Use Questionnaire (Form NF 1739), Section A, to determine the appropriate accounting treatment of capital assets. Once completed, forward the questionnaire to the OCFO, Property Branch. (Note: The questionnaire can be found in NASA's Electronic Forms Database.) (Requirement 55746)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.d.1	55748	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Conduct KDP readiness activities: Obtain KDP readiness products as shown in Table 4-3. (Requirement 55748)	E	N	N	Mgmt
NPR 7120.5D	4.4.2.d.2	55749	Program and Project Requirements by Phase: Projects - Phase A: Requirements: During Phase A, the Project Manager and project team shall: Conduct KDP readiness activities: Plan, prepare for, and support the governing PMC review prior to KDP B. (Note: This does not apply to completed missions.) (Requirement 55749)	E	N	N	Mgmt

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NPR 7120.5D	4.5.2.a.1	55754	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Support Headquarters- and program-related activities: Obtain an update to the baseline program requirements on the project. (Requirement 55754)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.a.2	55755	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Support Headquarters- and program-related activities: Complete the environmental planning process as explained in NPR 8580.1, Implementing the National Environmental Policy Act, and Executive Order 12114. (Note: for certain projects utilizing nuclear power sources, completion of the environmental planning process can be extended, with the approval of the DA, into Phase C, but must be completed by the project CDR.) (Requirement 55755)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.a.3	55756	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Support Headquarters- and program-related activities: In coordination with the Program Manager, the MDAA, and the NASA HQ Office of External Relations, support the development of baseline external agreements, such as interagency and international agreements (including the planning and negotiation of agreements and recommendations on joint participation in reviews, interegration and test, and risk management). (Requirement 55756)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.a.4	55757	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Support Headquarters- and program-related activities: Coordinate with the Space Operations Mission Directorate (SOMD) if the project involves space transportation services or launch services, in compliance with NPD 8610.7, Launch Services Risk Mitigation Policy for NASA-Owned and/or NASA-Sponsored Payloads/Missions, and NPD 8610.12, Office of Space Operations (OSO) Space Transportation Services for NASA and NASA-Sponsored Payloads. (Requirement 55757)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.01	55759	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Implement the preliminary Project Plan. (Requirement 55759)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.02	55760	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Baseline the system-level requirements and develop the subsystem and lower-level technical requirements leading to the PDR baseline. (Requirement 55760)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.03	55761	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Develop a set of system associated subsystem preliminary designs, including interface definitions, and document this work in a preliminary design report. (Requirement 55761)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.04	55762	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: As part of baselining the interface control documents, document compliance with NPD 8010.2, Use of the SI (Metric) System of Measurement in NASA Programs, and/or obtain any necessary waivers. (Requirement 55762)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.05	55763	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Develop and document a baseline mission operations concept. (Requirement 55763)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.06	55764	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Complete development of mission-critical or enabling technology, as needed, with demonstrated evidence of required technology qualification (i.e., component and/or breadboard validation in the relevant environment) or execute off-ramps (i.e., substitution of more mature or proven technologies) and document this work in a technology readiness assessment report. (Requirement 55764)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.07	55765	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Plan and execute long-lead procurements in accordance with the Acquisition Plan. (Note: Long-lead procurements can only be initiated in Phase B when specifically approved by the MDAA.) (Requirement 55765)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.08	55766	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Identify any risk drivers (and proposed mitigation plans for each risk). (Requirement 55766)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.09	55767	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Develop a list of descope options. (Requirement 55767)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.10	55768	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Develop a preliminary orbital debris assessment in accordance with NASA Safety Standard 1740.14. (Requirement 55768)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.11	55769	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Develop and document a preliminary Missile System Pre-Launch Safety Package (MSPSP) in accordance with NASA-STD-8719.8, Expendable Launch Vehicle Payload Safety and Review Process Standard, June 1998, and Air Force Space Command Manual 91-710, Range Safety User Requirements, Vol. 3. (Note: The latest release is dated July 1, 2004.) (Requirement 55769)	E	N	N	Mgmt

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NPR 7120.5D	4.5.2.b.12	55770	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Prior to the project life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55770)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.b.13	55771	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform technical activities: Plan, prepare for, and support the project life-cycle reviews shown in Figure 2-4 for this phase in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55771)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.01	55773	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Complete and obtain approval of the Project Plan that follows the template in Appendix F. See Table 4-4 for a list of the Control Plans and their required maturity by phase. (Requirement 55773)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.02	55774	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: For contracts requiring Earned Value Management (EVM) (see Appendix F, paragraph 3.1.c(6)), conduct required Integrated Baseline Reviews (IBRs). (Requirement 55774)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.03	55775	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: For Category 1 and 2 projects, develop 60 days prior to KDP C a baseline CADRe that is based on the PDR-technical baseline and consistent with the NASA Cost Estimating Handbook. (Requirement 55775)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.04	55776	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Prepare and finalize Phase C/D work agreements. (Note: Prior to approval to proceed, Phase C/D contracts' work scope and cost/price can be negotiated but not executed. Once the project has been approved and funding is available, the negotiated contracts can be executed, assuming nothing material has changed.) (Requirement 55776)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.05.i	55778	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop, document, and maintain a project Integrated Baseline for all work performed by the project noting the following: The project's Integrated Baseline is consistent with the NASA standard space flight project WBS (see Appendix G) and has an associated WBS dictionary. (Requirement 55778)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.05.ii	55779	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop, document, and maintain a project Integrated Baseline for all work performed by the project noting the following: The project's Integrated Baseline includes the integrated master schedule, baseline life-cycle cost estimate, workforce estimates, and the PDR-technical baseline, all consistent with the program requirements levied on the project. (Requirement 55779)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.05.iii	55780	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop, document, and maintain a project Integrated Baseline for all work performed by the project noting the following: The baseline life-cycle cost estimate is based on the PDR-technical baseline and integrated master schedule and is expected to include a review of the entire scope of work with a series of in-depth assessments of selected critical work elements of the WBS prior to and following the project's PDR/NAR preceding KDP C. (Note: The CADRe is updated to reflect changes.) (Requirement 55780)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.05.iv	55781	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop, document, and maintain a project Integrated Baseline for all work performed by the project noting the following: The baseline life-cycle cost estimates uses the latest available full-cost accounting initiative guidance and practices. (Requirement 55781)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.05.v	55782	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop, document, and maintain a project Integrated Baseline for all work performed by the project noting the following: The baseline life-cycle cost estimate includes reserves, along with the level of confidence estimate provided by the reserves based on a cost-risk analysis. (Requirement 55782)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.05.vi	55783	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop, document, and maintain a project Integrated Baseline for all work performed by the project noting the following: The baseline life-cycle cost estimate is time-phased by Government Fiscal Year (GFY) to WBS Level 2. (Requirement 55783)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.06	55784	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Reconcile (i.e., explain any significant differences) the project's baseline life-cycle cost estimate with PDR/NAR Independent Cost Estimate. (Requirement 55784)	E	N	N	Mgmt

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NPR 7120.5D	4.5.2.c.07	55785	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Complete a business case analysis for infrastructure for each of the project's proposed real property infrastructure investment consistent with NPD 8820.2, Design and Construction of Facilities, and NPR 8820.2, Facility Project Implementation Guide, and for the acquisition of new aircraft consistent with NPR 7900.3, NASA Aircraft Operations Management.^20 (Note: Business case analyses require the approval of the MDA and the Assistant Administrator for Infrastructure and Administration, or designee.) (Requirement 55785) ^20 See the NASA Business Case Guide for Facilities Projects at http://www.hq.nasa.gov/office/codej/codejx/codejx.html	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.08	55786	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop a baseline planetary protection plan (if required) in accordance with NPD 8020.7, Biological Contamination Control for Outbound and Inbound Planetary Spacecraft, and NPR 8020.12, Planetary Protection Provisions for Robotic Extraterrestrial Missions. (Requirement 55786)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.09	55787	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop a preliminary Range Safety Risk Management Plan in accordance with NPR 8715.5, Range Safety Program. (Requirement 55787)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.c.10	55788	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: In coordination with the OCFO, complete the Alternative Future Use Questionnaire (Form NF 1739), Section B, to identify the acquisition components of the project and to determine the appropriate accounting treatment of the capital acquisitions within the project. Once completed, forward the questionnaire to the OCFO, Property Branch. (Note: The questionnaire can be found in NASA's Electronics Forms Database.) (Requirement 55788)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.d.1	55790	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Conduct KDP readiness activities: Obtain KDP readiness products as shown in Table 4-3. (Requirement 55790)	E	N	N	Mgmt
NPR 7120.5D	4.5.2.d.2	55791	Program and Project Requirements by Phase: Projects - Phase B: Requirements: During Phase B, the Project Manager and the project team shall: Conduct KDP readiness activities: Plan, prepare for, and support the governing PMC review prior to KDP C. (Requirement 55791)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.01	55796	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Implement the baseline Project Plan. (Requirement 55796)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.02	55797	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Complete all requisite flight and ground design/analyses through their respective CDRs in accordance with NPR 7123.1 and document this work in detailed design report(s). (Requirement 55797)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.03	55798	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Develop and test all requisite engineering models (brass boards, breadboards, full-up models) sufficiently prior to lower-level CDRs to enable test results to affect detailed designs. (Requirement 55798)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.04	55799	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Develop requisite system and subsystem test beds needed for qualification and acceptance testing of flight articles. (Requirement 55799)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.05	55800	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Following the appropriate lower-level CDR, initiate fabrication/procurement of flight article components, assemblies, and/or subsystems. (Requirement 55800)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.06	55801	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Initiate the qualification and acceptance testing of flight article components assemblies, and/or subsystems. (Requirement 55801)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.07	55802	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Hold peer reviews, as appropriate, prior to major project reviews in accordance with the Project Review Plan. (Requirement 55802)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.08	55803	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Develop a baseline orbital debris assessment prior to the project CDR in accordance with NASA Safety and Standard 1740.14, Guidelines and Assessment Procedures for Limiting Orbital Debris. (Requirement 55803)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.09	55804	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Develop a preliminary Operations Handbook that will be used to support the operations team. (Requirement 55804)	E	N	N	Mgmt

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NPR 7120.5D	4.6.2.a.10	55805	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Develop and document a baseline Missile System Pre-Launch Safety Package (MSPSP) by the project-level CDR in accordance with NASA-STD-8719.8, Expendable Launch Vehicle Payload Safety and Review Process Standard, June 1998, and Air Force Space Command Manual 91-710, Range Safety User Requirements, Vol. 3. (Note: The latest release is dated July 1, 2004.) (Requirement 55805)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.11	55806	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Prior to the project independent life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55806)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.12	55807	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Plan, prepare for, and support the project independent life-cycle reviews shown in Figure 2-4 for this phase in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55807)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.a.13	55808	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform technical activities: Following the SIR and/or PRP, (unless otherwise directed by the Program Manager) initiate system assembly and integration and test activities even if KDP D has not occurred. (Requirement 55808)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.b.1	55810	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: For Category 1 and 2 projects, update the CADRe consistent with the NASA Cost Estimating Handbook following the project-level CDR. (Requirement 55810)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.b.2	55811	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Update work agreements for Phase D. (Requirement 55811)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.b.3	55812	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Maintain the Integrated Baseline under configuration management with traceability to the KDP C-approved baseline. (Requirement 55812)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.b.4	55813	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Mature preliminary Project Plan Control Plans, as required by Table 4-4. (Requirement 55813)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.b.5	55814	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop a baseline Range Safety Risk Management Plan in accordance with NPR 8715.5, Range Safety Program. (Requirement 55814)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.b.6	55815	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Develop a preliminary System Decommissioning/Disposal Plan. (Requirement 55815)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.c.1	55817	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Implement project cost and schedule control activities: Implement Earned Value Management (EVM) as documented in the Project Plans. (Requirement 55817)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.c.2	55818	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Implement project cost and schedule control activities: For contracts requiring Earned Value Management (EVM) (see Appendix F, paragraph 3.1.c(6)), conduct required Integrated Baseline Reviews (IBRs). (Requirement 55818)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.c.3	55819	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Implement project cost and schedule control activities: Provide immediate written notice and a recovery plan to the Program Manager and the MDAA if the latest Phase C through D Estimate at Completion (EAC) of the project exceeds by 15% or more the KDP C-approved Integrated Baseline cost for Phases C through D. (Note: Since the Integrated Baseline cost contains project reserves, an EAC exceeding the Integrated Baseline cost presumes that these reserves will be exhausted.) (Requirement 55819)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.c.4	55820	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Implement project cost and schedule control activities: Provide immediate written notice and a recovery plan to the Program Manager and the MDAA if a milestone listed for Phases C and D on the project life-cycle chart (Figure 2-4) is estimated to be delayed in excess of six months from the date scheduled in the KDP C-approved Integrated Baseline. (Requirement 55820)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.c.5	55821	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Implement project cost and schedule control activities: If the trigger points in (3) or (4) above are breached and upon written notice from the Program Manager, update the Project Plan per direction received from the Program Manager. (Requirement 55821)	E	N	N	Mgmt
NPR 7120.5D	4.6.2.d.1	55823	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Conduct KDP readiness activities: Obtain KDP readiness products as shown in Table 4-3. (Requirement 55823)	E	N	N	Mgmt

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NPR 7120.5D	4.6.2.d.2	55824	Program and Project Requirements by Phase: Projects - Phase C: Requirements: During Phase C, the Project Manager and the project team shall: Conduct KDP readiness activities: Plan, prepare for, and support the governing PMC review prior to KDP D. (Requirement 55824)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.01	55829	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Implement the Project Plan. (Requirement 55829)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.02	55830	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Initiate system assembly, integration, and test. (Requirement 55830)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.03	55831	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: As required by NPR 7123.1, execute and document the results of the project's multi-tiered Verification and Validation (V&V) Plan. (Requirement 55831)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.04	55832	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Resolve all test, analysis, and inspection discrepancies. (Requirement 55832)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.05	55833	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Integrate payload/launch vehicle and test. (Requirement 55833)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.06	55834	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Prepare "as-built" and "as-deployed" hardware and software documentation, including "close-out" photographs. (Requirement 55834)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.07	55835	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Complete all operational support and other enabling developments (e.g., facilities, equipment, and updated databases), including a baseline Operations Handbook to support the operations team. (Requirement 55835)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.08	55836	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Conduct operational tests and training, including normal and anomalous scenarios. (Requirement 55836)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.09	55837	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Prior to the project independent life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55837)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.10	55838	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Plan, prepare for, and support the project independent life-cycle reviews shown in Figure 2-4 for this phase in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55838)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.11	55839	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Establish and maintain an integrated logistics support (ILS capability, including spares, ground support equipment, and system maintenance and operating procedures, in accordance with the project's Logistics Plan. (Requirement 55839)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.12	55840	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Forty-five (45) days prior to delivery of the spacecraft to the launch facility update the Missile System Pre-Launch Safety Package (MSPSP) in accordance with NASA-STD-8719.8, Expendable Launch Vehicle Payload Safety and Review Process Standard, June 1998, and Air Force Space Command Manual 91-710, Range Safety User Requirements, Vol. 3. (Note: The latest release is dated July 1, 2004.) (Requirement 55840)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.a.13	55841	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform technical activities: Launch and perform system checkout. (Note: The checkout period is specified in the Project Plan.) (Requirement 55841)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.b.1	55843	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Implement Earned Value Management (EVM) as documented in the Project Plan. (Requirement 55843)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.b.2	55844	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: For contracts requiring EVM (see Appendix F, paragraph 3.1.c(6)), conduct required Integrated Baseline Reviews (IBRs). (Requirement 55844)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.b.3	55845	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Prepare and finalize work agreements for Phase E. (Requirement 55845)	E	N	N	Mgmt

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NPR 7120.5D	4.7.2.c.1	55847	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Implement project cost and schedule control activities: Provide immediate written notice and a recovery plan to the Program Manager and the MDAA if the latest Phase C through D Estimate at Completion (EAC) of the project exceeds by 15% or more the KDP C-approved Integrated Baseline cost for Phases C through D. (Note: Since the Integrated Baseline cost contains project reserves, an EAC exceeding the Integrated Baseline cost presumes that these reserves will be exhausted.) (Requirement 55847)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.c.2	55848	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Implement project cost and schedule control activities: Provide immediate written notice and a recovery plan to the Program Manager and the MDAA if a milestone listed for Phases C and D on the project life-cycle chart (Figure 2-4) is estimated to be delayed in excess of six months from the date scheduled in the KDP C-approved Integrated Baseline. (Requirement 55848)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.c.3	55849	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Implement project cost and schedule control activities: If the trigger points in (1) or (2) above are breached and upon written notice from the Program Manager, update the Project Plan per direction received from the Program Manager. (Requirement 55849)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.d.1	55851	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Conduct KDP readiness activities: Obtain approved launch approval documents. (Requirement 55851)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.d.2	55852	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Conduct KDP readiness activities: Obtain KDP readiness products as shown in Table 4-3. (Requirement 55852)	E	N	N	Mgmt
NPR 7120.5D	4.7.2.d.3	55853	Program and Project Requirements by Phase: Projects - Phase D: Requirements: During Phase D, the Project Manager and the project team shall: Conduct KDP readiness activities: Plan, prepare for, and support the governing PMC review prior to KDP E. (Requirement 55853)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.a.1	55858	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform technical activities: Implement the Project Plan. (Requirement 55858)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.a.2	55859	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform technical activities: Execute the mission in accordance with the Mission Operations Plan and document this work in a Mission Report. (Requirement 55859)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.a.3	55860	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform technical activities: Prior to the project life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55860)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.a.5	55862	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform technical activities: Monitor system incidents, problems, and anomalies, as well as system margins to ensure that deployed project systems function as intended, and investigate system behavior that is observed to exceed established operational boundaries or expected trends, and implement corrective actions, as necessary. (Requirement 55862)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.a.6	55863	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform technical activities: Provide sustaining engineering, as appropriate, to the mission to enhance efficiency, safety, and accommodate obsolescence. (Requirement 55863)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.a.7	55864	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform technical activities: Capture and archive mission results, including engineering data on system and subsystem performance, in an MDAA-approved data depository. (Requirement 55864)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.b.1	55866	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: For Category 1 and 2 projects, update the CADRe consistent with the NASA Cost Estimating Handbook within 180 days after launch. (Requirement 55866)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.b.2	55867	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: As directed by the Program Manager, support the development of Project Plan revisions to continue the mission into extended operations beyond the primary mission phase or beyond any extension previously included in the plan. (Requirement 55867)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.b.3	55868	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Prepare and document a baseline Systems Decommissioning/Disposal Plan. (Requirement 55868)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.b.4	55869	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Perform project planning, costing, and scheduling activities: Prepare or update work agreements for Phase F. (Requirement 55869)	E	N	N	Mgmt
NPR 7120.5D	4.8.2.c.1	55871	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Conduct KDP readiness activities: Obtain KDP readiness products as shown in Table 4-3. (Requirement 55871)	E	N	N	Mgmt

