National Aeronautics and
Space Administration

FY 2026

AGENCY PERFORMANCE & EVALUATION PLANS

Overview

For over 60 years, NASA has led in space exploration, inspiring the nation, securing America's enduring global leadership in space, and advancing knowledge of the Earth and the universe. NASA research has advanced aeronautics, developed the commercial space industry, and bolstered the U.S. economy through innovative technology development partnerships with American businesses.

The Fiscal Year (FY) 2026 Annual Performance Plan includes new performance goals. NASA will develop a new mission statement and make more significant changes to its performance framework as part of the forthcoming 2026 NASA Strategic Plan.

Organizational Structure

The Administrator and senior officials lead NASA by providing top-level strategy, policy, and direction. NASA's Office of the Chief Financial Officer leads the Agency's budget development, execution, and Agency-wide performance management activities. Mission Directorates and Mission Support Offices at Headquarters manage decisions on programmatic investments and guide operations of the Centers, which implement and develop projects.

NASA uses data and evidence to inform investment decisions at all levels, ranging from day-to-day operations to selecting major missions and establishing the necessary infrastructure to pursue goals that may take a generation or longer to realize. The distributed and diverse nature of NASA's work is unified by an integrated performance culture that engages employees and stakeholders at all levels.

NASA is committed to remaining a good steward of the taxpayer's numerous investments entrusted to our care. This includes maintaining a culture of data-driven performance management, evidence-building activities, and evaluation that continually improve our accountability, transparency, oversight, and decision-making. This approach supports evidence-based strategic and performance planning across organizations, leads to more consistent performance reporting, and ensures the optimal use of our resources.

NASA's Annual Performance Plan describes the Performance Goals, including the underlying milestone targets, consistent with the FY 2025 Operating Plan and FY 2026 President's Budget Request.

FY 2025 Performance Goals

#	Description
1.1	Advance scientific knowledge and application by progressing Science Mission Directorate's major projects through critical milestones
1.2	N/A
1.3	Utilize NASA Earth Science data and products to grow the economy, enhance national security, and create a more resilient nation
1.4	Achieve mission success criteria for Science Mission Directorate projects in operation, delivering data and benefits to the nation
1.5	Consolidate and modernize Earth Science data archive centers to improve efficiency and cost effectiveness of data management
2.1	Advance America's goal to land on the Moon by launching the Artemis II test flight, demonstrating capabilities that will advance human exploration
2.2	Advance America's global leadership in space travel with the launch of Artemis III, landing the next American on the Moon
2.3	Define and develop technology that enables human missions to the Moon and Mars
2.4	Transition exploration programs to the commercial sector to promote cost-effective methods for future spaceflight transportation to the Moon and Mars
2.5	Maintain viable operations on the International Space Station (ISS) until safe de-orbit can be achieved
2.6	Ensure progress towards initial operational capability for a commercial Low Earth Orbit LEO platform(s)
3.1	Demonstrate new technologies and cross-cutting capabilities that are of direct interest and use to NASA missions as well as the commercial space sector
3.2	Rapidly develop and demonstrate technologies for exploration, discovery, and the expansion of space commerce through partnership with U.S. industry and academia
3.3	Mature Technology projects that offer significant improvement to existing solutions or enable new space exploration capabilities
3.4	In partnership with the Federal Aviation Administration and airlines, develop and scale capabilities to improve operations of the National Airspace System, reducing airline delays and operating costs, and saving passenger time
3.5	Enable the future generation of American aerospace by researching and developing engine systems, manufacturing techniques, and innovative designs
4.1	Strengthen protection of NASA data and assets by increasing the aggregate score of the Agency's comprehensive cybersecurity scorecard
4.2	Demonstrate increased facility reliability for current and future mission needs through investments in preventative maintenance that reduce unscheduled maintenance
4.3	Minimize the number and severity of employee injuries and illnesses to increase onsite productivity
4.4	Ensure the health and safety of NASA astronauts and pilots

FY 2026 Performance Goals

#	Description
1.1	Advance scientific knowledge and application by progressing Science Mission Directorate's major projects through critical milestones
1.2	Advance ability to predict and respond to space weather events
1.3	Utilize NASA Earth Science data and products to grow the economy, enhance national security, and create a more resilient nation