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NPR 7120.5D	4.8.2.c.2	55872	Program and Project Requirements by Phase: Projects - Phase E: Requirements: During Phase E, the Project Manager and the project team shall: Conduct KDP readiness activities: Plan, prepare for, and support the governing PMC review prior to KDP F. (Requirement 55872)	E	N	N	Mgmt
NPR 7120.5D	4.9.2.a.1	55877	Program and Project Requirements by Phase: Projects - Phase F: Requirements: During Phase F, the Project Manager and the project team shall: Perform technical activities: Complete analysis and archiving of mission and science data and curation of any returned samples, as well as archiving of project engineering and technical management data and documentation, and lessons learned in accordance with agreements, the Project Plan and Program Plan, and Center and Agency policies. (Requirement 55877)	E	N	N	Mgmt
NPR 7120.5D	4.9.2.a.2	55878	Program and Project Requirements by Phase: Projects - Phase F: Requirements: During Phase F, the Project Manager and the project team shall: Perform technical activities: Prior to the project life-cycle reviews shown in Figure 2-4 for this phase, conduct internal reviews in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55878)	E	N	N	Mgmt
NPR 7120.5D	4.9.2.a.3	55879	Program and Project Requirements by Phase: Projects - Phase F: Requirements: During Phase F, the Project Manager and the project team shall: Perform technical activities: Plan, prepare for, and support the project life-cycle reviews shown in Figure 2-4 for this phase in accordance with NPR 7123.1, Center practices, and the requirements of this document. (Requirement 55879)	E	N	N	Mgmt
NPR 7120.5D	4.9.2.a.4	55880	Program and Project Requirements by Phase: Projects - Phase F: Requirements: During Phase F, the Project Manager and the project team shall: Perform technical activities: Implement the Systems Decommissioning/Disposal Plan and safely dispose of project systems. (Requirement 55880)	E	N	N	Mgmt
NPR 7120.5D	4.9.2.b	55881	Program and Project Requirements by Phase: Projects - Phase F: Requirements: During Phase F, the Project Manager and the project team shall: For Category 1 and 2 projects, prepare a final CADRe consistent with the NASA Cost Estimating Handbook.	E	N	N	Mgmt
NPR 7120.6F	1.2	56982	Lessons Learned Requirements: Lessons Learned Process Concept: The lessons learned process is a two-level (Centers and HQ) set of information management processes designed to preserve institutional knowledge and correct identified deficiencies and/or improve performance in the areas identified above. Lessons shall be collected from individuals, projects and programs, or supporting organizations primarily at the Center level. Lessons recommendations shall be assessed for potential changes to policy, procedures, guidelines, technical standards, training, education curricula, etc. and infused back into the system via existing corrective action systems. (Requirement 56982)	S	N	N	Mgmt
NPR 7120.6F	1.4.2.a	56987	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: NASA Headquarters, Office of the Chief Engineer (OCE). The OCE shall: Serve as the Office of Primary Responsibility (OPR) for oversight of the NASA lessons learned process (Requirement 56987).	S	N	N	Mgmt
NPR 7120.6F	1.4.2.b	56988	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: NASA Headquarters, Office of the Chief Engineer (OCE). The OCE shall: Provide a Headquarters Data Manager (HDM) to manage the activities in 1.4.5 (Requirement 56988).	S	N	N	Mgmt
NPR 7120.6F	1.4.2.c	56989	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: NASA Headquarters, Office of the Chief Engineer (OCE). The OCE shall: Take action to sustain the NASA lessons learned process and the NASA lessons learned database as a NASA resource. This database is known as the Lessons Learned Information System (LLIS) and may be found at: http://llis.nasa.gov/ (Requirement 56989).	S	N	N	Mgmt
NPR 7120.6F	1.4.3.a	56991	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Steering Committee (LLSC). The Headquarters Data Manager shall chair the LLSC. Memebers include Center Data Managers. The LLSC shall: Coordinate special lessons learned studies, reviews, and evaluations (Requirement 56991).	S	N	N	Mgmt
NPR 7120.6F	1.4.3.b	56992	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Steering Committee (LLSC). The Headquarters Data Manager shall chair the LLSC. Memebers include Center Data Managers. The LLSC shall: Participate in the development of Agency-level lessons learned policy (Requirement 56992).	S	N	N	Mgmt
NPR 7120.6F	1.4.3.c	56993	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Steering Committee (LLSC). The Headquarters Data Manager shall chair the LLSC. Memebers include Center Data Managers. The LLSC shall: Facilitate lessons learned knowledge sharing across NASA Centers (Requirement 56993).	S	N	N	Mgmt
NPR 7120.6F	1.4.3.d	56994	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Steering Committee (LLSC). The Headquarters Data Manager shall chair the LLSC. Memebers include Center Data Managers. The LLSC shall: Promote the use of the lessons learned process and use of LLIS database (Requirement 56994).	S	N	N	Mgmt
NPR 7120.6F	1.4.4.a	56996	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Committees (LLC). Each Center shall establish and maintain an LLC with adequate representation from across the Center's organizations. The LLCs are a key element to ensuring Center-wide commitment, product quality, and effective implementation of this NPR. Each LLC shall: Establish, document, and maintain a Center-specific lessons learned process (Requirement 56996).	S	N	N	Mgmt

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NPR 7120.6F	1.4.4.b	56997	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Committees (LLC). Each Center shall establish and maintain an LLC with adequate representation from across the Center's organizations. The LLCs are a key element to ensuring Center-wide commitment, product quality, and effective implementation of this NPR. Each LLC shall: Administer and oversee the process of transforming candidate lesson learned material into complete, formatted, lessons learned ready for HDM review and input into the LLIS (Requirement 56997).	S	N	N	Mgmt
NPR 7120.6F	1.4.4.c	56998	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Committees (LLC). Each Center shall establish and maintain an LLC with adequate representation from across the Center's organizations. The LLCs are a key element to ensuring Center-wide commitment, product quality, and effective implementation of this NPR. Each LLC shall: Coordinate the transfer of the lessons learned recommendations to the Centers' corrective action system(s). (Requirement 56998).	S	N	N	Mgmt
NPR 7120.6F	1.4.4.d	56999	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Committees (LLC). Each Center shall establish and maintain an LLC with adequate representation from across the Center's organizations. The LLCs are a key element to ensuring Center-wide commitment, product quality, and effective implementation of this NPR. Each LLC shall: Promote the use of the lessons learned during the technical reviews and throughout the program/project life cycle (Requirement 56999).	S	N	N	Mgmt
NPR 7120.6F	1.4.5.a	57001	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Center Data Manager (CDM). The CDMs shall: Serve as a member of their Center Lessons Learned Committee and the LLSC (Requirement 57001)	S	N	N	Mgmt
NPR 7120.6F	1.4.5.b	57002	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Center Data Manager (CDM). The CDMs shall: Coordinate review of approved lessons learned for export control, patent, legal, and public affairs clearance (Requirement 57002).	S	N	N	Mgmt
NPR 7120.6F	1.4.5.c	57003	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Center Data Manager (CDM). The CDMs shall: Maintain Center lessons learned archives and metrics (Requirement 57003)	S	N	N	Mgmt
NPR 7120.6F	1.4.6.a	57005	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Headquarters Data Manager (HDM). The HDM shall: Chair the Lessons Learned Steering Committee (LLSC) (Requirement 57005).	S	N	N	Mgmt
NPR 7120.6F	1.4.6.b	57006	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Headquarters Data Manager (HDM). The HDM shall: Process lessons learned submitted by Headquarters and NASA Centers for inclusion in the LLIS database (Requirement 57006).	S	N	N	Mgmt
NPR 7120.6F	1.4.6.c	57007	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Headquarters Data Manager (HDM). The HDM shall: Coordinate the transfer of the lessons learned recommendations requiring HQ action to the HQ corrective action system(s) (Requirement 57007).	S	N	N	Mgmt
NPR 7120.6F	1.4.6.d	57008	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Headquarters Data Manager (HDM). The HDM shall: Coordinate trend analysis of lessons learned (Requirement 57008).	S	N	N	Mgmt
NPR 7120.6F	1.4.6.e	57009	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Headquarters Data Manager (HDM). The HDM shall: Maintain lessons learned process metrics and analyze the data to derive actions necessary for continuous improvements of the lessons learned process (Requirement 57009).	S	N	N	Mgmt
NPR 7120.6F	1.4.6.f	57010	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Headquarters Data Manager (HDM). The HDM shall: Promote the consistency and quality of lessons learned documentation (Requirement 57010).	S	N	N	Mgmt
NPR 7120.6F	1.4.7.a	57012	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Curator. The Lessons Learned Curator shall: Provide a final quality assurance function on lessons reviewed by the HDM before uploading to the LLIS database. This includes grammatical and spelling checks as well as the placement of supporting documentation (Requirement 57012).	S	N	N	Mgmt
NPR 7120.6F	1.4.7.b	57013	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Curator. The Lessons Learned Curator shall: Provide user helpdesk functions to the LLIS website (Requirement 57013).	S	N	N	Mgmt
NPR 7120.6F	1.4.7.c	57014	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Curator. The Lessons Learned Curator shall: Provide monthly usage metrics information to the LLCs and LLSC (Requirement 57014).	S	N	N	Mgmt

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NPR 7120.6F	1.4.7.d	57015	Lessons Learned Requirements: NASA Lessons Learned Organizational Requirements: NASA uses the following organizational elements to accomplish the requirements of this NPR: Lessons Learned Curator. The Lessons Learned Curator shall: Ensure the Lesson Learned Database is maintained as Federal records in accordance with NPR 1441.1 (Requirement 57015).	S	N	N	Mgmt
NPR 7150.2	0P.2.3	44835	Applicability and Scope: This NPR shall be applied to software development, maintenance, operations, management, acquisition, and assurance activities started after its effective date of issuance [SWE-001]. (Requirement 44835) Note: This document is not applicable to software development, maintenance, operations, management, acquisition, and assurance activities started before its affective date of issuance (i.e., existing systems and subsystems containing software for Shuttle, International Space Station, Hubble, Chandra, etc.). If the respective Governing Program Management Council (GPMC) determines that an existing software activity should follow all or part of this NPR, the results of that decision should be documented Project Plan (as defined in NPR 7120.5, NASA Program and Project Management Processes and Requirements). The respective GPMC can make this determination based on the safety criticality of the existing project, the mission criticality, project cost, current phase of the existing program, etc.	E	N	N	SWA
NPR 7150.2	1.2.1	44858	Introduction: Organizational Capability and Improvement: The NASA Chief Engineer shall lead, maintain, and fund an Agencywide Software Engineering Initiative to advance software engineering practices. [SWE-002] (Requirement 44858)	E	N	N	SWA
NPR 7150.2	1.2.2	44859	Introduction: Organizational Capability and Improvement: Each center shall maintain, staff, and implement a plan to continually advance its in-house software engineering capability and monitor the software engineering capability of NASA's contractors, as per NASA's Software Engineering Initiative Improvement Plan. [SWE-003] (Requirement 44859) Note: The requirements for the content of each Center Software Engineering Improvement Plan are defined in Chapter 5. Each center has a current Center Software Engineering Improvement Plan on file in the Office of the Chief Engineer.	E	N	N	SWA
NPR 7150.2	1.2.3	44860	Introduction: Organizational Capability and Improvement: The NASA Chief Engineer shall periodically benchmark each Center's software engineering capability against its Center Software Engineering Improvement Plan. [SWE-004] (Requirement 44860) Note: Center Software Engineering Improvement Plans should be documented per Center Software Engineering Improvement Plan requirements. Capability Maturity Model @ Integration (CMMI@) - systems engineering and software engineering (CMMI@-SE/SW) appraisals are the preferred benchmark for objectively measuring progress toward software engineering process improvement at NASA Centers.	E	N	N	SWA
NPR 7150.2	1.2.4	44861	Introduction: Organizational Capability and Improvement: Each Center shall establish, document, execute, and maintain software processes. [SWE-005] (Requirement 44861)	E	N	N	SWA
NPR 7150.2	1.2.5	44862	Introduction: Organizational Capability and Improvement: To support compliance with NASA policy and facilitate the application of resources to mitigate risk, the NASA Chief Engineer, in coordination with the Chief Safety and Mission Assurance Officer, shall maintain a process that provides, on a recurring basis, a reliable list of the Agency's programs and projects containing software. [SWE-006] (Requirement 44862)	E	N	N	SWA
NPR 7150.2	2.1.1	44872	Software Management Requirements: Compliance with Laws, Policies, and Requirements: The project shall ensure that software disclosure requirements of NPD 2091.1, Inventions Made By Government Employees, are implemented by their project, Section 305 of the Space Act (42 U.S.C 2457) for large business contractors, and 35 U.S.C. 200 et seq., (including Section 202 (c)) for small businesses, universities, and non-profits are implemented by their project. [SWE-007] (Requirement 44872)	E	N	N	SWA
NPR 7150.2	2.1.2	44873	Software Management Requirements: Compliance with Laws, Policies, and Requirements: The project shall ensure that software technology transfer requirements of NPR 2190.1, NASA Export Control Program, are implemented by the project. [SWE-008] (Requirement 44873)	E	N	N	SWA
NPR 7150.2	2.1.3	44874	Software Management Requirements: Compliance with Laws, Policies, and Requirements: The project shall ensure that software external release requirements of NPR 2210.1, External Release of NASA Software, are implemented by the project. [SWE-009] (Requirement 44874)	E	N	N	SWA
NPR 7150.2	2.1.4	44875	Software Management Requirements: Compliance with Laws, Policies, and Requirements: The project shall ensure that the security requirements of NPD 2810.1, NASA Information Security Policy, are implemented by the project. [SWE-010] (Requirement 44875)	E	N	N	SWA
NPR 7150.2	2.1.5	44876	Software Management Requirements: Compliance with Laws, Policies, and Requirements: The project shall ensure that the requirements of reasonable accommodation for Individuals with Disabilities, are implemented by the project. [SWE-011] (Requirement 44876)	E	N	N	SWA
NPR 7150.2	2.1.6	44877	Software Management Requirements: Compliance with Laws, Policies, and Requirements: The project shall ensure that software is accessible to individuals with disabilities as required by Section 508 of the Rehabilitation Act (29 U.S.C. 749d), as amended. Specific requirements for accessibility may be found at 36 CFR Part 1194. [SWE-012] (Requirement 44877)	E	N	N	SWA
NPR 7150.2	2.2.01(1)	44879	Software Life Cycle Planning: The project shall develop software plan(s). [SWE-013] (Requirement 44879)	E	N	N	SWA
NPR 7150.2	2.2.02	44886	Software Life Cycle Planning: The project shall implement and execute the software plan(s). [SWE-014] (Requirement 44886)	E	N	N	SWA
NPR 7150.2	2.2.03	44887	Software Life Cycle Planning: The project shall establish, document, and maintain at least one software cost estimate that satisfies the following conditions: [SWE-015] (Requirement 44887)	E	N	N	SWA
NPR 7150.2	2.2.03.a	44888	Software Life Cycle Planning: The project shall establish, document, and maintain at least one software cost estimate that satisfies the following conditions: Covers the entire software life cycle. (Requirement 44888)	E	N	N	SWA

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NPR 7150.2	2.2.03.b	44889	Software Life Cycle Planning: The project shall establish, document, and maintain at least one software cost estimate that satisfies the following conditions: Is based on selected project attributes (e.g., assessment of the size, functionality, complexity, criticality, and risk of the software processes and products). (Requirement 44889)	E	N	N	SWA
NPR 7150.2	2.2.03.c	44890	Software Life Cycle Planning: The project shall establish, document, and maintain at least one software cost estimate that satisfies the following conditions: Is based on an assessment of the technology to be used and the impact on risk, cost, and schedule. (Requirement 44890)	E	N	N	SWA
NPR 7150.2	2.2.04	44891	Software Life Cycle Planning: The project shall document and maintain a software schedule that satisfies the following conditions: [SWE-016] (Requirement 44891)	E	N	N	SWA
NPR 7150.2	2.2.04.a	44892	Software Life Cycle Planning: The project shall document and maintain a software schedule that satisfies the following conditions: Coordinates with the overall project schedule. (Requirement 44892)	E	N	N	SWA
NPR 7150.2	2.2.04.b	44893	Software Life Cycle Planning: The project shall document and maintain a software schedule that satisfies the following conditions: Documents the interactions of milestones and deliverables between software, hardware, operations, and the rest of the system. (Requirement 44893)	E	N	N	SWA
NPR 7150.2	2.2.05	44894	Software Life Cycle Planning: The project shall plan, track, and ensure project specific software training for project personnel. [SWE-017] (Requirement 44894)	E	N	N	SWA
NPR 7150.2	2.2.06	44895	Software Life Cycle Planning: The project shall regularly hold reviews of software activities, status, and results with the project stakeholders and track issues to resolution. [SWE-018] (Requirement 44895)	E	N	N	SWA
NPR 7150.2	2.2.07	44896	Software Life Cycle Planning: The project shall select and document a software development life cycle or model that includes phase transition criteria for each life cycle phase (e.g., formal review milestones, informal reviews, software requirements review (SRR), preliminary design review (PDR), critical design review (CDR), test readiness reviews, customer acceptance or approval reviews). [SWE-019] (Requirement 44896)	E	N	N	SWA
NPR 7150.2	2.2.08.(1)	44897	Software Life Cycle Planning: The project shall classify each of the systems and subsystems containing software in accordance with software classifications definitions for Class A, B, C, D, E, F, G and H in Appendix B. [SWE-020] (Requirement 44897)	E	N	N	SWA
NPR 7150.2	2.2.09	44899	Software Life Cycle Planning: If a system or subsystem evolves to a higher software classification as defined in Appendix B, then the project shall update its plan to fulfill the added requirements per the Requirements Mapping Matrix. [SWE-021] (Requirement 44899)	E	N	N	SWA
NPR 7150.2	2.2.10.(1)	44900	Software Life Cycle Planning: The project shall ensure that software assurance is implemented by their project as per NASA-STD-8739.8, NASA Software Assurance. [SWE-022] (Requirement 44900)	E	N	N	SWA
NPR 7150.2	2.2.11	44902	Software Life Cycle Planning: When a project is determined to have safety critical software, the project shall ensure that the safety requirements of NASA-STD-8719.13, Software Safety, are implemented by the project. [SWE-023] (Requirement 44902)	E	N	N	SWA
NPR 7150.2	2.2.12	44903	Software Life Cycle Planning: The project shall ensure that actual results and performance are tracked against the software plans. [SWE-024] (Requirement 44903)	E	N	N	SWA
NPR 7150.2	2.2.13	44904	Software Life Cycle Planning: The project shall ensure that corrective actions are taken and managed to closure when actual results and performance deviate from the software plans. [SWE-025] (Requirement 44904)	E	N	N	SWA
NPR 7150.2	2.2.14	44905	Software Life Cycle Planning: The project shall ensure that changes to commitments (e.g., software plans) are agreed to by the affected groups and individuals. [SWE-026] (Requirement 44905)	E	N	N	SWA
NPR 7150.2	2.3.1	44907	Commercial, Government, and Modified Off-The-Shelf Software: The project shall ensure that when COTS, GOTS, MOTs, open source, reuse, legacy, or heritage software product is to be acquired, the following conditions are satisfied: [SWE-027] (Requirement 44907)	E	N	N	SWA
NPR 7150.2	2.3.1(1).a	44908	Commercial, Government, and Modified Off-The-Shelf Software: The project shall ensure that when COTS, GOTS, MOTs, open source, reuse, legacy, or heritage software product is to be acquired, the following conditions are satisfied: The requirements that are to be met by the off-the-shelf software are identified. (Requirement 44908)	E	N	N	SWA
NPR 7150.2	2.3.1(1).b	44909	Commercial, Government, and Modified Off-The-Shelf Software: The project shall ensure that when COTS, GOTS, MOTs, open source, reuse, legacy, or heritage software product is to be acquired, the following conditions are satisfied: The off-the-shelf software includes documentation to fulfill its intended purpose (e.g. usage instructions). (Requirement 44909)	E	N	N	SWA
NPR 7150.2	2.3.1(1).c	44910	Commercial, Government, and Modified Off-The-Shelf Software: The project shall ensure that when COTS, GOTS, MOTs, open source, reuse, legacy, or heritage software product is to be acquired, the following conditions are satisfied: Proprietary, usage, ownership, warranty, licensing rights, and transfer are addressed. (Requirement 44910)	E	N	N	SWA
NPR 7150.2	2.3.1(1).d	44911	Commercial, Government, and Modified Off-The-Shelf Software: The project shall ensure that when COTS, GOTS, MOTs, open source, reuse, legacy, or heritage software product is to be acquired, the following conditions are satisfied: Future support for the off-the-shelf software product is planned. (Requirement 44911)	E	N	N	SWA
NPR 7150.2	2.3.1(1).e	44912	Commercial, Government, and Modified Off-The-Shelf Software: The project shall ensure that when COTS, GOTS, MOTs, open source, reuse, legacy, or heritage software product is to be acquired, the following conditions are satisfied: Off-the-shelf software is validated to the same level of confidence as would be required of the developed software.	E	N	N	SWA
NPR 7150.2	2.4.1(1)	44924	Software Verification and Validation: The project shall plan software verification activities, methods, environments, and criteria for the project. [SWE-028] (Requirement 44924)	E	N	N	SWA
NPR 7150.2	2.4.2(1)	44926	Software Verification and Validation: The project shall plan the software validation activities, methods, environments, and criteria for the project. [SWE-029] (Requirement 44926)	E	N	N	SWA
NPR 7150.2	2.4.3	44928	Software Verification and Validation: The project shall record, address, and track to closure the results of software verification activities. [SWE-030] (Requirement 44928)	E	N	N	SWA
NPR 7150.2	2.4.4	44929	Software Verification and Validation: The project shall record, address, and track to closure the results of software validation activities. [SWE-031] (Requirement 44929)	E	N	N	SWA

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NPR 7150.2	2.5.1(1)	44931	Project Formulation Requirements: Consistent with the Requirements Mapping Matrix (Appendix D), the project shall ensure that software is developed by either a software CMM® Maturity Level 3 or higher organization; or by and organization that has a CMMI®-SE/SW Capability Level 2 or higher as measured by a Software Engineering Institute (SEI) authorized lead appraiser from an external organization in the following Process Areas: [SWE-032] (Requirement 44931)	E	N	N	SWA
NPR 7150.2	2.5.2	44940	Project Formulation Requirements: The project shall assess options for acquisition against analysis of appropriate criteria to include risk, cost, and benefits for each option listed below: [SWE-033] (Requirement 44940)	E	N	N	SWA
NPR 7150.2	2.5.2.a	44941	Project Formulation Requirements: The project shall assess options for acquisition against analysis of appropriate criteria to include risk, cost, and benefits for each option listed below: Acquire an off-the-shelf software product that satisfies the requirement. (Requirement 44941)	E	N	N	SWA
NPR 7150.2	2.5.2.b	44942	Project Formulation Requirements: The project shall assess options for acquisition against analysis of appropriate criteria to include risk, cost, and benefits for each option listed below: Develop the software product or obtain the software service internally. (Requirement 44942)	E	N	N	SWA
NPR 7150.2	2.5.2.c	44943	Project Formulation Requirements: The project shall assess options for acquisition against analysis of appropriate criteria to include risk, cost, and benefits for each option listed below: Develop the software product or obtain the software service through contract. (Requirement 44943)	E	N	N	SWA
NPR 7150.2	2.5.2.d	44944	Project Formulation Requirements: The project shall assess options for acquisition against analysis of appropriate criteria to include risk, cost, and benefits for each option listed below: A combination of a, b, and c above. (Requirement 44944)	E	N	N	SWA
NPR 7150.2	2.5.2.e	44945	Project Formulation Requirements: The project shall assess options for acquisition against analysis of appropriate criteria to include risk, cost, and benefits for each option listed below: Enhance an existing software product or service. (Requirement 44945)	E	N	N	SWA
NPR 7150.2	2.5.3	44946	Project Formulation Requirements: The project shall define and document or record the acceptance criteria and conditions for the software. [SWE-034] (Requirement 44946)	E	N	N	SWA
NPR 7150.2	2.5.4	44947	Project Formulation Requirements: For new contracts the project shall establish a procedure for software supplier selection including proposal evaluation criteria. [SWE-035] (Requirement 44947)	E	N	N	SWA
NPR 7150.2	2.5.5	44948	Project Formulation Requirements: The project shall determine which software processes, activities, and tasks are appropriate for the project. [SWE-036] (Requirement 44948)	E	N	N	SWA
NPR 7150.2	2.5.6(1)	44949	Project Formulation Requirements: The project shall define the milestones at which the software supplier(s) progress will be reviewed and audited as a part of the monitoring of the acquisition. [SWE-037] (Requirement 44949)	E	N	N	SWA
NPR 7150.2	2.5.6(2)	44950	Note: All known contract milestones are expected to be included in the resulting contract.	E	N	N	SWA
NPR 7150.2	2.5.7(1)	44951	Project Formulation Requirements: The project shall document software acquisition planning decisions. [SWE-038] (Requirement 44951)	E	N	N	SWA
NPR 7150.2	2.5.7(2)	44952	Note: This may be in an acquisition plan or in another project planning document.	E	N	N	SWA
NPR 7150.2	2.6.1.1	44955	Software Contract Requirements: Government software insight requirements: The project shall require the software supplier(s) to provide insight into software development and test activities, including monitoring integration and verification adequacy, trade study data, auditing the software development process, and participation in all software reviews and technical interchange meetings. [SWE-039] (Requirement 44955)	E	N	N	SWA
NPR 7150.2	2.6.1.2	44956	Software Contract Requirements: Government software insight requirements: The project shall require the software supplier(s) to provide NASA all software products and software process tracking information, in electronic format, including all software development and management metrics. [SWE-040] (Requirement 44956)	E	N	N	SWA
NPR 7150.2	2.6.1.3	44957	Software Contract Requirements: Government software insight requirements: The project shall require the software supplier(s) to notify the project, in the response to the Request for Proposals, as to whether open source software will be included in code developed for the project. [SWE-041] (Requirement 44957)	E	N	N	SWA
NPR 7150.2	2.6.1.4(1)	44958	Software Contract Requirements: Government software insight requirements: The project shall require the software supplier(s) to provide NASA with electronic access to the source code developed for the project, including modified off-the-shelf software and non-flight software (ground test software, simulations, ground analysis software, ground control software, science data processing software, hardware manufacturing software, or other). [SWE-042] (Requirement 44958)	E	N	N	SWA
NPR 7150.2	2.6.2.1	44961	Software Contract Requirements: Supplier Monitoring Requirements: The project shall require the software supplier to track all software changes and provide the data for the project's review. [SWE-043] (Requirement 44961)	E	N	N	SWA
NPR 7150.2	2.6.2.2(1)	44962	Software Contract Requirements: Supplier Monitoring Requirements: The project shall require the software supplier(s) to provide software metric data as defined in the project's Software Metrics Report. [SWE-044] (Requirement 44962)	E	N	N	SWA
NPR 7150.2	2.6.2.2(2)	44963	Note: The requirements for the content of the Software Metric Report are defined in Chapter 5.	E	N	N	SWA
NPR 7150.2	2.6.2.3	44964	Software Contract Requirements: Supplier Monitoring Requirements: The project shall participate in any joint NASA/contractor audits of the software development process and software configuration management process. [SWE-045] (Requirement 44964)	E	N	N	SWA
NPR 7150.2	2.6.2.4	44965	Software Contract Requirements: Supplier Monitoring Requirements: The project shall require the software supplier(s) to provide a software schedule for the project's review and updates as requested. [SWE-046] (Requirement 44965)	E	N	N	SWA

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NPR 7150.2	2.6.2.5	44966	Software Contract Requirements: Supplier Monitoring Requirements: The project shall require the software supplier(s) to make available, electronically, the software traceability data for the project's review. [SWE-047] (Requirement 44966)	E	N	N	SWA
NPR 7150.2	2.6.2.6	44967	Software Contract Requirements: Supplier Monitoring Requirements: The project shall document in the solicitation the software processes, activities, and tasks to be performed by the supplier. [SWE-048] (Requirement 44967)	E	N	N	SWA
NPR 7150.2	3.1.1.1(1)	44971	Software Requirements: Requirements Development: The project shall document the software requirements. [SWE-049] (Requirement 44971)	E	N	N	SWA
NPR 7150.2	3.1.1.1(2)	44972	Note: The requirements for the content of each Software Requirement Specification and Data Dictionary are defined in Chapter 5.	E	N	N	SWA
NPR 7150.2	3.1.1.2	44973	Software Requirements: Requirements Development: The project shall identify, develop, document, approve, and maintain software requirements based on analysis of customer and other stakeholder requirements and the operational concepts. [SWE-050] (Requirement 44973)	E	N	N	SWA
NPR 7150.2	3.1.1.3(1)	44974	Software Requirements: Requirements Development: The project shall perform software requirements analysis based on flowed-down and derived requirements from the top-level systems engineering requirements and the hardware specifications and design. [SWE-051] (Requirement 44974)	E	N	N	SWA
NPR 7150.2	3.1.1.4(1)	44976	Software Requirements: Requirements Development: The project shall perform, document and maintain bi-directional traceability between the software requirement and the higher level requirement. [SWE-052] (Requirement 44976)	E	N	N	SWA
NPR 7150.2	3.1.2.1(1)	44979	Software Requirements: The project shall collect and manage changes to the software requirements. [SWE-053] (Requirement 44979)	E	N	N	SWA
NPR 7150.2	3.1.2.2(1)	44981	Software Requirements: The project shall identify inconsistencies between requirements, project plans, and software products and initiate corrective actions. [SWE-054] (Requirement 44981)	E	N	N	SWA
NPR 7150.2	3.1.2.3(1)	44983	Software Requirements: The project shall perform requirements validation to ensure that the software will perform as intended in the customer environment. [SWE-055] (Requirement 44983)	E	N	N	SWA
NPR 7150.2	3.2.1(1)	44986	Software Engineering (Life Cycle) Requirements: Software Design: The project shall document the software design. [SWE-056] (Requirement 44986)	E	N	N	SWA
NPR 7150.2	3.2.2	44988	Software Engineering (Life Cycle) Requirements: Software Design: The project shall transform the allocated and derived requirements into a documented architectural design. [SWE-057] (Requirement 44988)	E	N	N	SWA
NPR 7150.2	3.2.3	44989	Software Engineering (Life Cycle) Requirements: Software Design: The project shall develop and record a detailed design based on the architectural design that describes the lower level units so that they can be coded, compiled, and tested. [SWE-058] (Requirement 44989)	E	N	N	SWA
NPR 7150.2	3.2.4	44990	Software Engineering (Life Cycle) Requirements: Software Design: The project shall perform and maintain bi-directional traceability between the software requirements and the software design. [SWE-059] (Requirement 44990)	E	N	N	SWA
NPR 7150.2	3.3	44991	Software Engineering (Life Cycle) Requirements: Software Implementation: Software implementation consists of implementing the requirements and design into code, data, and documentation. Software implementation also consists of following coding methods and standards. Unit testing is also usually a part of software implementation (unit testing can also be conducted during the testing phase). (Requirement 44991)	E	N	N	SWA
NPR 7150.2	3.3.1	44992	Software Engineering (Life Cycle) Requirements: Software Implementation: The project shall implement the software design into software code. [SWE-060] (Requirement 44992)	E	N	N	SWA
NPR 7150.2	3.3.2	44993	Software Engineering (Life Cycle) Requirements: Software Implementation: The project shall ensure that software coding methods, standards, and/or criteria are adhered to and verified. [SWE-061] (Requirement 44993)	E	N	N	SWA
NPR 7150.2	3.3.3	44994	Software Engineering (Life Cycle) Requirements: Software Implementation: The project shall ensure that the software code is unit tested per the plans for software testing. [SWE-062] (Requirement 44994)	E	N	N	SWA
NPR 7150.2	3.3.4(1)	44995	Software Engineering (Life Cycle) Requirements: Software Implementation: The project shall provide a Software Version Description document for each software release. [SWE-063] (Requirement 44995)	E	N	N	SWA
NPR 7150.2	3.3.5	44997	Software Engineering (Life Cycle) Requirements: Software Implementation: The project shall provide and maintain traceability from software design to the software code. [SWE-064] (Requirement 44997)	E	N	N	SWA
NPR 7150.2	3.4.1(1)	44999	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall provide: [SWE-065] (Requirement 44999)	E	N	N	SWA
NPR 7150.2	3.4.1(1).a	45000	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall provide: Software test plan(s). (Requirement 45000)	E	N	N	SWA
NPR 7150.2	3.4.1(1).b	45001	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall provide: Software Test Procedures. (Requirement 45001)	E	N	N	SWA
NPR 7150.2	3.4.1(1).c	45002	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall provide: Software Test Reports. (Requirement 45002)	E	N	N	SWA
NPR 7150.2	3.4.2(1)	45004	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall perform software testing as defined in the Software Test Plan. [SWE-066] (Requirement 45004)	E	N	N	SWA
NPR 7150.2	3.4.3	45006	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall ensure that the implementation of each software requirement is verified to the requirement. [SWE-067] (Requirement 45006)	E	N	N	SWA
NPR 7150.2	3.4.4	45007	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall evaluate test results and document the evaluation. [SWE-068] (Requirement 45007)	E	N	N	SWA
NPR 7150.2	3.4.5	45008	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall document defects identified during testing and track to closure. [SWE-069] (Requirement 45008)	E	N	N	SWA