1.4	Achieve mission success criteria for Science Mission Directorate projects in operation, delivering data and benefits to the nation
1.5	Consolidate and modernize Earth Science data archive centers to improve efficiency and cost effectiveness of data management
2.1	Advance America's goal to land on the Moon by launching the Artemis II test flight, demonstrating capabilities that will advance human exploration
2.2	Advance America's global leadership in space travel with the launch of Artemis III, landing the next American on the Moon
2.3	Define and develop technology that enables human missions to the Moon and Mars
2.4	Transition exploration programs to the commercial sector to promote cost-effective methods for future spaceflight transportation to the Moon and Mars
2.5	Maintain viable operations on International Space Station (ISS) until safe de-orbit can be achieved
2.6	Ensure progress towards initial operational capability for a commercial Low Earth Orbit platform(s)
3.1	Rapidly develop and demonstrate technologies for human exploration of the Moon and Mars
3.2	In partnership with U.S. industry, rapidly develop and demonstrate space technologies to ensure American global leadership and the expansion of space commerce
3.3	N/A
3.4	In partnership with the Federal Aviation Administration and airlines, develop and scale capabilities to improve operations of the National Airspace System, reducing airline delays and operating costs, and saving passenger time
3.5	Enable the future generation of American aerospace by researching and developing engine systems, manufacturing techniques, and innovative designs
4.1	Strengthen protection of NASA data and assets by increasing the aggregate score of the Agency's comprehensive cybersecurity scorecard
4.2	Demonstrate increased facility reliability for current and future mission needs through investments in preventative maintenance that reduce unscheduled maintenance
4.3	Minimize the number and severity of employee injuries and illnesses to increase onsite productivity
4.4	Ensure the health and safety of NASA astronauts and pilots

1.0 Discover

NASA seeks to discover the secrets of the universe, search for life elsewhere, and protect and improve life on Earth and in space. Finding answers to these profound science questions requires prioritization in determining the top national priorities and expanding the societal benefits of our science programs.

1.1: Advance scientific knowledge and application by progressing Science Mission Directorate's major projects through critical milestones

Lead Office: Science Mission Directorate (SMD)

	FY 2025	FY 2026
Target	6 of 8	3 of 4
Milestones	Complete Dragonfly mission Critical Design Review	Complete Dragonfly Lander System Integration Review
	Complete Near-Earth Object Surveyor spacecraft Critical Design Review	Deliver Near-Earth Object Surveyor Optical Payload Test, Evaluating and Calibration Integrated System (OPTEC)

		Chamber instrument for integration and test
	Complete Lunar Surface Electromagnetics Experiment (LuSEE) Night payload assembly and environmental test	Complete Lunar Vulkan Imaging and Spectroscopy Explorer (Lunar-VISE) payload assembly and environmental test
	Complete Roman Space Telescope Observatory Key Decision Point (KDP) D, allowing mission to proceed to assembly, integration, and test	Complete Roman Space Telescope Observatory integration and test, and prepare for shipment
	Launch Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer (SPHEREx)	
	Complete NASA-Indian Space Research Organization (ISRO) Synthetic Aperture Radar (NISAR) Operational Readiness Review	
	Complete Multi-slit Solar Explorer (MUSE) Critical Design Review	
	Complete Interstellar Mapping and Acceleration Probe (IMAP) Pre-Ship Review	

1.2: Advance ability to predict and respond to space weather events

Lead Office: Science Mission Directorate (SMD)

	FY 2025	FY 2026
Target	N/A	2 of 2
Milestones	N/A	Complete operational readiness upgrades for two space weather applications
		Provide low-latency data to space weather operations from at least one launched mission [e.g., Interstellar Mapping and Acceleration Probe (IMAP) and/or Polarimeter to Unify the Corona and Heliosphere (PUNCH)]

1.3: Utilize NASA Earth Science data and products to grow the economy, enhance national security, and create a more resilient nation

Lead Office: Science Mission Directorate (SMD)