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NPR 7150.2	3.4.6	45009	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall test, validate, and certify software models, simulations, and analysis tools. [SWE-070] (Requirement 45009)	E	N	N	SWA
NPR 7150.2	3.4.7	45010	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall update Software Test Plan(s) and Software Test Procedure(s) to be consistent with software requirements. [SWE-071] (Requirement 45010)	E	N	N	SWA
NPR 7150.2	3.4.8	45011	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall provide and maintain traceability from the Software Test Procedures to the software requirements. [SWE-072] (Requirement 45011)	E	N	N	SWA
NPR 7150.2	3.4.9	45012	Software Engineering (Life Cycle) Requirements: Software Testing: The project shall ensure that the software system is validated on the targeted platform or high-fidelity simulation. [SWE-073] (Requirement 45012)	E	N	N	SWA
NPR 7150.2	3.5.1(1)	45014	Software Engineering (Life Cycle) Requirements: Software Operations, Maintenance, and Retirement: The project shall document the software maintenance plans in the Software Maintenance Plan document. [SWE-074] (Requirement 45014)	E	N	N	SWA
NPR 7150.2	3.5.2	45016	Software Engineering (Life Cycle) Requirements: Software Operations, Maintenance, and Retirement: The project shall plan software operations, maintenance, and retirement activities. [SWE-075] (Requirement 45016)	E	N	N	SWA
NPR 7150.2	3.5.3	45017	Software Engineering (Life Cycle) Requirements: Software Operations, Maintenance, and Retirement: The project shall implement software operations, maintenance, and retirement activities as defined in the respective plans. [SWE-076] (Requirement 45017)	E	N	N	SWA
NPR 7150.2	3.5.4(1)	45018	Software Engineering (Life Cycle) Requirements: Software Operations, Maintenance, and Retirement: The project shall complete and deliver the software product to the customer with appropriate documentation to support the operations and maintenance phase of the software life cycle. [SWE-077] (Requirement 45018)	E	N	N	SWA
NPR 7150.2	3.5.5	45031	Software Engineering (Life Cycle) Requirements: Software Operations, Maintenance, and Retirement: The project shall deliver to the customer the as-built documentation to support the operations and maintenance phase of the software life cycle. [SWE-078] (Requirement 45031)	E	N	N	SWA
NPR 7150.2	4.1.1(1)	45034	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall develop a Software Configuration Management Plan that describes the functions, responsibilities, and authority for the implementation of software configuration management for the project. [SWE-079] (Requirement 45034)	E	N	N	SWA
NPR 7150.2	4.1.2(1)	45036	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall track and evaluate changes to software products. [SWE-080] (Requirement 45036)	E	N	N	SWA
NPR 7150.2	4.1.3	45038	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall identify the software configuration items (e.g., software documents, code, data, scripts) and their versions to be controlled for the project. [SWE-081] (Requirement 45038)	E	N	N	SWA
NPR 7150.2	4.1.4	45039	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall establish and implement procedures designating the levels of control each identified configuration item must pass through; the persons or groups with authority to authorize changes and to make changes at each level; and the steps to be followed to request authorization for changes, process Change Requests, track changes, distribute changes, and maintain past versions. [SWE-082] (Requirement 45039)	E	N	N	SWA
NPR 7150.2	4.1.5(1)	45040	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall prepare and maintain records of the configuration status of configuration items. [SWE-083] (Requirement 45040)	E	N	N	SWA
NPR 7150.2	4.1.6	45042	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall ensure that software configuration audits are performed to determine the correct version of the configuration items and verify that they conform to the documents that define them. [SWE-084] (Requirement 45042)	E	N	N	SWA
NPR 7150.2	4.1.7	45043	Supporting Software Life Cycle Requirements: Software Configuration Management: The project shall establish and implement procedures for the storage, handling, delivery, release, and maintenance of deliverable software products. [SWE-085] (Requirement 45043)	E	N	N	SWA
NPR 7150.2	4.2.1	45045	Supporting Software Life Cycle Requirements: Risk Management: The project shall identify, analyze, plan, track, control, communicate, and document software risks (potential issues, hazards, threats, and vulnerabilities) in accordance with NPR 7120.5, NASA Program and Project Management Processes and Requirements and NPR 8000.4, Risk Management Procedural Requirements. [SWE-086] (Requirement 45045)	E	N	N	SWA
NPR 7150.2	4.3.1(1)	45047	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall ensure peer reviews are performed for: [SWE-087] (Requirement 45047)	E	N	N	SWA
NPR 7150.2	4.3.1(1).a	45048	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall ensure peer reviews are performed for: Software Requirements. (Requirement 45048)	E	N	N	SWA
NPR 7150.2	4.3.1(1).b	45049	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall ensure peer reviews are performed for: Software Test Plans. (Requirement 45049)	E	N	N	SWA
NPR 7150.2	4.3.1(1).c	45050	Supportive Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall ensure peer reviews are performed for: Any design and code items that the project identified for peer review according to the software development plans. (Requirement 45050)	E	N	N	SWA
NPR 7150.2	4.3.2	45052	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall, for each planned peer review: [SWE-088] (Requirement 45052)	E	N	N	SWA
NPR 7150.2	4.3.2.a	45053	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall, for each planned peer review: Use a checklist to evaluate the work products. (Requirement 45053)	E	N	N	SWA
NPR 7150.2	4.3.2.b	45054	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall, for each planned peer review: Use established readiness and completion criteria. (Requirement 45054)	E	N	N	SWA

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NPR 7150.2	4.3.2.c	45055	Supporting Software Life Cycle Requirements: Peer Reviews/Inspections: The project shall, for each planned peer review: Track actions identified in the reviews until they are resolved. (Requirement 45055)	E	N	N	SWA
NPR 7150.2	4.3.3(1)	45056	Peer Reviews/Inspections: The project shall, for each planned peer review, record basic measurements. [SWE-089] (Requirement 45056)	E	N	N	SWA
NPR 7150.2	4.4.1	45064	Supporting Software Life Cycle Requirements: Software Measurement: The project shall establish and document specific measurement objectives for their project. [SWE-090] (Requirement 45064)	E	N	N	SWA
NPR 7150.2	4.4.2(1)	45065	Supporting Software Life Cycle Requirements: Software Measurement: The project shall select and record the selection of specific measures in the following areas: [SWE-091] (Requirement 45065)	E	N	N	SWA
NPR 7150.2	4.4.2(1).a	45066	Supporting Software Life Cycle Requirements: Software Measurement: Software progress tracking. (Requirement 45066)	E	N	N	SWA
NPR 7150.2	4.4.3(1)	45072	Supporting Software Life Cycle Requirements: Software Measurement: The project shall specify and record data collection and storage procedures for their selected software measures and collect and store measures accordingly. [SWE-092] (Requirement 45072)	E	N	N	SWA
NPR 7150.2	4.4.4	45074	Supporting Software Life Cycle Requirements: Software Measurement: The project shall analyze software measurement data collected using documented project-specified and Center/organizational analysis procedures. [SWE-093] (Requirement 45074)	E	N	N	SWA
NPR 7150.2	4.4.5	45075	Supporting Software Life Cycle Requirements: Software Measurement: The project shall report measurement analysis results periodically and allow access to measurement information by Center-defined organizational measurement programs. [SWE-094] (Requirement 45075)	E	N	N	SWA
NPR 7150.2	4.4.6	45076	Supporting Software Life Cycle Requirements: Software Measurement: Each NASA Mission Directorate shall establish its own software measurement system to include the minimum reporting requirements in SWE-091. [SWE-095] (Requirement 45076)	E	N	N	SWA
NPR 7150.2	4.4.7	45077	Supporting Software Life Cycle Requirements: Software Measurement: Each NASA Mission Directorate shall identify and document the specific measurement objectives, the chosen specific measures, the collection procedures, and storage and analysis procedures. [SWE-096] (Requirement 45077)	E	N	N	SWA
NPR 7150.2	4.4.8	45078	Supporting Software Life Cycle Requirements: Software Measurement: Each NASA Mission Directorate shall report their software measurement results to the Office of the Chief Engineer on a yearly basis. [SWE-097] (Requirement 45078)	E	N	N	SWA
NPR 7150.2	4.5.1(1)	45080	Supporting Software Life Cycle Requirements: Best Practices: The NASA Office of the Chief Engineer shall maintain an Agencywide process asset library of applicable best practices. [SWE-098] (Requirement 45080)	E	N	N	SWA
NPR 7150.2	4.5.2	45082	Supporting Software Life Cycle Requirements: Best Practices: Each Center shall review the contents of the process asset library to identify those practices that may have direct applicability and value to its software activities. [SWE-099] (Requirement 45082)	E	N	N	SWA
NPR 7150.2	4.6.1	45084	Supporting Software Life Cycle Requirements: Training: The NASA Chief Engineer and Center training organizations shall provide and fund training to advance software engineering practices and software acquisition. [SWE-100] (Requirement 45084)	E	N	N	SWA
NPR 7150.2	4.6.2(1)	45085	Supporting Software Life Cycle Requirements: Training: Each Center shall maintain and implement a Software Training Plan(s) to advance its in-house software engineering capability and as a reference for its contractors. [SWE-101] (Requirement 45085)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1)	45090	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: [SWE-102] (Requirement 45090)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).a	45091	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Project organizational structure showing authority and responsibility of each organizational unit, including external organizations (i.e., Safety and Mission Assurance, Independent Verification and validation (IV&V), Independent Technical Authority (ITA), NASA Engineering and Safety Center (NESC)). (Requirement 45091)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).b	45092	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: The classification of each of the systems and subsystems containing software as defined in Appendix B. (Requirement 45092)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).c	45093	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Tailoring compliance matrix for approval by the designated ITA Warrant Authority, if the projects has any variants, waivers or exceptions to this NPR. (Requirement 45093)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).d	45094	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Engineering environment (for development, operation, or maintenance, as applicable), including test environment, library, equipment, facilities, standards, procedures, and tools. (Requirement 45094)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).e	45095	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Work breakdown structure of the life cycle processes and activities, including the software products, software services, nondeliverable items to be performed, budgets, staffing, physical resources, software size, and schedules associated with the tasks. (Requirement 45095)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).f	45096	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Management of the quality characteristics of the software products or services. (Requirement 45096)	E	N	N	SWA

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NPR 7150.2	5.1.1.1(1).g	45097	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Management of safety, security, privacy, and other critical requirements of the software products or services. (Requirement 45097)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).h	45098	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Subcontractor management, including subcontractor selection and involvement between the subcontractor and the acquirer, if any. (Requirement 45098)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).i	45099	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Verification and validation approach. (Requirement 45099)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).j	45100	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Acquirer involvement. (Requirement 45100)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).k	45101	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: User involvement. (Requirement 45101)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).L	45102	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Risk management. (Requirement 45102)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).m	45103	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Security policy. (Requirement 45103)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).n	45104	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Approval required by such means as regulations, required certifications, proprietary, usage, ownership, warranty, and licensing rights. (Requirement 45104)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).o	45105	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Process for scheduling, tracking, and reporting. (Requirement 45105)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).p	45106	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Training of personnel, including project unique software training needs. (Requirement 45106)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).q	45107	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Software life cycle model including description of software integration and hardware/software integration processes, software delivery, and maintenance. (Requirement 45107)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).r	45108	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Configuration management. (Requirement 45108)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).s	45109	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Software documentation tree. (Requirement 45109)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).t	45110	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Peer review/inspection process of software work products. (Requirement 45110)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).u	45111	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Process for early identification of testing requirements that drive software design decisions; e.g., special system level timing requirements/checkpoint restart. (Requirement 45111)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).v	45112	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Software metrics. (Requirement 45112)	E	N	N	SWA
NPR 7150.2	5.1.1.1(1).w	45113	Software Documentation Requirements: Software Plans: Software Development or Management Plan: The Software Development or Management Plan shall contain: Content of software documentation to be developed on the project. (Requirement 45113)	E	N	N	SWA
NPR 7150.2	5.1.2.1	45125	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: [SWE-103] (Requirement 45125)	E	N	N	SWA
NPR 7150.2	5.1.2.1.a	45126	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: The project organization(s) within which Software Configuration Management is to apply. (Requirement 45126)	E	N	N	SWA
NPR 7150.2	5.1.2.1.b	45127	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: Responsibilities of the software configuration management organization. (Requirement 45127)	E	N	N	SWA
NPR 7150.2	5.1.2.1.c	45128	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: References to the software configuration management policies and directives that apply to the project. (Requirements)	E	N	N	SWA
NPR 7150.2	5.1.2.1.d	45129	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: All functions and tasks required to manage the configuration of the software, including configuration identification, configuration control, status accounting, and configuration audits and reviews. (Requirements)	E	N	N	SWA

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NPR 7150.2	5.1.2.1.e	45130	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: Schedule information, which establishes the sequence and coordination for the identified activities and for all events affecting the Plan's implementation. (Requirement 45130)	E	N	N	SWA
NPR 7150.2	5.1.2.1.f	45131	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: Resource information, which identifies the software tools, techniques, and equipment necessary for the implementation of the activities. (Requirement 45131)	E	N	N	SWA
NPR 7150.2	5.1.2.1.g	45132	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: Plan maintenance information, which identifies the activities and responsibilities necessary to ensure continued planning during the life cycle of the project. (Requirement 45132)	E	N	N	SWA
NPR 7150.2	5.1.2.1.h	45133	Software Documentation Requirements: Software Plans: Software Configuration Management Plan: The Software Configuration Management Plan shall contain: Release management and delivery. (Requirement 45133)	E	N	N	SWA
NPR 7150.2	5.1.3.1	45135	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: [SWE-104] (Requirement 45135)	E	N	N	SWA
NPR 7150.2	5.1.3.1.a	45136	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Test levels. (Requirement 45136)	E	N	N	SWA
NPR 7150.2	5.1.3.1.b	45137	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Test types (e.g., unit testing, software integration testing, systems integration testing, end-to-end testing, acceptance testing, regression testing). (Requirement 45137)	E	N	N	SWA
NPR 7150.2	5.1.3.1.c	45138	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Test classes. (Requirement 45138)	E	N	N	SWA
NPR 7150.2	5.1.3.1.d	45139	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: General test conditions. (Requirement 45139)	E	N	N	SWA
NPR 7150.2	5.1.3.1.e	45140	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Test progression. (Requirement 45140)	E	N	N	SWA
NPR 7150.2	5.1.3.1.f	45141	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Data recording, reduction, and analysis. (Requirement 45141)	E	N	N	SWA
NPR 7150.2	5.1.3.1.g	45142	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Test coverage (breadth and depth) or other methods for ensuring sufficiency of testing. (Requirement 45142)	E	N	N	SWA
NPR 7150.2	5.1.3.1.h	45143	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Planned tests, including items and their identifiers. (Requirement 45143)	E	N	N	SWA
NPR 7150.2	5.1.3.1.i	45144	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Test schedules. (Requirement 45144)	E	N	N	SWA
NPR 7150.2	5.1.3.1.j	45145	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Requirements traceability (or verification matrix). (Requirement 45145)	E	N	N	SWA
NPR 7150.2	5.1.3.1.k	45146	Software Documentation Requirements: Software Plans: Software Test Plan: The Software Test Plan shall include: Qualification testing environment, site, personnel, and participating organizations. (Requirement 45146)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a	45149	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: (Requirement 45149)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.1	45150	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Maintenance process implementation. (Requirement 45150)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.2	45151	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Problem and modification analysis. (Requirement 45151)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.3	45152	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Modification implementation. (Requirement 45152)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.4	45153	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Maintenance review/acceptance. (Requirement 45153)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.5	45154	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Migration (Requirement 45154)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.6	45155	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Software Retirement (Requirement 45155)	E	N	N	SWA
NPR 7150.2	5.1.4.1.a.7	45156	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Plan information for the following activities: Software Assurance. (Requirement 45156)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b	45157	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: (Requirement 45157)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.1	45158	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Development and tracking of required upgrade intervals, including implementation plan. (Requirement 45158)	E	N	N	SWA

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NPR 7150.2	5.1.4.1.b.2	45159	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Approach for the scheduling, implementation, and tracking of software upgrades. (Requirement 45159)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.3	45160	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Equipment and labs required for software verification and implementation. (Requirement 45160)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.4	45161	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Updates to documentation for modified COTS or non-COTS software. (Requirement 45161)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.5	45162	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Licensing agreements for COTS. (Requirement 45162)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.6	45163	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Plan for and tracking of operational backup software. (Requirement 45163)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.7	45164	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Approach for the implementation of modifications to operational software (e.g., testing of software in development lab prior to operational use). (Requirement 45164)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.8	45165	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Approach for software delivery process including distribution to facilities and users of the software products and installation of the software in the target environment (including, but not limited to, spacecraft, simulators, Mission Control Center, and ground operations facilities). (Requirement 45165)	E	N	N	SWA
NPR 7150.2	5.1.4.1.b.9	45166	Software Documentation Requirements: Software Plans: Software Maintenance Plan: The Software Maintenance Plan shall include: Specific standards, methods, tools, actions, procedures, and responsibilities associated with the maintenance process. In addition, the following elements are included: Approach for providing NASA access to the software version description data (e.g., revision number, licensing agreement). (Requirement 45166)	E	N	N	SWA
NPR 7150.2	5.1.5	45167	Software Documentation Requirements: Software Plans: Software Assurance Plan: The Software Assurance Plan details the procedures, reviews, and audits required to accomplish software assurance. The project office should coordinate, document, and gain concurrence with the Office of Safety and Mission Assurance as to the extent and responsibilities of the assurance and safety of the project. This will be documented into the project plans and reflected in the assurance process. (Requirement 45167)	E	N	N	SWA
NPR 7150.2	5.1.5.1.	45168	Software Documentation Requirements: Software Plans: Software Assurance Plan: The Software Assurance Plan(s) shall be written per NASA-STD-8739.8, NASA Software Assurance Standard. [SWE-106] (Requirement 45168)	E	N	N	SWA
NPR 7150.2	5.1.6.1.	45170	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: [SWE-107] (Requirement 45170)	E	N	N	SWA
NPR 7150.2	5.1.6.1.a	45171	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: Responsibilities. (Requirement 45171)	E	N	N	SWA
NPR 7150.2	5.1.6.1.b	45172	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: Implementation. (Requirement 45172)	E	N	N	SWA
NPR 7150.2	5.1.6.1.c	45173	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: Records and forms. (Requirement 45173)	E	N	N	SWA
NPR 7150.2	5.1.6.1.d	45174	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: Training resources. (Requirement 45174)	E	N	N	SWA
NPR 7150.2	5.1.6.1.e	45175	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: Minimum training requirements for software personnel. (Requirement 45175)	E	N	N	SWA
NPR 7150.2	5.1.6.1.f	45176	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: Training class availabilities. (Requirement 45176)	E	N	N	SWA
NPR 7150.2	5.1.7.1	45178	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: [SWE-108] (Requirement 45178)	E	N	N	SWA
NPR 7150.2	5.1.7.1.a	45179	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: Process improvement goal(s). (Requirement 45179)	E	N	N	SWA
NPR 7150.2	5.1.7.1.b	45180	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: Scope of process improvement. (Requirement 45180)	E	N	N	SWA

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NPR 7150.2	5.1.7.1.c	45181	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: All Center organizations responsible for the performance of mission-critical software development, management, and acquisition. (Requirement 45181)	E	N	N	SWA
NPR 7150.2	5.1.7.1.d	45182	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: The Center's tactic for phasing in improvements (e.g., domain phasing and organizational phasing). (Requirement 45182)	E	N	N	SWA
NPR 7150.2	5.1.7.1.e	45183	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: Ownership of Center Software Engineering Improvement Plan. (Requirement 45183)	E	N	N	SWA
NPR 7150.2	5.1.7.1.f	45184	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: The Center's tactic for monitoring Center Software Engineering Improvement Plan progress including responsibilities. (Requirement 45184)	E	N	N	SWA
NPR 7150.2	5.1.7.1.g	45185	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: Strategies and objectives. (Requirement 45185)	E	N	N	SWA
NPR 7150.2	5.1.7.1.h	45186	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: The Center's tactic for supporting the implementation of all strategies of the NASA Software Engineering Initiative Implementation Plan. (Requirement 45186)	E	N	N	SWA
NPR 7150.2	5.1.7.1.i	45187	Software Documentation Requirements: Software Plans: Center Software Training Plan: The Center Software Training Plan shall include: The Center Software Engineering Improvement Plans shall include: Schedule. (Requirement 45187)	E	N	N	SWA
NPR 7150.2	5.2.1.1	45191	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: [SWE-109] (Requirement 45191)	E	N	N	SWA
NPR 7150.2	5.2.1.1.a	45192	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: System overview. (Requirement 45192)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b	45193	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements. (Requirement 45193)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.01	45194	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Functional requirements. (Requirement 45194)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.02	45195	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Required states and modes. (Requirement 45195)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.03	45196	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: External interface requirements. (Requirement 45196)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.04	45197	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Internal interface requirements. (Requirement 45197)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.05	45198	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Internal data requirements. (Requirement 45198)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.06	45199	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Adaptation requirements. (Requirement 45199)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.07	45200	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Safety requirements. (Requirement 45200)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.08	45201	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Performance and timing requirements. (Requirement 45201)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.09	45202	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Security and privacy requirements. (Requirement 45202)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.10	45203	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Environment requirements. (Requirement 45203)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.11	45204	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Computer resource requirements. (Requirement 45204)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.11.a	45205	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Computer hardware resource utilization requirements. (Requirement 45205)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.11.b	45206	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Computer hardware resource utilization requirements: Computer software requirements. (Requirement 45206)	E	N	N	SWA

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NPR 7150.2	5.2.1.1.b.11.c	45207	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Computer hardware resource utilization requirements: Computer communications requirements. (Requirement 45207)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.12	45208	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Software quality characteristics. (Requirement 45208)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.13	45209	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Design and implementation constraints. (Requirement 45209)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.14	45210	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Personnel-related requirements. (Requirement 45210)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.15	45211	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Training-related requirements. (Requirement 45211)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.16	45212	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Logistics-related requirements. (Requirement 45212)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.17	45213	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Packaging requirements. (Requirement 45213)	E	N	N	SWA
NPR 7150.2	5.2.1.1.b.18	45214	Software Documentation Requirements: Software Requirements and Product Data: Software Requirements Specification: The Software Requirements Specification shall contain: CSCI requirements: Precedence and criticality of requirements. (Requirement 45214)	E	N	N	SWA
NPR 7150.2	5.2.1.1.c	45215	Software Documentation Requirements: Software Requirements Specification: The Software Requirements Specification shall contain: Qualification provisions. (Requirement 45215)	E	N	N	SWA
NPR 7150.2	5.2.1.1.d	45216	Software Documentation Requirements: Software Requirements Specification: The Software Requirements Specification shall contain: Requirements traceability and verification data. (Requirement 45216)	E	N	N	SWA
NPR 7150.2	5.2.1.1.e	45217	Software Documentation Requirements: Software Requirements Specification: The Software Requirements Specification shall contain: Requirements partitioning for phased delivery. (Requirement 45217)	E	N	N	SWA
NPR 7150.2	5.2.1.1.f	45218	Software Documentation Requirements: Software Requirements Specification: The Software Requirements Specification shall contain: Testing requirements that drive software design decisions; e.g., special system level timing requirements/checkpoint restart. (Requirement 45218)	E	N	N	SWA
NPR 7150.2	5.2.2.1	45220	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: [SWE-110] (Requirement 45220)	E	N	N	SWA
NPR 7150.2	5.2.2.1.a	45221	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Channelization data (e.g., bus mapping, vehicle wiring mapping, Multiplexer-Demultiplexer hardware channelization). (Requirement 45221)	E	N	N	SWA
NPR 7150.2	5.2.2.1.b	45222	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: I/O variables. (Requirement 45222)	E	N	N	SWA
NPR 7150.2	5.2.2.1.c	45223	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Rate group data. (Requirement 45223)	E	N	N	SWA
NPR 7150.2	5.2.2.1.d	45224	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Raw and calibrated sensor data. (Requirement 45224)	E	N	N	SWA
NPR 7150.2	5.2.2.1.e	45225	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Telemetry format/layout and data. (Requirement 45225)	E	N	N	SWA
NPR 7150.2	5.2.2.1.f	45226	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Data recorder format/layout and data. (Requirement 45226)	E	N	N	SWA
NPR 7150.2	5.2.2.1.g	45227	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Command definition (e.g., on-board, ground, test specific). (Requirement 45227)	E	N	N	SWA
NPR 7150.2	5.2.2.1.h	45228	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Effector command information. (Requirement 45228)	E	N	N	SWA
NPR 7150.2	5.2.2.1.i	45229	Software Documentation Requirements: Software Requirements Specification: Software Data Dictionary: The Software Data Dictionary shall include: Operational limits (e.g., maximum/minimum values, launch commit criteria information). (Requirement 45229)	E	N	N	SWA
NPR 7150.2	5.2.3.1	45231	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: [SWE-111] (Requirement 45231)	E	N	N	SWA
NPR 7150.2	5.2.3.1.a	45232	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI-wide design decisions/trade decisions. (Requirement 45232)	E	N	N	SWA
NPR 7150.2	5.2.3.1.b	45233	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI architectural design. (Requirement 45233)	E	N	N	SWA

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NPR 7150.2	5.2.3.1.c	45234	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components. (Requirement 45234)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1	45235	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: (Requirement 45235)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1.a	45236	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: Description of how the software item satisfies the software requirements, including algorithms, data structures, and functional decomposition. (Requirement 45236)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1.b	45237	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: Software item input/output description. (Requirement 45237)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1.c	45238	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: Static/architectural relationship of the software units. (Requirement 45238)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1.d	45239	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: Concept of execution including data flow, control flow, and timing. (Requirement 45239)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1.e	45240	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: Requirements traceability. (Requirement 45240)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.1.f	45241	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: CSCI components: CSCI's planned utilization of computer hardware resources. (Requirement 45241)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.2	45242	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: Rationale for software item design decisions/trade decisions including assumptions, limitations, safety and reliability related items/concerns or constraints in design documentation. (Requirement 45242)	E	N	N	SWA
NPR 7150.2	5.2.3.1.c.3	45243	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI decomposition and interrelationship between components: Interface design. (Requirement 45243)	E	N	N	SWA
NPR 7150.2	5.2.3.1.d	45244	Software Documentation Requirements: Software Requirements and Product Data: Software Design Description: The Software Design Description shall include: CSCI Implementation Plan. (Requirement 45244)	E	N	N	SWA
NPR 7150.2	5.2.4.1.	45246	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: [SWE-112] (Requirement 45246)	E	N	N	SWA
NPR 7150.2	5.2.4.1.a	45247	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Priority assigned to the interface by the interfacing entity(ies). (Requirement 45247)	E	N	N	SWA
NPR 7150.2	5.2.4.1.b	45248	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Type of interface (i.e., real-time data transfer, storage-and- retrieval of data) to be implemented. (Requirement 45248)	E	N	N	SWA
NPR 7150.2	5.2.4.1.c	45249	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Specification of individual data elements, format, and data content including bit-level descriptions of data interface that the interfacing entity(ies) will provide, store, send, access, and receive. (Requirement 45249)	E	N	N	SWA
NPR 7150.2	5.2.4.1.d	45250	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Specification of data element assemblies, format, and data content including bit-level descriptions of data interface that the interfacing entity(ies) will provide, store, send, access, and receive. (Requirement 45250)	E	N	N	SWA
NPR 7150.2	5.2.4.1.e	45251	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Specification of communication methods that the interfacing entity(ies) will use for the interface. (Requirement 45251)	E	N	N	SWA
NPR 7150.2	5.2.4.1.f	45252	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Specification of protocols the interfacing entity(ies) will use for the interface. (Requirement 45252)	E	N	N	SWA
NPR 7150.2	5.2.4.1.g	45253	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Other specifications, such as physical compatibility of the interfacing entity(ies). (Requirement 45253)	E	N	N	SWA
NPR 7150.2	5.2.4.1.h	45254	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Traceability from each interfacing entity to the system or CSCI requirements addressed by the entity's interface design, and traceability from each system or CSCI requirement that affects an interface. (Requirement 45254)	E	N	N	SWA

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NPR 7150.2	5.2.4.1.i	45255	Software Documentation Requirements: Software Requirements and Product Data: Interface Design Description: The Interface Design Description shall include: Interface compatibility. (Requirement 45255)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1)	45257	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: [SWE-113] (Requirement 45257)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).a	45258	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Identification of the software item. (Requirement 45258)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).b	45259	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Description of the problem or change to enable problem resolution or justification for the nature of the change, including: assumptions/ constraints and change to correct software error. (Requirement 45259)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).c	45260	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Originator of Software Change Request/Problem Report and originator's assessment of priority/severity. (Requirement 45260)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).d	45261	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Description of the corrective action taken to resolve the reported problem or analysis and evaluation of change, including impact to safety, schedules, cost, products, and test. (Requirement 45261)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).e	45262	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Life cycle phase in which problem was discovered or in which change was requested. (Requirement 45262)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).f	45263	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Approval or disapproval of Software Change Request/Problem Report. (Requirement 45263)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).g	45264	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Verification of the implementation and release of modified system. (Requirement 45264)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).h	45265	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Date problem discovered. (Requirement 45265)	E	N	N	SWA
NPR 7150.2	5.2.5.1.(1).i	45266	Software Documentation Requirements: Software Requirements and Product Data: Software Change Request/Problem Report: The Software Change Request/Problem Report shall contain: Status of problem. (Requirement 45266)	E	N	N	SWA
NPR 7150.2	5.2.6	45268	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures describe the test preparations, test cases, and test procedures to be used to perform qualification testing of a CSCI or a software system or subsystem. (Requirement 45268)	E	N	N	SWA
NPR 7150.2	5.2.6.1	45269	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: [SWE-114] (Requirement 45269)	E	N	N	SWA
NPR 7150.2	5.2.6.1.a	45270	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test preparations, including hardware and software. (Requirement 45270)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b	45271	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: (Requirement 45271)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.1	45272	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Test identifier. (Requirement 45272)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.2	45273	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: System or CSCI requirements addressed by the test case. (Requirement 45273)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.3	45274	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Prerequisite conditions. (Requirement 45274)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.4	45275	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Test input. (Requirement 45275)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.5	45276	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Instructions for conducting procedure. (Requirement 45276)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.6	45277	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Expected test results, including criteria for evaluating results, and assumptions and constraints. (Requirement 45277)	E	N	N	SWA
NPR 7150.2	5.2.6.1.b.7	45278	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Criteria for evaluating results. (Requirement 45278)	E	N	N	SWA

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NPR 7150.2	5.2.6.1.c	45279	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Requirements traceability. (Requirement 45279)	E	N	N	SWA
NPR 7150.2	5.2.6.1.d	45280	Software Documentation Requirements: Software Requirements and Product Data: Software Test Procedures: The Software Test Procedures shall contain: Test descriptions, including: Identification of test configuration. (Requirement 45280)	E	N	N	SWA
NPR 7150.2	5.2.7	45281	Software Documentation Requirements: Software Requirements and Product Data: Software User Manual: The Software User Manual defines user instructions for the software. (Requirement 45281)	E	N	N	SWA
NPR 7150.2	5.2.7.1	45282	Software Documentation Requirements: Software Requirements and Product Data: Software User Manual: The Software User Manual shall contain: [SWE-115] (Requirement 45282)	E	N	N	SWA
NPR 7150.2	5.2.7.1.a	45283	Software Documentation Requirements: Software Requirements and Product Data: Software User Manual: The Software User Manual shall contain: Software summary including: application, inventory, environment, organization and overview of operation, contingencies and alternate states and modes of operation, security and privacy, and assistance and problem reporting. (Requirement 45283)	E	N	N	SWA
NPR 7150.2	5.2.7.1.b	45284	Software Documentation Requirements: Software Requirements and Product Data: Software User Manual: The Software User Manual shall contain: Access to the software: first-time user of the software, initiating a session, and stopping and suspending work. (Requirement 45284)	E	N	N	SWA
NPR 7150.2	5.2.7.1.c	45285	Software Documentation Requirements: Software Requirements and Product Data: Software User Manual: The Software User Manual shall contain: Processing reference guide: capabilities, conventions, processing procedures, related processing, data backup, recovery from errors, malfunctions, emergencies, and messages. (Requirement 45285)	E	N	N	SWA
NPR 7150.2	5.2.7.1.d	45286	Software Documentation Requirements: Software Requirements and Product Data: Software User Manual: The Software User Manual shall contain: Assumptions, limitations, safety related items/concerns or constraints. (Requirement 45286)	E	N	N	SWA
NPR 7150.2	5.2.8	45287	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description identifies and describes a software version consisting of one or more CSCIs (including any open source software). The description is used to release, track, and control software versions. (Requirement 45287)	E	N	N	SWA
NPR 7150.2	5.2.8.1	45288	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: [SWE-116] (Requirement 45288)	E	N	N	SWA
NPR 7150.2	5.2.8.1.a	45289	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Full identification of the system and software (i.e., numbers, titles, abbreviations, version numbers, and release numbers). (Requirement 45289)	E	N	N	SWA
NPR 7150.2	5.2.8.1.b	45290	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Executable software (i.e., batch files, command files, data files, or other software needed to install the software on its target computer). (Requirement 45290)	E	N	N	SWA
NPR 7150.2	5.2.8.1.c	45291	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Software life cycle data that defines the software product. (Requirement 45291)	E	N	N	SWA
NPR 7150.2	5.2.8.1.d	45292	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Archive and release data. (Requirement 45292)	E	N	N	SWA
NPR 7150.2	5.2.8.1.e	45293	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Instructions for building the executable software including, for example, the instructions and data for compiling and linking and the procedures used for software recovery, software regeneration, testing, or modification. (Requirement 45293)	E	N	N	SWA
NPR 7150.2	5.2.8.1.f	45294	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Data integrity checks for the executable, object code, and source code. (Requirement 45294)	E	N	N	SWA
NPR 7150.2	5.2.8.1.g	45295	Software Documentation Requirements: Software Requirements and Product Data: Software Version Description: The Software Version Description shall identify and provide: Software product files (any files needed to install, build, operate, and maintain the software). (Requirement 45295)	E	N	N	SWA
NPR 7150.2	5.3.1(1)	45297	Software Documentation Requirements: Software Report Requirements: Software Metrics Report: The Software Metrics Report provides data to the project for the assessment of software cost, technical, and schedule progress. The Software Metrics Report shall contain as a minimum the following information tracked on a CSCI basis: [SWE-117] (Requirement 45297)	E	N	N	SWA
NPR 7150.2	5.3.1(1).a	45298	Software Documentation Requirements: Software Report Requirements: Software Metrics Report: The Software Metrics Report shall contain as a minimum the following information tracked on a CSCI basis: Software progress tracking measures. (Requirement 45298)	E	N	N	SWA
NPR 7150.2	5.3.1(1).b	45299	Software Documentation Requirements: Software Report Requirements: Software Metrics Report: The Software Metrics Report shall contain as a minimum the following information tracked on a CSCI basis: Software functionality measures. (Requirement 45299)	E	N	N	SWA
NPR 7150.2	5.3.1(1).c	45300	Software Documentation Requirements: Software Report Requirements: Software Metrics Report: The Software Metrics Report shall contain as a minimum the following information tracked on a CSCI basis: Software quality measures. (Requirement 45300)	E	N	N	SWA
NPR 7150.2	5.3.1(1).d	45301	Software Documentation Requirements: Software Report Requirements: Software Metrics Report: The Software Metrics Report shall contain as a minimum the following information tracked on a CSCI basis: Software requirement volatility. (Requirement 45301)	E	N	N	SWA

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NPR 7150.2	5.3.1(1).e	45302	Software Documentation Requirements: Software Report Requirements: Software Metrics Report: The Software Metrics Report shall contain as a minimum the following information tracked on a CSCI basis: Software product characteristics. (Requirement 45302)	E	N	N	SWA
NPR 7150.2	5.3.2.1	45333	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: [SWE-118] (Requirement 45333)	E	N	N	SWA
NPR 7150.2	5.3.2.1.a	45334	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Overview of the test results. (Requirement 45334)	E	N	N	SWA
NPR 7150.2	5.3.2.1.a.1	45335	Software Documentation Requirements: Software Reports Requirements: Software Test Report: The Software Test Report shall include: Overview of the test results: Overall assessment of the software as demonstrated by the test results. (Requirement 45335)	E	N	N	SWA
NPR 7150.2	5.3.2.1.a.2	45336	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Overview of the test results: Remaining deficiencies, limitations, or constraints detected by testing. (e.g., including description of the impact on software and system performance, the impact a correction would have on software and system design, and recommendations for correcting the deficiency, limitation, or constraint). (Requirement 45336)	E	N	N	SWA
NPR 7150.2	5.3.2.1.a.3	45337	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Overview of the test results: Impact of test environment. (Requirement 45337)	E	N	N	SWA
NPR 7150.2	5.3.2.1.b	45338	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Detailed test results. (Requirement 45338)	E	N	N	SWA
NPR 7150.2	5.3.2.1.b.1	45339	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Detailed test results: Project-unique identifier of a test and test procedure(s). (Requirement 45339)	E	N	N	SWA
NPR 7150.2	5.3.2.1.b.2	45340	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Detailed test results: Summary of test results (e.g., including requirements verified). (Requirement 45340)	E	N	N	SWA
NPR 7150.2	5.3.2.1.b.3	45341	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Detailed test results: Problems encountered. (Requirement 45341)	E	N	N	SWA
NPR 7150.2	5.3.2.1.b.4	45342	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Detailed test results: Deviations from test cases/procedures. (Requirement 45342)	E	N	N	SWA
NPR 7150.2	5.3.2.1.c	45343	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Test log. (Requirement 45343)	E	N	N	SWA
NPR 7150.2	5.3.2.1.c.1	45344	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Test log: Date(s), Time(s), and location(s) of tests performed. (Requirement 45344)	E	N	N	SWA
NPR 7150.2	5.3.2.1.c.2	45345	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Test log: Test environment, hardware, and software configurations used for each test. (Requirement 45345)	E	N	N	SWA
NPR 7150.2	5.3.2.1.c.3	45346	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Detailed test results: Test log: Date and time of each test-related activity, the identity of the individual(s) who performed the activity, and the identities of witnesses, as applicable. (Requirement 45346)	E	N	N	SWA
NPR 7150.2	5.3.2.1.d	45347	Software Documentation Requirements: Software Report Requirements: Software Test Report: The Software Test Report shall include: Rationale for decisions. (Requirement 45347)	E	N	N	SWA
NPR 7150.2	5.3.3.1	45349	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: [SWE-119] (Requirement 45349)	E	N	N	SWA
NPR 7150.2	5.3.3.1.a	45350	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: Identification information (including item being inspected, inspection type (e.g., requirements inspection, code inspection, etc) and inspection time and date). (Requirement 45350)	E	N	N	SWA
NPR 7150.2	5.3.3.1.b	45351	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: Summary on total time expended on each inspection/peer review (including total hour summary and time participants spent reviewing the product individually). (Requirement 45351)	E	N	N	SWA
NPR 7150.2	5.3.3.1.c	45352	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: Participant information (including total number of participants and participant's area of expertise). (Requirement 45352)	E	N	N	SWA
NPR 7150.2	5.3.3.1.d	45353	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: Total number of defects found (including the total number of major defects, total number of minor defects, and the number of defects in each type (such as accuracy, consistency, completeness, etc.)). (Requirement 45353)	E	N	N	SWA
NPR 7150.2	5.3.3.1.e	45354	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: Inspection results summary (i.e., pass, re-inspection required). (Requirement 45354)	E	N	N	SWA