	FY 2025	FY 2026
Target	1 of 1	1 of 1
Milestones	Conduct at least three targeted industry engagements to better understand the specific geospatial and remote sensing data needs of sectors such as agriculture, infrastructure, and insurance. These engagements will explore applications including monitoring coastal erosion, assessing landslide risk, and identifying optimal windows for crop planting and harvesting	Complete three partnership activities with U.S. industry, state and local governments, and everyday citizens to harness NASA's Earth Science data and products in order to grow the economy, enhance national security, and create a more resilient nation

1.4: Achieve mission success criteria for SMD projects in operation, delivering data and benefits to the nation

Lead Office: Science Mission Directorate (SMD)

	FY 2025	FY 2026
Target	2 of 2	2 of 2
Milestones	Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer (OSIRIS-REx) mission success	Surface Water and Ocean Topography (SWOT) mission success
	Parker Solar Probe mission success	Sentinel-6/Michael Freilich mission success

1.5: Consolidate and modernize Earth Science data archive centers to improve efficiency and cost effectiveness of data management

	FY 2025	FY 2026
Target	70%	85%
Milestones	Migrate at least 70% of targeted data archives and distribution to the centralized Earthdata cloud platform	Migrate at least 85% of targeted data archives and distribution to the centralized Earthdata cloud platform

2.0 Explore

NASA's rich history of human spaceflight provides the foundation for today's exploration vision: to maintain U.S. leadership in space, return to the Moon, and pave the way forward to human exploration of Mars. This strategy begins with the Artemis program, while developing Mars-enabling exploration technologies and solutions.

2.1: Advance America's goal to land on the Moon by launching the Artemis II test flight, demonstrating capabilities that will advance human exploration

Lead Office: Exploration Systems Development Mission Directorate (ESDMD)

	FY 2025	FY 2026
Target	3 of 4	2 of 2
Milestones	Complete Solar Array Wing installation on Crew and Service Module (CSM)	Conduct Artemis II Flight Readiness Review
	Mate Core Stage with Solid Rocket Boosters	Launch Artemis II
	Complete Booster Stacking	
	Conduct Artemis II Operational Readiness Review	

2.2: Advance America's global leadership in space travel with the launch of Artemis III, landing the next American on the Moon

Lead Office: Exploration Systems Development Mission Directorate (ESDMD)

	FY 2025	FY 2026
Target	3 of 4	4 of 5
Milestones	Booster Aft Skirts Completed	Begin SLS Booster Stacking
	Complete Artemis III Space Launch System (SLS) Launch Vehicle Stage Adapter (LVSA)	Accept Delivery of Artemis III Orion Crew Module
	Complete Crew Training certification	HLS Critical Design Review
	Complete Human Landing System (HLS) /SpaceX Propellant Flight Transfer Technology Test	SpaceX Uncrewed Lunar Lander Test
		Axiom Suit Design Certification Review

2.3: Define and develop technology that enables human missions to the Moon and Mars

Lead Office: Exploration Systems Development Mission Directorate (ESDMD)

	FY 2025	FY 2026
Target	2 of 2	5 of 6
Milestones	Utilizing the results of the 2024 Architecture Concept Review, initiate the Integrated Surface Logistics project	Develop a new task order on HLS contract for an entry, descent, and landing demonstration for a human-class Mars lander
	Utilizing the results of the 2024 Architecture Concept Review, initiate the Integrated Surface Power project	Evolve the strategic architecture framework to align with current space policy directives, accelerating integrated Mars technology demonstrations
		Hold Agency Acquisition Strategy Council meeting for selection of Commercial Mars Payload Services (CMPS) acquisition strategy
		Announce selection of contractor for Commercial Lunar Payload Services (CLPS) delivery "CT-4"
		Develop a new task order on xEVAS contract for work on a space suit appropriate for the Martian surface
		Complete Integrated Surface Power Mission Concept Review and readiness for acquisition of large-scale surface power

2.4: Transition exploration programs to the commercial sector to promote cost-effective methods for future spaceflight transportation to the Moon and Mars

Lead Office: Exploration Systems Development Mission Directorate (ESDMD)