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NPR 7150.2	5.3.3.1.f	45355	Software Documentation Requirements: Software Report Requirements: Software Inspection/Peer Review Report: The Software Inspection/Peer Review Report shall include: Listing of all inspection defects. (Requirement 45355)	E	N	N	SWA
NPR 7150.2	6.1.1	45358	Tailoring, Warrant Authority, and Compliance Measurement: For those cases in which a Center, project, or program desires to apply specific or general practices that do not meet or exceed the requirements of this NPR, the Center shall recommend those alternate requirements for Agency Technical Authority approval with appropriate justification and Center ITA Manager concurrence. [SWE-120] (Requirement 45358)	E	N	N	SWA
NPR 7150.2	6.1.2	45359	Where approved, the Center shall document the approved alternate requirement in the procedure controlling the development, acquisition, and/or deployment of the affected software. [SWE-121] (Requirement 45359)	E	N	N	SWA
NPR 7150.2	6.2.1(1)	45361	Tailoring, Warrant Authority, and Compliance Measurement: Expertise of ITA Warrant Authority(s): The designated ITA Warrant Authorities for this NPR for non-business and non-IT infrastructure systems shall be approved by the NASA Chief Engineer, in coordination with the NASA Chief Safety and Mission Assurance Officer. [SWE-122] (Requirement 45361)	E	N	N	SWA
NPR 7150.2	6.2.2	45363	Tailoring, Warrant Authority, and Compliance Measurement: Expertise of ITA Warrant Authority(s): The designated ITA Warrant Authorities for this NPR for business and IT-infrastructure systems shall be approved by the NASA Chief Information Officer. [SWE-123] (Requirement 45363)	E	N	N	SWA
NPR 7150.2	6.3.1	45365	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall comply with Office of the Chief Engineer's direction for NASA Independent Technical Authority. [SWE-124] (Requirement 45365)	E	N	N	SWA
NPR 7150.2	6.3.2	45366	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: Each project with software components shall maintain a compliance matrix against requirements in this NPR including those delegated to other parties or accomplished by contract vehicles. [SWE-125] (Requirement 45366)	E	N	N	SWA
NPR 7150.2	6.3.3	45367	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall consider the following information when assessing waivers and variants from requirements in this NPR: [SWE-126] (Requirement 45367)	E	N	N	SWA
NPR 7150.2	6.3.3.a	45368	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall consider the following information when assessing waivers and variants from requirements in this NPR: The list of Agency projects containing software. (Requirement 45368)	E	N	N	SWA
NPR 7150.2	6.3.3.b	45369	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall consider the following information when assessing waivers and variants from requirements in this NPR: The classification of systems and subsystems containing software as defined in Appendix B. (Requirement 45369)	E	N	N	SWA
NPR 7150.2	6.3.3.c	45370	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall consider the following information when assessing waivers and variants from requirements in this NPR: Applicable Center-level software directives that meet the intent of this NPR. (Requirement 45370)	E	N	N	SWA
NPR 7150.2	6.3.3.d	45371	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall consider the following information when assessing waivers and variants from requirements in this NPR: Applicable contractor and subcontractor software policies and procedures that meet the intent of this NPR. (Requirement 45371)	E	N	N	SWA
NPR 7150.2	6.3.3.e	45372	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall consider the following information when assessing waivers and variants from requirements in this NPR: Potential impacts to NASA missions. (Requirement 45372)	E	N	N	SWA
NPR 7150.2	6.3.4	45373	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority for this NPR shall review and have concurrence approval for Center defined subsets of requirements denoted by "P(Center)" in the Requirements Mapping Matrix in Appendix D for the indicated Classes of software. [SWE-127] (Requirement 45373)	E	N	N	SWA
NPR 7150.2	6.3.5	45374	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The designated ITA Warrant Authority shall keep records of projects and organizational compliances, waivers, variants, and exceptions against this NPR; and submit an annual report to the Office of Chief Engineer, Office of Safety and Mission Assurance, and the Chief Information Officer. [SWE-128] (Requirement 45374)	E	N	N	SWA
NPR 7150.2	6.3.6	45375	Tailoring, Warrant Authority, and Compliance Measurement: Compliance: The Office of the Chief Engineer shall authorize appraisals against selected requirements in this NPR (or ITA approved alternative set of designated Center requirements) to check compliance. [SWE-129] (Requirement 45375)	E	N	N	SWA
NSP	04(2)	56077	General Guidelines: In order to achieve the goals of this policy, the United States Government shall: Develop Space Professionals. Sustained excellence in space-related science, engineering, acquisition, and operational disciplines is vital to the future of U.S. space capabilities. Departments and agencies that conduct space related activities shall establish standards and implement activities to develop and maintain highly skilled, experienced, and motivated space professionals within their workforce. (Requirement 56077)	E	N	N	Mgmt

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NSP	04(3)	56078	General Guidelines: In order to achieve the goals of this policy, the United States Government shall: Improve Space System Development and Procurement. United States space systems provide critical capabilities to a wide range of civil, commercial, and national security users. The primary goal of space system development and procurement must be mission success. Achieving this goal depends on effective research, development, acquisition, management, execution, oversight, and operations. Toward that end, departments and agencies shall create an environment that enables mission success, including, but not limited to, creating a common understanding of realistic and stable requirements and operational concepts; clearly identifying and managing risks, including system safety; setting and maintaining realistic and stable funding; delivering space capabilities on time and on budget; and providing acquisition managers with the tools, responsibility, budget flexibility, and authority to achieve this goal. (Requirement 56078)	S	N	N	Mgmt
NSP	04(4)	56079	General Guidelines: In order to achieve the goals of this policy, the United States Government shall: Increase and Strengthen Interagency Partnerships. The challenges of the 21st century require a focused and dedicated unity of effort. Interagency partnerships provide opportunities to jointly identify desired effects, capabilities, and strategies. Departments and agencies shall capitalize on opportunities for dynamic partnerships - whether through collaboration, information sharing, alignment, or integration. (Requirement 56079)	E	N	N	Mgmt
NSP	04(5)	56080	General Guidelines: In order to achieve the goals of this policy, the United States Government shall: Strengthen and Maintain the U.S. Space-Related Science, Technology, and Industrial Base. A robust science, technology, and industrial base is critical for U.S. space capabilities. Departments and agencies shall: encourage new discoveries in space science and new applications of technology; and enable future space systems to achieve new and improved capabilities, including incentives for high-risk high-payoff and transformational space capabilities. Additionally, departments and agencies shall: conduct the basic and applied research that increases capability and decreases cost; encourage an innovative commercial space sector, including the use of prize competitions; and ensure the availability of space related industrial capabilities in support of critical government functions. (Requirement 56080)	E	N	N	Mgmt
NSP	05(02)	56083	National Security Space Guidelines: United States national security is critically dependent upon space capabilities, and this dependence will grow. The Secretary of Defense and the Director of National Intelligence, after consulting, as appropriate, the Secretary of State and other heads of departments and agencies, and consistent with their respective responsibilities as set forth in the National Security Act of 1947, as amended, Title 10, U. S.C. and Title 50 U.S.C., the National Security Intelligence Reform Act of 2004, and other applicable law, shall: Support the President and the Vice President in the performance of Executive functions, and senior Executive Branch national security, homeland security, and foreign policy decisionmakers; other Federal officials, as appropriate; and the enduring constitutional government operations and infrastructure; (Requirement 56083)	E	N	N	Mgmt
NSP	05(03)	56084	National Security Space Guidelines: United States national security is critically dependent upon space capabilities, and this dependence will grow. The Secretary of Defense and the Director of National Intelligence, after consulting, as appropriate, the Secretary of State and other heads of departments and agencies, and consistent with their respective responsibilities as set forth in the National Security Act of 1947, as amended, Title 10, U. S.C. and Title 50 U.S.C., the National Security Intelligence Reform Act of 2004, and other applicable law, shall: Support and enable defense and intelligence requirements and operations during times of peace, crisis, and through all levels of conflict; (Requirement 56084)	E	N	N	Mgmt
NSP	05(04)	56085	National Security Space Guidelines: United States national security is critically dependent upon space capabilities, and this dependence will grow. The Secretary of Defense and the Director of National Intelligence, after consulting, as appropriate, the Secretary of State and other heads of departments and agencies, and consistent with their respective responsibilities as set forth in the National Security Act of 1947, as amended, Title 10, U. S.C. and Title 50 U.S.C., the National Security Intelligence Reform Act of 2004, and other applicable law, shall: Develop and deploy space capabilities that sustain U. S. advantage and support defense and intelligence transformation; and (Requirement 56085)	E	N	N	Mgmt
NSP	05(05)	56086	National Security Space Guidelines: United States national security is critically dependent upon space capabilities, and this dependence will grow. The Secretary of Defense and the Director of National Intelligence, after consulting, as appropriate, the Secretary of State and other heads of departments and agencies, and consistent with their respective responsibilities as set forth in the National Security Act of 1947, as amended, Title 10, U. S.C. and Title 50 U.S.C., the National Security Intelligence Reform Act of 2004, and other applicable law, shall: Employ appropriate planning, programming, and budgeting activities, organizational arrangements, and strategies that result in an operational force structure and optimized space capabilities that support the national and homeland security. (Requirement 56086)	E	N	N	Mgmt
NSP	05(07)	56088	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Maintain the capabilities to execute the space support, force enhancement, space control, and force application missions; (Requirement 56088)	E	N	N	Mgmt
NSP	05(08)	56089	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Establish specific intelligence requirements that can be met by tactical, operational, or national-level intelligence gathering capabilities; (Requirement 56089)	E	N	N	Mgmt
NSP	05(09)	56090	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Provide, as launch agent for both the defense and intelligence sectors, reliable, affordable, and timely space access for national security purposes; (Requirement 56090)	E	N	N	Mgmt

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NSP	05(10)	56091	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Provide space capabilities to support continuous, global strategic and tactical warning as well as multi-layered and integrated missile defenses; (Requirement 56091)	E	N	N	Mgmt
NSP	05(11)	56092	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Develop capabilities, plans, and options to ensure freedom of action in space, and, if directed, deny such freedom of action to adversaries; (Requirement 56092)	E	N	N	Mgmt
NSP	05(12)	56093	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Have responsibility for space situational awareness; in this capacity, the Secretary of Defense shall support the space situational awareness requirements of the Director of National Intelligence and conduct space situational awareness for: the United States Government; U. S. commercial space capabilities and services used for national and homeland security purposes; civil space capabilities and operations, particularly human space flight activities; and, as appropriate, commercial and foreign space entities; and (Requirement 56093)	S	N	N	Mgmt
NSP	05(13)	56094	National Security Space Guidelines: To achieve the goals of this policy, the Secretary of Defense shall: Establish and implement policies and procedures to protect sensitive information regarding the control, dissemination, and declassification of defense activities related to space. (Requirement 56094)	E	N	N	Mgmt
NSP	05(15)	56096	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Establish objectives, intelligence requirements, priorities and guidance for the intelligence community to ensure timely and effective collection, processing, analysis and dissemination of national intelligence; (Requirement 56096)	E	N	N	Mgmt
NSP	05(16)	56097	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Ensure that timely information and data support foreign, defense, and economic policies; diplomatic activities; indications and warning; crisis management; treaty compliance verification; appropriate civil, homeland security, and law enforcement users; and perform research and development related to these functions (Requirement 56097)	E	N	N	Mgmt
NSP	05(17)	56098	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Support military planning and satisfy operational requirements as a major intelligence mission; (Requirement 56098)	E	N	N	Mgmt
NSP	05(18)	56099	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Provide intelligence collection and analysis of space related capabilities to support space situational awareness for: the United States Government; U. S. commercial space capabilities and services used for national and homeland security purposes; civil space capabilities and operations, particularly human space flight activities; and, as appropriate, commercial and foreign space entities; (Requirement 56099)	E	N	N	Mgmt
NSP	05(19)	56100	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Provide a robust foreign space intelligence collection and analysis capability that provides timely information and data to support national and homeland security; (Requirement 56100)	E	N	N	Mgmt
NSP	05(20)	56101	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Coordinate on any radio frequency surveys from space conducted by United States Government departments or agencies and review, as appropriate, and approve any radio frequency surveys from space conducted by the private sector, State, or local governments; and (Requirement 56101)	E	N	N	Mgmt
NSP	05(21)	56102	National Security Space Guidelines: To achieve the goals of this policy, the Director of National Intelligence shall: Establish and implement policies and procedures to: classify attributable collected information and operational details of intelligence activities related to space; protect sensitive activities; and declassify and release such information when the Director determines that protection is no longer needed. (Requirement 56102)	E	N	N	Mgmt
NSP	06(03)	56106	Civil Space Guidelines: The Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, shall in coordination with the Administrator, National Aeronautics and Space Administration, be responsible for operational civil environmental space-based remote sensing systems and management of the associated requirements and acquisition process as follows: The Secretary of Commerce, through the National Oceanic and Atmospheric Administration, in collaboration with the Secretary of Defense through the Secretary of the Air Force, and the Administrator, National Aeronautics and Space Administration will continue to consolidate civil and military polar-orbiting operational environmental sensing systems in accordance with current policy direction; (Requirement 56106)	E	N	N	Mgmt
NSP	06(04)	56107	Civil Space Guidelines: The Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, shall in coordination with the Administrator, National Aeronautics and Space Administration, be responsible for operational civil environmental space-based remote sensing systems and management of the associated requirements and acquisition process as follows: The Secretary of Commerce, through the National Oceanic and Atmospheric Administration, shall continue a program of civil geostationary operational environmental satellites with support from the National Aeronautics and Space Administration; (Requirement 56107) and	E	N	N	Mgmt
NSP	06(05)	56108	Civil Space Guidelines: The Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, shall in coordination with the Administrator, National Aeronautics and Space Administration, be responsible for operational civil environmental space-based remote sensing systems and management of the associated requirements and acquisition process as follows: The Secretary of Commerce, through the National Oceanic and Atmospheric Administration, and the Administrator, National Aeronautics and Space Administration shall ensure to the maximum extent possible that civil space acquisition processes and capabilities are not duplicated. (Requirement 56108)	E	N	N	Mgmt

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NSP	06(06)	56109	Civil Space Guidelines: The Secretary of the Interior, through the Director of the U. S. Geological Survey, shall collect, archive, process, and distribute land surface data to the United States Government and other users and determine operational requirements for land surface data. (Requirement 56109)	E	N	N	Mgmt
NSP	06(08)	56111	Civil Space Guidelines: The United States will study the Earth system from space and develop new space-based and related capabilities to advance scientific understanding and enhance civil space-based Earth observation. In particular: The Administrator, National Aeronautics and Space Administration shall conduct a program of research to advance scientific knowledge of the Earth through space-based observation and development and deployment of enabling technologies; and (Requirement 56111)	E	N	N	Mgmt
NSP	06(09)	56112	Civil Space Guidelines: The United States will study the Earth system from space and develop new space-based and related capabilities to advance scientific understanding and enhance civil space-based Earth observation. In particular: The Secretary of Commerce and the Administrator, National Aeronautics and Space Administration, and other departments and agencies as appropriate, in support of longterm operational requirements, shall transition mature research and development capabilities to long-term operations, as appropriate. (Requirement 56112)	E	N	N	Mgmt
NSP	07(2)	56116	Commercial Space Guidelines: It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall: Use U. S. commercial space capabilities and services to the maximum practical extent; purchase commercial capabilities and services when they are available in the commercial marketplace and meet United States Government requirements; and modify commercially available capabilities and services to meet those United States Government requirements when the modification is cost effective; (Requirement 56116)	E	N	N	Mgmt
NSP	07(3)	56117	Commercial Space Guidelines: It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall: Develop systems when it is in the national interest and there is no suitable, cost effective U. S. commercial or, as appropriate, foreign commercial service or system that is or will be available when required; (Requirement 56117)	E	N	N	Mgmt
NSP	07(4)	56118	Commercial Space Guidelines: It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall: Continue to include and increase U. S. private sector participation in the design and development of United States Government space systems and infrastructures; (Requirement 56118)	E	N	N	Mgmt
NSP	07(5)	56119	Commercial Space Guidelines: It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall: Refrain from conducting activities that preclude, deter, or compete with U. S. commercial space activities, unless required by national security or public safety; (Requirement 56119)	E	N	N	Mgmt
NSP	07(6)	56120	Commercial Space Guidelines: It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall: Ensure that United States Government space activities, technology, and infrastructure are made available for private use on a reimbursable, non-interference basis to the maximum practical extent, consistent with national security; and (Requirement 56120)	E	N	N	Mgmt
NSP	07(7)	56121	Commercial Space Guidelines: It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall: Maintain a timely and responsive regulatory environment for licensing commercial space activities and pursue commercial space objectives without the use of direct Federal subsidies, consistent with the regulatory and other authorities of the Secretaries of Commerce and Transportation and the Chairman of the Federal Communications Commission. (Requirement 56121)	E	N	N	Mgmt
NSP	08(3)	56125	International Space Cooperation: The Secretary of State, after consultation with the heads of appropriate Departments and Agencies, shall carry out diplomatic and public diplomacy efforts, as appropriate, to build an understanding of and support for U. S. national space policies and programs and to encourage the use of U.S. space capabilities and systems by friends and allies. (Requirement 56125)	E	N	N	Mgmt
NSP	09(02)	56128	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: Approval by the President or his designee shall be required to launch and use United States Government and non-government spacecraft utilizing nuclear power sources with a potential for criticality or above a minimum threshold of radioactivity, in accordance with the existing interagency review process; (Requirement 56128)	S	N	N	Mgmt

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NSP	09(03)	56129	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: To that end, the Secretary of Energy shall: conduct a nuclear safety analysis for evaluation by an ad hoc Interagency Nuclear Safety Review Panel which will evaluate the risks associated with launch and in-space operations; assist the Secretary of Transportation in the licensing of space transportation; provide nuclear safety monitoring to ensure that operations in space are consistent with the safety evaluation performed; and maintain the capability and infrastructure to develop and furnish nuclear power systems for use in United States Government space systems; and (Requirement 56129)	S	N	N	Mgmt
NSP	09(04)	56130	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: For government spacecraft, the head of the sponsoring Department or Agency shall request launch approval and be responsible for the safe operation of the spacecraft in space. (Requirement 56130)	S	N	N	Mgmt
NSP	09(06)	56132	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: For the launch and use of non-government spacecraft utilizing nuclear power sources, the operator will be responsible for the safe operation of the spacecraft in space, including nuclear power sources. To that end: The United States Government shall designate a point of entry and develop procedures for reviewing non-governmental missions that use space nuclear power systems; (Requirement 56132)	S	N	N	Mgmt
NSP	09(07)	56133	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: For the launch and use of non-government spacecraft utilizing nuclear power sources, the operator will be responsible for the safe operation of the spacecraft in space, including nuclear power sources. To that end: The Secretary of Transportation shall be the licensing authority for U.S. commercial launch activities involving nuclear materials, including a payload determination, subject to the requirements described above; (Requirement 56133)	S	N	N	Mgmt
NSP	09(08)	56134	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: For the launch and use of non-government spacecraft utilizing nuclear power sources, the operator will be responsible for the safe operation of the spacecraft in space, including nuclear power sources. To that end: The Nuclear Regulatory Commission will license activities prior to launch that involve utilization facilities and nuclear materials not owned by the Department of Energy; (Requirement 56134)	S	N	N	Mgmt
NSP	09(09)	56135	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: For the launch and use of non-government spacecraft utilizing nuclear power sources, the operator will be responsible for the safe operation of the spacecraft in space, including nuclear power sources. To that end: The United States Government will conduct safety analysis, evaluation, and nuclear safety monitoring on a fee-for-service basis, to the extent allowed by law, where the operator will fully reimburse the United States Government entity for services provided; and (Requirement 56135)	S	N	N	Mgmt
NSP	09(10)	56136	Space Nuclear Power: Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard: For the launch and use of non-government spacecraft utilizing nuclear power sources, the operator will be responsible for the safe operation of the spacecraft in space, including nuclear power sources. To that end: The Secretary of Energy shall establish and implement policies and procedures to protect sensitive information regarding the control, dissemination, and declassification of space-related nuclear activities. (Requirement 56136)	S	N	N	Mgmt
NSP	10(2)	56139	Radio Frequency Spectrum And Orbit Management And Interference Protection: The use of space for national and homeland security, civil, scientific, and commercial purposes depends on the reliable access to and use of radio frequency spectrum and orbital assignments. To ensure the continued use of space for these purposes, the United States Government shall: Seek to obtain and protect U. S. global access to the radio frequency spectrum and orbital assignments required to support the use of space by the United States Government and commercial users; (Requirement 56139)	E	N	N	Mgmt

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NSP	10(3)	56140	Radio Frequency Spectrum And Orbit Management And Interference Protection: The use of space for national and homeland security, civil, scientific, and commercial purposes depends on the reliable access to and use of radio frequency spectrum and orbital assignments. To ensure the continued use of space for these purposes, the United States Government shall: Explicitly address requirements for radio frequency spectrum and orbit assignments prior to approving acquisition of new space capabilities; (Requirement 56140)	E	N	N	Mgmt
NSP	10(4)	56141	Radio Frequency Spectrum And Orbit Management And Interference Protection: The use of space for national and homeland security, civil, scientific, and commercial purposes depends on the reliable access to and use of radio frequency spectrum and orbital assignments. To ensure the continued use of space for these purposes, the United States Government shall: Consistent with current approaches, assure, to the maximum practical extent, that U. S. national security, homeland security, civil, and commercial space capabilities and services and foreign space capabilities and services of interest to the United States Government are not affected by harmful interference; and (Requirement 56141)	E	N	N	Mgmt
NSP	10(5)	56142	Radio Frequency Spectrum And Orbit Management And Interference Protection: The use of space for national and homeland security, civil, scientific, and commercial purposes depends on the reliable access to and use of radio frequency spectrum and orbital assignments. To ensure the continued use of space for these purposes, the United States Government shall: Seek spectrum regulatory status under U.S. domestic regulations for United States Government owned and operated earth stations operating through commercial satellites, consistent with the regulatory status afforded commercial operations and with the allocation status of the satellite service. (Requirement 56142)	E	N	N	Mgmt
NSP	11(2)	56145	Orbital Debris: Orbital debris poses a risk to continued reliable use of space-based services and operations and to the safety of persons and property in space and on Earth. The United States shall seek to minimize the creation of orbital debris by government and non-government operations in space in order to preserve the space environment for future generations. Toward that end: Departments and agencies shall continue to follow the United States Government Orbital Debris Mitigation Standard Practices, consistent with mission requirements and cost effectiveness, in the procurement and operation of spacecraft, launch services, and the operation of tests and experiments in space; (Requirement 56145)	S	N	N	Mgmt
NSP	11(3)	56146	Orbital Debris: Orbital debris poses a risk to continued reliable use of space-based services and operations and to the safety of persons and property in space and on Earth. The United States shall seek to minimize the creation of orbital debris by government and non-government operations in space in order to preserve the space environment for future generations. Toward that end: The Secretaries of Commerce and Transportation, in coordination with the Chairman of the Federal Communications Commission, shall continue to address orbital debris issues through their respective licensing procedures; and (Requirement 56146)	S	N	N	Mgmt
NSP	11(4)	56147	Orbital Debris: Orbital debris poses a risk to continued reliable use of space-based services and operations and to the safety of persons and property in space and on Earth. The United States shall seek to minimize the creation of orbital debris by government and non-government operations in space in order to preserve the space environment for future generations. Toward that end: The United States shall take a leadership role in international fora to encourage foreign nations and international organizations to adopt policies and practices aimed at debris minimization and shall cooperate in the exchange of information on debris research and the identification of improved debris mitigation practices. (Requirement 56147)	S	N	N	Mgmt
NSP	12(2)	56150	Effective Export Policies: Exports of sensitive or advanced technical data, systems, technologies, and components, shall be approved only rarely, on a case-by-case basis. These items include systems engineering and systems integration capabilities and techniques or enabling components or technologies with capabilities significantly better than those achievable by current or near-term foreign systems. (Requirement 56150)	E	N	N	Mgmt
NSP	13(1)	56152	Space-Related Security Classification: The design, development, acquisition, operations, and products of intelligence and defense related space activities shall be classified as necessary to protect sensitive technologies, sources and methods, and operations, consistent with E. 12958, E.O. 12951, and applicable law and regulation as amended. (Requirement 56152)	E	N	N	Mgmt
NSP	13(2)	56153	Space-Related Security Classification: The design, development, acquisition, operations, and products of intelligence and defense related space activities shall be classified as necessary to protect sensitive technologies, sources and methods, and operations, consistent with E. 12958, E.O. 12951, and applicable law and regulation as amended: The Secretary of Defense and the Director of National Intelligence shall establish and implement policies and procedures to protect, disseminate, and appropriately classify and declassify activities and information related to their respective responsibilities outlined in this policy. Where appropriate, they shall coordinate their respective classification guidance. (Requirement 56153)	E	N	N	Mgmt
OSMA FLP	0.1.0.b	18003	The Office of Safety and Mission Assurance (OSMA) is the focal point and functional leader for the safety, reliability, maintainability, and quality assurance (SRM&QA) of all NASA programs. The principal responsibilities of the OSMA may be found in Section 4.17 of NPR 1000.3, The NASA Organization. This Functional Leadership Plan describes the approach the OSMA and the SMA organization at each of NASA's Centers is taking to fulfill its role within NASA. The Center SMA organizations work closely with the OSMA in pursuing the strategies and objectives of this functional plan. The plan is presented in four parts. Part 1: Mission, Goals, and Strategies (Objectives) Part 2: Organization and Interfaces Part 3: Metrics Part 4: Major Functional Initiatives A. Agency Safety Program Implementation (also known as the Agency Safety Initiative), Appendix Center SMA Director Concurrence	S	N	N	Mgmt
OSMA FLP	1.1.a	18006	OSMA Goal: Early integration and life-cycle implementation of safety, reliability, maintainability, and quality assurance (SRM&QA) into NASA's programs and operations.	S	N	N	Mgmt

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OSMA FLP	1.1.b	18007	OSMA Goal: Thorough and expeditious independent assessments (IA's) of program/project safety, reliability, maintainability, and quality.	S	N	N	Mgmt
OSMA FLP	1.1.c	18008	OSMA Goal: Innovation and rapid transfer of SRM&QA technologies, processes, and techniques to help program/project managers improve the likelihood of mission success while reducing overall costs.	S	N	N	Mgmt
OSMA FLP	1.1.d	18009	OSMA Goal: Development and application of risk management methodologies to provide relevant, practical, and timely contributions to NASA's management of risk.	S	N	N	Mgmt
OSMA FLP	1.1.e	18010	OSMA Goal: Deployment of an Agencywide Safety and Mission Assurance (SMA) Team that is highly motivated, trained, and properly equipped.	S	N	N	Mgmt
OSMA FLP	1.2.a.1	18013	OSMA Objective: Independently assess NASA programs, projects, and facilities by: Reviewing and evaluating the risk management processes of developmental and operational programs/projects at milestone reviews and in support of Program Management Council (PMC) meetings at both Headquarters and Centers.	S	N	N	Mgmt
OSMA FLP	1.2.a.2	18014	OSMA Objective: Independently assess NASA programs, projects, and facilities by: Expanding the SMA Pre-launch Assessment Review (PAR) process across the Human Exploration and Development of Space (HEDS) Enterprise to include International Space Station (ISS) launch, assembly, and on-orbit operations.	S	N	N	Mgmt
OSMA FLP	1.2.a.3	18015	OSMA Objective: Independently assess NASA programs, projects, and facilities by: Independently reviewing and evaluating the SRM&QA processes within the Strategic Enterprises.	S	N	N	Mgmt
OSMA FLP	1.2.a.4	18016	OSMA Objective: Independently assess NASA programs, projects, and facilities by: Reviewing Center SMA organizations and evaluating the robustness of their processes.	S	N	N	Mgmt
OSMA FLP	1.2.a.5	18017	OSMA Objective: Independently assess NASA programs, projects, and facilities by: Developing and implementing the Integrated Mission Assurance Review (IMAR) a PAR-like process to assure readiness of expendable launch vehicles and science and payload missions using expendable launch vehicles.	S	N	N	Mgmt
OSMA FLP	1.2.b.1	18019	OSMA Objective: Effectively communicate risk issues by: Improving channels for risk communication between SMA and program management.	S	N	N	Mgmt
OSMA FLP	1.2.b.3	18021	OSMA Objective: Effectively communicate risk issues by: Establishing SMA personnel as highly respected risk management consultants to program and project management.	S	N	N	Mgmt
OSMA FLP	1.2.b.4	18022	OSMA Objective: Effectively communicate risk issues by: Maintaining the direct access of Center SMA Directors to their Center Directors.	S	N	N	Mgmt
OSMA FLP	1.2.b.5	18023	OSMA Objective: Effectively communicate risk issues by: Maintaining effective communications between the AA/SMA and Center SMA Directors.	S	N	N	Mgmt
OSMA FLP	1.2.b.6	18024	OSMA Objective: Effectively communicate risk issues by: Maintaining independent access of Center SMA Directors to the AA/SMA, and subsequent access to the Administrator.	S	N	N	Mgmt
OSMA FLP	1.2.b.7	18025	OSMA Objective: Effectively communicate risk issues by: Maintaining an anonymous safety reporting process (the NASA Safety Reporting System) while promoting cultural changes that will reduce the need for anonymous reporting in the future.	S	N	N	Mgmt
OSMA FLP	1.2.c.1	18027	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Establishing policies that define the minimum set of SMA requirements applicable to Centers and programs/projects.	S	N	N	Mgmt
OSMA FLP	1.2.c.2	18028	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: More effectively executing the SRM&QA disciplines in the systems engineering process (which includes treatment of both hardware and software in an integrated manner).	S	N	N	Mgmt
OSMA FLP	1.2.c.3	18029	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Promoting the application of innovative, tailored, results-oriented SRM&QA approaches versus rigid standards.	S	N	N	Mgmt
OSMA FLP	1.2.c.4	18030	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Establishing methods for formal risk assessment for use by program/project managers.	S	N	N	Mgmt
OSMA FLP	1.2.c.5	18031	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Partnering with the Chief Engineer to develop criteria for governing risk acceptance by decision makers presiding over Program Management Council's conducted at critical life-cycle milestones.	S	N	N	Mgmt
OSMA FLP	1.2.c.6	18032	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Assisting program management in benchmarking and applying lessons learned and best practices to programs and projects.	S	N	N	Mgmt
OSMA FLP	1.2.c.7	18033	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Ensuring the proper documentation of new lessons learned and best practices.	S	N	N	Mgmt
OSMA FLP	1.2.c.8	18034	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Implementing advanced quality concepts and concurrent engineering techniques to effectively integrate safety, reliability, maintainability, and quality into all phases of a product's life cycle.	S	N	N	Mgmt
OSMA FLP	1.2.c.9	18035	OSMA Objective: Assist the Enterprises in the effective design, development, production, and operation of aerospace systems by: Promoting sustained excellence in technical performance, customer satisfaction, and quality and productivity by supporting programs such as the George M. Low Award and the annual NASA/Contractors' Conference on Continual Improvement and Reinvention.	S	N	N	Mgmt
OSMA FLP	1.2.d	18036	OSMA Objective: Identify and sponsor the development of new and innovative SRM&QA technologies and transfer those technologies by:	S	N	N	Mgmt
OSMA FLP	1.2.d.1	18037	OSMA Objective: Identify and sponsor the development of new and innovative SRM&QA technologies and transfer those technologies by: Working with NASA Strategic Enterprises for the acceptance or more effective use of SRM&QA technologies, tools, and techniques.	S	N	N	Mgmt

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OSMA FLP	1.2.d.2	18038	OSMA Objective: Identify and sponsor the development of new and innovative SRM&QA technologies and transfer those technologies by: Working with other government agencies, academia, and the commercial sector for the exchange of SRM&QA technologies, tools, and techniques.	S	N	N	Mgmt
OSMA FLP	1.2.e.1	18040	OSMA Objective: Improve program/contractor problem reporting and data integrity (accuracy, completeness, and security) by: Analyzing and streamlining the problem reporting process.	S	N	N	Mgmt
OSMA FLP	1.2.e.2	18041	OSMA Objective: Improve program/contractor problem reporting and data integrity (accuracy, completeness, and security) by: Establishing criteria and methods for effective and efficient problem documentation, analysis, and resolution by program management.	S	N	N	Mgmt
OSMA FLP	1.2.e.3	18042	OSMA Objective: Improve program/contractor problem reporting and data integrity (accuracy, completeness, and security) by: Enhancing the capability for problem reporting to support quantitative risk assessment.	S	N	N	Mgmt
OSMA FLP	1.2.f	18043	OSMA Objective: Enhance the SRM&QA skills, knowledge, and abilities of NASA personnel by:	S	N	N	Mgmt
OSMA FLP	1.2.f.1	18044	OSMA Objective: Enhance the SRM&QA skills, knowledge, and abilities of NASA personnel by: Developing, institutionalizing, and continually improving a comprehensive training and career development program for NASA SMA professionals. (The Professional Development Initiative (PDI), including the use of the web training capabilities of the Site for On-line Learning and Resources (SOLAR), are intended to facilitate this strategy.)	S	N	N	Mgmt
OSMA FLP	1.2.f.2	18045	OSMA Objective: Enhance the SRM&QA skills, knowledge, and abilities of NASA personnel by: Providing for training in safety, reliability, maintainability, and quality disciplines and associated tools to program, project, and functional management.	S	N	N	Mgmt
OSMA FLP	1.2.f.3	18046	OSMA Objective: Enhance the SRM&QA skills, knowledge, and abilities of NASA personnel by: Assisting program, project, and functional management personnel in the correct application of safety, reliability, maintainability, and quality tools.	S	N	N	Mgmt
OSMA FLP	1.2.f.4	18047	OSMA Objective: Enhance the SRM&QA skills, knowledge, and abilities of NASA personnel by: Committing SMA organizational resources for SMA skills training and career development.	S	N	N	Mgmt
OSMA FLP	1.2.g.2	18050	OSMA Objective: Implement an integrated SMA management process (i.e., Enterprise Agreements, self-assessments, Annual Operating Agreement (AOA's), Process Verification (PV), and metrics) for: Selectively assessing program/contractor processes as they relate to safety, reliability, maintainability, and quality for hardware, software, and people.	S	N	N	Mgmt
OSMA FLP	2.1.a	18053	OSMA has functional responsibility for the proper application of SRM&QA processes for all NASA programs. OSMA reports directly to the NASA Administrator. By design, this office is independent of the NASA program offices, thus able to provide non-advocate assessments of safety and effectiveness of NASA programs.	S	N	N	Mgmt
OSMA FLP	2.1.b.2	18056	The Enterprise Safety and Mission Assurance Division provides the primary interface with the customers of the OSMA, the NASA Enterprises and the Center SMA organizations. This Division assists its customers in understanding and implementing SMA policy and guidelines and monitors compliance.	S	N	N	Mgmt
OSMA FLP	2.1.b.3	18057	The HEDS Independent Assurance Office provides senior NASA management with timely, objective, non-advocacy assessments of program technical integrity and status of the HEDS Enterprise, identifies deficiencies, and makes recommendations for correction.	S	N	N	Mgmt
OSMA FLP	2.1.b.4	18058	The Executive Director, Aerospace Safety Advisory Panel, provides staff support for the Aerospace Safety Advisory Panel. As an independent safety review body, the mission of the Aerospace Safety Advisory Panel is to advise the NASA Administrator and Congress on all safety-related issues concerning NASA's aeronautics, robotic, and human operated space flight programs.	S	N	N	Mgmt
OSMA FLP	2.1.b.5	18059	In support of the Center Director, Center SMA offices use SMA tools and techniques to provide assistance, guidance, and assessment of Center-based programs and operations.	S	N	N	Mgmt
OSMA FLP	2.2	18062	OSMA Support to the Enterprises: OSMA has in place, with each Enterprise, an Enterprise SMA Agreement. This agreement specifies the overall approach by which OSMA will implement its responsibility for top-level independent review, oversight, and evaluation of the SMA functions that support the Enterprise. The agreement explains that overall program assurance activity for the Enterprise will focus on the health, capability, and implementation of an effective SMA program that includes the application of SRM&QA and risk management principles and requirements tailored to individual Enterprise programs and projects. For each Enterprise and the Administrator, OSMA provides an independent perspective and assessment of the program activities at both the Center and the Agency level. OSMA uses independent assessments and process verifications to determine whether the Enterprise possesses the effective processes needed to achieve its safety and mission success objectives. The Center SMA organizations provide program/project technical insight and independent assessment support to both the Center Director and program/project managers located at the Center. In	S	N	N	Mgmt
OSMA FLP	2.2(1)	18064	OSMA provides the following support to the Enterprises: Policy, guidelines, and standards, and assistance in interpreting and tailoring these documents to meet Enterprise needs.	S	N	N	Mgmt
OSMA FLP	2.2(3)	18066	OSMA provides the following support to the Enterprises: Assurance for the proper implementation and application of continuous risk management.	S	N	N	Mgmt
OSMA FLP	2.2(4)	18067	OSMA provides the following support to the Enterprises: Tools for safety and reliability risk assessment (fault tree analysis, failure modes and effects analysis, probabilistic risk assessment, and others).	S	N	N	Mgmt
OSMA FLP	2.2(5)	18068	OSMA provides the following support to the Enterprises: Training in SMA and safety management system topics.	S	N	N	Mgmt
OSMA FLP	2.2(6)	18069	OSMA provides the following support to the Enterprises: Support for mishap investigations.	S	N	N	Mgmt