	FY 2025	FY 2026
Target	2 of 2	3 of 3
Milestones	Working with industry, draft top-level needs, goals, and objectives for commercial transportation systems for Artemis IV and beyond	Utilizing industry feedback, establish top-level requirements for commercial transportation systems for Artemis IV and beyond

	Review current contract acquisition strategies to ensure performance, cost and schedule are appropriately incentivized	Hold the Agency-level Acquisition Strategy Council meeting for selection of commercial transportation services for Artemis IV and beyond
		Award an initial procurement to obtain commercial transportation services to execute Artemis missions IV and beyond

2.5: Maintain viable operations on ISS until safe de-orbit can be achieved

Lead Office: Space Operations Mission Directorate (SOMD)

	FY 2025	FY 2026
Target	2 of 2	2 of 2
Milestones	Complete one Project-Level Design Review for U.S. Deorbit Vehicle (USDV)	Complete one Project-Level Design Review for USDV
	Provide safe NASA crew transportation through commercial partners to the ISS, including at least one crew mission	Provide safe NASA crew transportation through commercial partners to the ISS, including at least one crew mission

2.6: Ensure progress towards initial operational capability for a commercial low Earth orbit (LEO) platform(s)

Lead Office: Space Operations Mission Directorate (SOMD)

	FY 2025	FY 2026
Target	2 of 2	2 of 2
Milestones	Release draft Request for Proposals for Commercial LEO Destinations Phase 2	Revise acquisition strategy to streamline and accelerate development of new commercial destinations that can be used by NASA and other customers
	Engage industry early by soliciting feedback on proposed strategy and requirements	Release Request for Proposal (RFP) for Commercial LEO Destinations Phase 2

3.0 Innovate

NASA drives economic development and growth through technological innovation, investing in a broad portfolio of space technology and aeronautics research, development, and demonstration. NASA leverages commercial partnerships, reducing development costs, accelerating infusion of new technologies, meeting national needs, and supporting new markets.

3.1: FY 2026: Rapidly develop and demonstrate technologies for human exploration of the Moon and Mars

FY 2025 language: Demonstrate new technologies and cross-cutting capabilities that are of direct interest and use to NASA missions as well as the commercial space sector

Lead Office: Space Technology Mission Directorate (STMD)

	FY 2025	FY 2026
Target	7 of 10	3 of 3
Milestones	United Launch Alliance (ULA) Cryogenic Fluid Management (CFM) Tipping Point Solar White Demo	Deliver initial results from a Mars surface non-nuclear power study
	United Launch Alliance (ULA) Cryogenic Fluid Management (CFM) Tipping Point "Do No Harm" review	Increase technology readiness of Regenerative Fuel Cell technology from 500W to 2kW through testing, and partnering with industry
	Deep Space Optical Communications (DSOC) post-conjunction operations start	Complete technology demonstration of a Vertical Solar Array Technology (VSAT) prototype and facility upgrades to enable industry partners to further the technology through additional testing
	Solar Electric Propulsion qualification motor-2 (QM-2) assembly complete	
	20K Cryocooler Characterization Testing Complete	
	JOINS ISS Phase 2 Safety Review completion	
	Mason Critical Design Review (CDR) for Grader, Compactor, and Microwave Emitter	
	Rotating Detonation Rocket Engine (RDRE) Engine System Definition Review	
	Fission Surface Power (FSP) Phase 1A Final Review	
	Solar Electric Propulsion (SEP) qualification motor-2 (QM-1) completion of environmental testing and post Thermal Vacuum Chamber (TVAC) hot-fire	

3.2: FY 2026: In partnership with U.S. industry, rapidly develop and demonstrate space technologies to ensure American global leadership and the expansion of space commerce

FY 2025 language: Rapidly develop and demonstrate technologies for exploration, discovery, and the expansion of space commerce through partnership with U.S. industry and academia

Lead Office: Space Technology Mission Directorate (STMD)

	FY 2025	FY 2026
Target	40	4 of 4
Milestones	Successfully gather flight test data on at least forty (40) technologies to determine the technology's mission infusion potential	Complete the technical interchange milestone ahead of flight payload delivery for the Small Spacecraft Propulsion and Inspection Capability (SSPICY) industry-led flight demonstration
		Complete Proven Reserve Concept review and industry partner down-select with the Defense Advanced Research Projects Agency (DARPA) for the Lunar Assay via Small Satellite Orbiter (LASSO) commercially led flight demonstration

		Enter fifty (50) new industry partnerships for development of innovative space technologies
		In partnership with industry, deliver ten (10) space technologies to their target flight test conditions; including scenarios where the technology was developed by (or in collaboration with) industry or was tested via a flight from a commercial provider

3.3: Mature Technology Maturation projects that offer significant improvement to existing solutions or enable new space exploration capabilities

Lead Office: Space Technology Mission Directorate (STMD)

This performance goal will sunset after Fiscal Year 2025

	FY 2025	FY 2026
Target	60%	N/A
Milestones	Percentage of planned key performance parameters (KPPs) that met requirements	

3.4: In partnership with the Federal Aviation Administration and airlines, develop and scale capabilities to improve operations of the National Airspace System, reducing airline delays and operating costs, and saving passenger time

Lead Office: Aeronautics Research Mission Directorate (ARMD)

	FY 2025	FY 2026
Target	2 of 2	2 of 2
Milestones	Scale a predictive departure rerouting capability around weather aviation service to new locations in the National Airspace System	Evaluate a digital gate-to-gate flight rerouting capability in the National Airspace System to reduce airline delays and operating costs
	Complete an evaluation of In-Time Aviation Safety Management System (IASMS) architecture to enable emergency response operations	Complete technology transfer of portable aerial monitoring and response to wildland fires

3.5: Enable the future generation of American aerospace by researching and developing engine systems, manufacturing techniques, and innovative designs

Lead Office: Aeronautics Research Mission Directorate (ARMD)

	FY 2025	FY 2026
Target	2 of 2	5 of 5
Milestones	Evaluate noise estimates and sources for the Transonic Truss Braced Wing (TTBW) with the high-lift devices deployed	Complete risk reduction experiments to validate an un-ducted propulsor for an advanced aircraft engine
	Design and evaluate composite manufacturing technologies for	Mature high-rate manufacturing for composite wing and fuselage designs

	low-cost lightweight composite airframe structures	
		In partnership with the Air Force Research Lab (AFRL), conduct a sounding rocket experiment to demonstrate control of a dual mode ramjet engine
		Complete a refocus of the NASA-Boeing X-66 partnership to accelerate wing technology maturation for large commercial aircraft
		Validate low boom aircraft design by demonstrating X-59 performance in flight satisfying Quesst mission requirements for speed and altitude

4.0 Advance

NASA's complex and bold plans require modern, adaptable technical and professional support capabilities to enable mission readiness, exploration, discovery, and innovation. NASA is right-sizing capabilities and operations to ensure the Agency has the workforce, infrastructure, technology, and oversight needed to advance into the Artemis era and beyond to Mars.

4.1: Strengthen protection of NASA data and assets by increasing the aggregate score of the Agency's comprehensive cybersecurity scorecard

Lead Office: Mission Support Directorate (MSD), Office of the Chief Information Officer (OCIO)

	FY 2025	FY 2026
Target	80%	85%
Milestones	Cybersecurity Scorecard of 80%	Cybersecurity Scorecard of 85%

4.2: Demonstrate increased facility reliability for current and future mission needs through investments in preventative maintenance that reduces unscheduled maintenance

Lead Office: Mission Support Directorate (MSD), Office of Strategic Infrastructure (OSI)

	FY 2025	FY 2026
Target	20% or less	20% or less
Milestones	20% or less of maintenance funds dedicated to unscheduled maintenance	20% or less of maintenance funds dedicated to unscheduled maintenance

4.3: Minimize the number and severity of employee injuries and illnesses to increase onsite productivity

Lead Office: Mission Support Directorate (MSD), Office of Safety and Mission Assurance (OSMA)