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OSMA FLP	2.3.a	18071	OSMA Interface with Center SMA Organizations: Each NASA Center has an independent SMA office, which interfaces with OSMA. OSMA works through the Center SMA offices to accomplish much of its mission. OSMA holds quarterly face-to-face meetings with all the Center SMA directors, disseminates information to the Centers on a regular basis, maintains open communications with all Center SMA offices, and provides easy access to Agency SMA information via its website.	S	N	N	Mgmt
OSMA FLP	2.3.b	18072	OSMA Interface with Center SMA Organizations: The OSMA AOA and PV activity assures that Centers have the proper focus and resources to perform their assurance role. AOA's are Center SMA management plans, focused on customers for SMA products and services. AOA's establish the planning and execution processes to assure available SMA resources are allocated to optimize risk reduction. Each NASA Center SMA office must develop an AOA that spells out, in detail, the SMA products and services that will be provided by the Center SMA office, and what resources will be necessary to provide the products and services. AOA's are considered to be a negotiated agreement among Center SMA customers, other Center organizations responsible for performing the safety compliance functions, the SMA organization, and the Center Director. They are approved and signed by the Center SMA Director, the Center Director, and the E/AA, and are concurred on by the AA/SMA. To ensure the effective application of SMA functions that serve the Enterprises, OSMA conducts a PV to analyze Center SMA functions against the Center AOA. Reports documenting the results of PV reviews	S	N	N	Mgmt
OSMA FLP	2.4.b	18076	The Space Flight Safety Panel ensures that safety issues and recommendations are (1) identified and assessed during the development and implementation of NASA space flight programs, and (2) addressed in subsequent technical and management decisions. The Panel independently assesses the NASA space flight safety program, conducts panel (or independent member) reviews of selected issues or concerns, solicits and responds to space flight safety concerns, and provides an independent assessment of safety issues at each Level 1 Flight Readiness Review.	S	N	N	Mgmt
OSMA FLP	2.4.d	18078	The HEDS Assurance Board (HAB) provides senior NASA management with timely, objective, non-advocacy assessments of program health and status, and the relative safety posture of the HEDS Enterprise. It is to remain in place only during the HEDS management transition to the Space Flight Operations Contract. The HAB (1) assesses the work processes of the SMA community, (2) reviews HEDS programs to ensure that proper attention is being paid to risk, and (3) reviews the overall effectiveness of the hardware, software, and operational aspects of HEDS programs to assure safety and mission integrity. The HAB places special emphasis on the status and efficiency of the transition of day-to-day management from NASA to the Space Flight Operations Contractor and the surveillance focus from NASA "oversight" to "insight."	S	N	N	Mgmt
OSMA FLP	2.4.e	18079	The NASA Operations and Engineering Board (OEB) supports the AA/SMA and the Office of Management Systems (Code J) on special assignments related to facilities operations and engineering activities. The OEB evaluates processes and systems for assuring the continuing operational integrity of NASA test facilities, operations and engineering technical support systems, and problems and issues at Centers, and provides recommendations to management in these areas. The OEB also studies technical support system problem areas and develops alternate solutions or methods for arriving at a solution. The OEB is comprised of NASA employees.	S	N	N	Mgmt
OSMA FLP	2.4.f	18080	As an independent safety review body, the mission of the Aerospace Safety Advisory Panel (ASAP) is to advise the NASA Administrator and Congress on all safety-related issues--design, development, manufacturing, flight preparation, and missions operations--concerning NASA's human space flight programs. These issues encompass both systems and operational safety. The Panel works closely with the NASA OSMA and SMA organizations and contractors at all levels to achieve its mission.	S	N	N	Mgmt
OSMA FLP	2.4.g	18081	Aviation Safety Board per NPR 1000.3	S	N	N	Mgmt
OSMA FLP	2.4a	18075	The Interagency Nuclear Safety Review Panel provides an independent evaluation of the radiological risks associated with the launch of a nuclear power system. The Panel members, or coordinators, representing the Department of Defense, Department of Energy, U.S. Environmental Protection Agency, U.S. Nuclear Regulatory Commission, and NASA, are independent of the program under review.	S	N	N	Mgmt
OSMA FLP	3.1(1)	18084	Lost Time Injury Rate Metric, Objective: NASA will increase the emphasis on the implementation of its safety program and its ultimate goal of becoming the Nation's leader in safety. We will aggressively work to significantly reduce our lost time injury rate. The chart below shows the outcomes that we defined in February 1999 as goals for the next 2 fiscal years. We intend to adjust these each year to drive our mishap rate towards the zero goal. Indicators: Lost time injury data are collected in NASA's Incident Reporting and Information System (IRIS).	S	N	N	Mgmt
OSMA FLP	3.1(2)	18098	Lost Time Injury Rate Metric, Indicators: Lost Time injury data are collected in NASA's Incident Reporting and Information System (IRIS).	S	N	N	Mgmt
OSMA FLP	3.1(3)	18085	Lost Time Injury Rate Metric, Validation: IRIS data are periodically audited. IRIS data can be compared to the Office of Workers' Compensation Programs (OWCP) case data, which are collected independent of IRIS. OWCP incidents are defined differently than NASA-defined incidents, but the differences are well understood, and OWCP data and NASA-defined incident rates are closely parallel and statistically can be shown to be "in control."	S	N	N	Mgmt
OSMA FLP	3.2(1)	18087	Center Performance Evaluation Profile (PEP): Assessment of safety and health conditions in the workplace depends on a clear understanding by management and employees of the programs and management systems that an employer uses for safety and health compliance. NASA places a high priority on safety and health programs and wishes to encourage the implementation of those programs by all.	S	N	N	Mgmt

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OSMA FLP	3.2(2)	18088	In the past, safety professionals have evaluated the organization's safety and health programs, but those evaluations have not always required complete documentation or been systematically thorough. Unbiased evaluation that is more detailed and better documented can satisfy the Agency's need for program assessment and can accurately gauge the coverage and efficacy of the program. Further, it can be used to provide critical information on areas needing improvement.	S	N	N	Mgmt
OSMA FLP	3.2(3)	18089	In the early 1990's, representatives of the Occupational Safety and Health Administration and field staff developed the fundamental concept of the PEP in a cooperative effort with the National Council of Field Labor Locals (NCFL). NASA took those concepts and expanded them to cover the evaluation of the occupational safety and health program and later, by Administrator request, the system safety management processes. The PEP was instituted in 1999 as a new program assessment instrument and as an adjunct to other tools to be used to perfect the implementation of the Agency Safety Program.	S	N	N	Mgmt
OSMA FLP	3.2(4)	18090	The results from PEP are presented in a format that enables the manager to graphically view information about the effectiveness and degree of implementation of the safety program. The PEP is compatible with other evaluation tools and is not the only such tool that will be used to evaluate the program. It is not a substitute for other program and process evaluations conducted by NASA SMA during process verifications. The PEP for system safety management differs from the general safety PEP in that it focuses specifically on the processes we use to design safety into our programs and projects from the very start. The system safety PEP instrument profiles the attitudes and methods within a program or project that affect how well safety is built into systems. It is primarily used to support program/project managers. It can detect potential management problems or weaknesses, enabling supporting SMA activities to identify specific actions that the program manager could use to avoid future safety risks to the program. This PEP also generates information involving the Agency's overall system safety posture, identifying areas where new policies or Administrator action might be warranted.	S	N	N	Mgmt
OSMA FLP	3.2(5)	18091	The PEP will be used as a source of safety and health program evaluation information for the manager, the employees, and the Administrator and will allow managers to make information-based decisions on allocating resources to improve the safety and health programs.	S	N	N	Mgmt
OSMA FLP	4.A.1	18094	Agency Safety Program Implementation "Mission Success Starts with Safety": Safety plays an integral role in NASA's quest to expand frontiers in aeronautics and space. At the start of the 21st Century, NASA has designated safety and health as one of our principal values. We will not compromise the safety and health of our people and property nor harm the environment. The Agency is working to achieve zero mishaps in the NASA workplace, keeping in mind that every employee's safety and health, both on and off the job, is our concern. NASA intends to become the Nation's leader in the safety and occupational health of our work force and the safety of the products and services we provide. Our strategy is aimed at strengthening NASA's capabilities so that safety permeates every aspect of NASA work, and we routinely incorporate safety and health principles and practices into our daily decision making processes and lives. It is important that management and employees alike are committed to identifying and eliminating hazards in the Agency's workplaces including the unsafe acts or behaviors of workers when performing work tasks. With a change in the culture to one where the precursors to mishap	S	N	N	Mgmt
OSMA FLP	4.A.2	18095	NASA has established an order that can guide or prioritize Agency safety efforts. First, safety of the public. We absolutely must protect the public from any harm that may result from the conduct of the NASA mission. Second, safety of astronauts and pilots, because these individuals are exposed to higher levels of potential mishap resulting from hazardous flight regimes. Third, safety of our working employees, because NASA performs many operations that are hazardous and it is our obligation to provide our employees with a safe and healthful workplace and the necessary training to recognize and control those hazards. Fourth, safety of high value equipment because we are stewards of the public's trust and the loss of some of this equipment would have serious ramifications on the future viability of NASA.	S	N	N	Mgmt
OSMA FLP	4.A.3	18096	We will achieve our goal through actions that can be categorized into four Core Process Requirements (CPR's). These CPR's are considered to be standard in a world-class safety and health program. The four CPR's are: -Management commitment and employee involvement. -System and worksite hazard analysis. -Hazard prevention and control. -Safety and health training. By focusing on the safety of NASA's mission and operations, we will improve quality and decrease cost and schedule.	S	N	N	Mgmt
PDD/NSC-25	6	43407	While the final decision to conduct such experiments must continue to reside with the government, the National Academy of Sciences and, where appropriate, international scientific bodies or intergovernmental organizations may be consulted in the case of those experiments that might have adverse effects beyond the US. When experiments are expected to have such impacts in foreign countries the Secretary of State will be notified. In arriving at decisions on specific projects foreign policy considerations should be taken into account. Recommendation on the advisability of the courses of action will be made by the Director in consultation with the Chairman and with the sponsoring agency and the State Department as appropriate. (Requirement 43407)	S	N	N	Mgmt
PDD/NSC-25	7	43408	Any large scale scientific or technological experiment that may involve particularly serious or protracted adverse effects will not be conducted without the President's approval. Any experiment that may involve serious or protracted adverse effects will not be conducted without the approval of the head of the department or agency involved, with, in appropriate cases the advice of other concerned agencies. (Requirement 43408)	S	N	N	Mgmt

Parent Doc Num	Parent Doc Para	Parent Req ID	Parent Req Text	Tech Auth	OSMA Opinion	CxP Impl'n	CxP Discipline
PDD/NSC-25	9	43410	A separate procedure will be followed for launching nuclear systems. An environmental impact analysis or nuclear safety evaluation report, as appropriate, will be prepared. The President's approval is required for launches of spacecraft utilizing reactors and other devices with a potential for criticality and radioactive sources containing total quantities greater than 1,000 times the A2 values listed in Table I of the International Atomic Energy Agency's safety series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1985 Edition (as amended 1990). Launch of sources containing quantities greater than 0.1 percent of the A2 value from this table will be forecasted quarterly to the Office of Science and Technology Policy (OSTP). This report is for information, and is not intended to introduce a new approval procedure. An ad hoc Interagency Nuclear Safety Review Panel, which will report to the OSTP and consisting of members from the Department of Defense, Department of Energy, National Aeronautics and Space Administration and the Environmental Protection Agency, will evaluate the risks associated with missions requiring the President's approval and prepare a Nuclear Safety Evaluation Report.	S	N	N	Mgmt
PDD/NSC-49	Civil: 4.a	32724	[Unclassified Summary] In the conduct of these research and development programs, NASA will: (a) Ensure safety on all space flight missions involving the Space Shuttle and the International Space Station. (Requirement 32724)	S	N	N	Mgmt
PDD/NSC-49	Comm: 2	32721	[Unclassified Summary] (2) U.S. Government agencies shall purchase commercially available space goods and services to the fullest extent feasible and shall not conduct activities with commercial applications that preclude or deter commercial space activities except for reasons of national security or public safety. A space good or service is "commercially available" if it is currently offered commercially, or if it could be supplied commercially in response to a government service procurement request. "Feasible" means that such goods or services meet mission requirements in a cost-effective manner. (Requirement 32721)	E	N	N	Mgmt
PDD/NSC-49	Comm: 3	32723	[Unclassified Summary] The United States will pursue its commercial space objectives without the use of direct Federal subsidies. Commercial Sector space activities shall be supervised or regulated only to the extent required by law, national security, international obligations and public safety. (Requirement 32723)	E	N	N	Mgmt
PDD/NSC-49	Inter: 2.a	32722	[Unclassified Summary] Space Transportation: (a) Assuring reliable and affordable access to space through U.S. space transportation capabilities is fundamental to achieving national space policy goals. Therefore, the United States will: (i) Balance efforts to modernize existing space transportation capabilities with the need to invest in the development of improved future capabilities; (ii) Maintain a strong transportation capability and technology base to meet national needs for space transport of personnel and payloads; (iii) Promote reduction in the cost of current space transportation systems while improving their reliability, operability, responsiveness, and safety; (iv) Foster technology development and demonstration to support a future decision on the development of next generation reusable space transportation systems that greatly reduce the cost of access to space; (v) Encourage, to the fullest extent feasible, the cost-effective use of commercially provided U.S. products and services that meet mission requirements; and (vi) Foster the international competitiveness of the U.S. commercial space transportation industry, actively considering commercial needs and factoring them into	E	N	N	Mgmt
PDD/NSC-60	0	32725	[Unclassified Summary] PDD/NSC-60 is classified. In November 1997 the President signed a new Decision Directive on nuclear weapons employment policy guidance. The directive describes, in general terms, the purposes of U.S. nuclear weapons and provides broad Presidential guidance for developing operational plans. It also provides guidelines for maintaining nuclear deterrence and U.S. nuclear forces. The directive indicates that the United States must maintain the assured response capability to inflict "unacceptable damage" against those assets a potential enemy values most. It also posits that the U.S. must continue to plan a range of options to insure that the U.S. can respond to aggression in a manner appropriate to the provocation, rather than being left with an "all or nothing" response. The new guidance also continues the policy that the U.S. will not rely on "launch on warning," but will maintain the capability to respond promptly to any attack, thus complicating an adversary's calculations. The directive reaffirms that the United States should have a triad of strategic deterrent forces to complicate an adversary's	E	N	N	Mgmt
PDD/NSC-62	0	32726	[Unclassified Summary] PDD/NSC-62 is classified. This Directive directs that the United States will be capable of deterring and preventing such terrorist attacks and the ability to limit the damage and manage the consequences should such an attack occur. To meet these challenges, this Directive creates a new and more systematic approach to fighting the terrorist threat of the next century. It reinforces the mission of the many U.S. agencies charged with roles in defeating terrorism; it also codifies and clarifies their activities in the wide range of U.S. counter-terrorism programs, from apprehension and prosecution of terrorists to increasing transportation security, enhancing response capabilities and protecting the computer-based systems that lie at the heart of America's economy. To achieve this new level of integration in the fight against terror, PDD-62 establishes the Office of the National Coordinator for Security, Infrastructure Protection and Counter-Terrorism. The National Coordinator will oversee the broad variety of relevant policies and programs including such areas as counter-terrorism, protection of critical infrastructure, preparedness and consequence management for w	E	N	N	Mgmt
PDD/NSC-67	0	32727	[Unclassified Summary] PDD/NSC-62 is classified. This Directive relates to enduring constitutional government, continuity of operations (COOP) planning, and continuity of government (COG) operations. The purpose of Enduring Constitutional Government (ECG), Continuity of Government (COG), and Continuity of Operations (COOP) is to ensure survival of a constitutional form of government and the continuity of essential Federal functions. In addition, Executive Order 12656 [Section 202] required that "The head of each Federal department and agency shall ensure the continuity of essential functions in any national security emergency by providing for: succession to office and emergency delegation of authority in accordance with applicable law; safekeeping of essential resources, facilities, and records; and establishment of emergency operating capabilities." Among other things, PDD 67 required Federal agencies to develop Continuity of Operations Plans for Essential Operations. In response to this directive, many Federal agencies formed task forces of representatives from throughout the agency who were familiar with agency contingency plans. They developed the COOP as a unifying concept that	E	N	N	Mgmt