	FY 2025	FY 2026
Target	<0.8 TCIR per 100 employees <0.3 DART per 100 employees	<0.8 TCIR per 100 employees <0.3 DART per 100 employees
Milestones	Number of Occupational Safety and Health Administration (OSHA) recordable injuries or illnesses per 100 employees (i.e., Total Case Incident Rate, TCIR) and number of injuries or illnesses per 100 employees that result in days away from work or restricted duty (i.e., Days Away,	Number of Occupational Safety and Health Administration (OSHA) recordable injuries or illnesses per 100 employees (i.e., Total Case Incident Rate, TCIR) and number of injuries or illnesses per 100 employees that result in days away from work or restricted duty (i.e., Days Away,

	Restricted, or Transferred Case Rate, DART), resulting in increased onsite productivity	Restricted, or Transferred Case Rate, DART), resulting in increased onsite productivity

4.4: Ensure the health and safety of NASA astronauts and pilots

Lead Office: Mission Support Directorate (MSD), Office of Chief Health & Medical Officer (OCHMO)

	FY 2025	FY 2026
Target	0 non-concurrences; 5% or fewer variances	0 non-concurrences; 5% or fewer variances
Milestones	Number of non-concurrence determinations by the Health and Medical Technical Authority (HMTA), and 5% or fewer program variances from health and medical policies and standards	Number of non-concurrence determinations by the Health and Medical Technical Authority (HMTA), and 5% or fewer program variances from health and medical policies and standards

NASA's FY 2025 Annual Evaluation Plan

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) Title I reinforces and supports Federal evidence-building activities, the Open, Public, Electronic, and Necessary Government Data Act, and the Confidential Information Protection and Statistical Efficiency Act. Title I of the Evidence Act requires CFO-Act Agencies to publish an Annual Evaluation Plan (AEP) that conveys significant evaluations across the Agency each fiscal year, developed in coordination with the Annual Performance Plan. The AEP establishes and informs NASA's key stakeholders about planned evaluations. Evaluations will uncover findings that will inform NASA program budgets, the Strategic Plan and Learning Agenda, annual Strategic Review, ongoing program management and development; and integrate evidence into the performance management process.

Evaluation Standards

NASA relies on a culture of evidence-based, data-driven research designs and methodologies to evaluate its programs, policies, and organizations across the Agency. Evaluation, as defined by the Evidence Act, is an assessment using systematic data collection and analysis of one or more programs, policies, or organizations intended to assess their effectiveness and efficiency. The AEP details only those NASA evaluations that meet the Agency's definition of "significant" evaluations (see Figure 1 below). Led by NASA's Evaluation Officer, in conjunction with the Statistical Officer and Chief Data Officer, five standards guide NASA's evaluation culture: rigor, relevance and utility, independence and objectivity, transparency, and ethics. These standards, in addition to the criteria established for significant evaluations are the foundation that NASA uses to support its array of evaluation activities.

Purpose

The AEP identifies planned significant evaluations from across the Agency. It serves to inform Agency stakeholders and the public where the most significant evaluations are conducted, cultivate data sharing and resources between NASA organizations, and provide information to help support the Agency's evidence-driven culture.

Dissemination and Sharing

NASA has long been committed to disseminating and sharing results from its evidence-building activities with the greater scientific community and, when permissible, making this information broadly available to the public. As detailed in NASA Procedural Requirement (NPR) 2200.2E – Requirements for Documentation, Approval and Dissemination of Scientific and Technical Information, the Agency strives for the widest practicable and appropriate dissemination of information concerning its activities and scientific and technical information. NASA will leverage this framework in sharing findings from its significant evaluations.

The Agency's dissemination framework includes an array of symposium presentations, peer-reviewed journal publications, and NASA internal and external council discussions. Agency evaluations that provide promising and effective findings are systematically and broadly disseminated to potential beneficiaries and to federal agency partners. Criteria and requirements for the dissemination of symposia lectures and papers, in addition to journal materials beyond the Agency, are detailed in Chapter 4 of NPR 2200.2E to ensure proper review of substantive content, technical accuracy, overall quality, and value to the larger scientific community. The Evaluation Officer, as well as Mission Directorate Associate Administrators and Center Directors, have responsibility for the technical, scientific, and programmatic accuracy of information released externally from the Agency by their respective programs.

While NASA maintains a free exchange of scientific and technological information among scientists and engineers, between NASA staff and the scientific community, and between NASA employees and

the public, the AEP is a formal dissemination of significant evaluations. Table 1, below, depicts broad evaluation dissemination methods by stakeholder groups and the formats used to share significant evaluations.

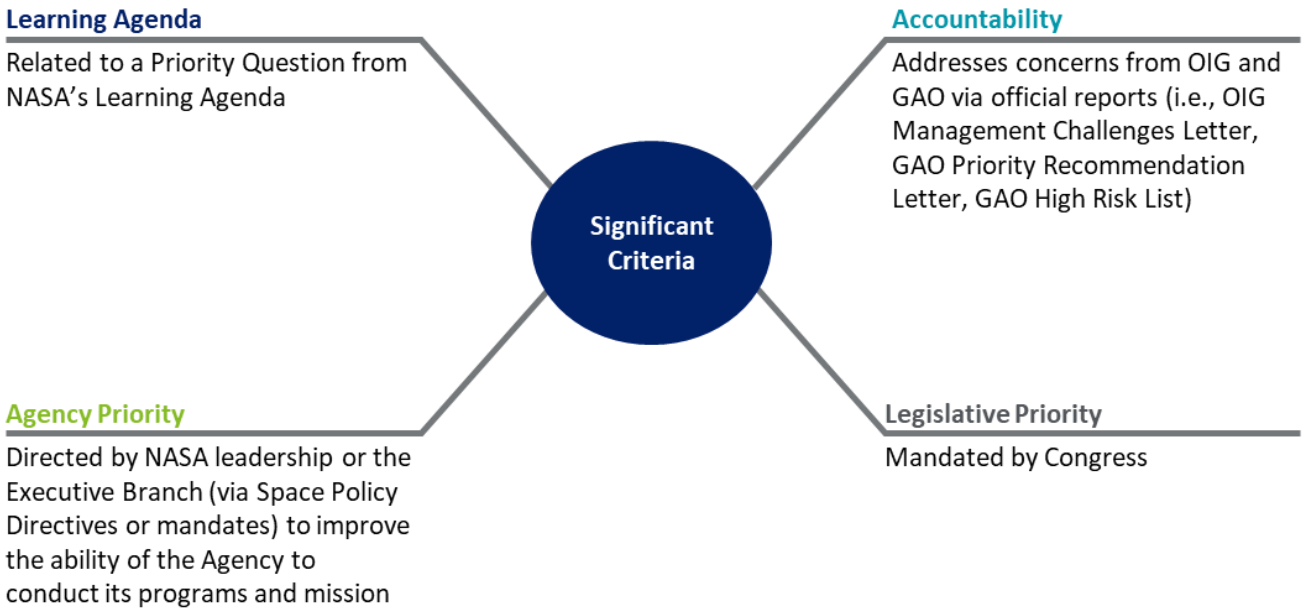
Table 1. Dissemination and Sharing Summary

Stakeholder Group	Dissemination Channel
NASA Senior Officials	Council Meetings, Conferences, Reports
Centers and Mission Directorates Leadership	Conferences, Webinars, Performance Reviews
Internal Councils and Symposia	Reports, Briefings, Conferences
External Councils, NASA Advisory Council (NAC)	Conferences, Webinars
Congress	Committee Hearings, Briefings
Office of Management and Budget (OMB)	Budget Submission and Reviews, Council Meetings
Public, National Academies	Press Releases, Webinars, NAC Meetings, Conferences

NASA's Criteria for Defining "Significant" Evaluations

NASA has an extensive evidence culture that leverages the findings from the numerous evaluations performed across the Agency to make evidence-based decisions that support NASA's mission, foster a culture of evaluation, and promote better value for the public. While the Agency considers every evaluation important, some rise to the level to influence policy and program decisions. To determine these significant evaluations, NASA has formulated criteria in accordance with the Evidence Act. These criteria identify NASA's most significant evaluations and include those that fit one or more of the criteria illustrated in Figure 1.

Figure 1. Criteria for NASA's Significant Evaluations



FY 2026 Significant Evaluations

1.0 Project Life Cycle Evaluations

NASA space flight projects develop and operate a wide variety of spacecraft, launch vehicles, in-space facilities, communications networks, instruments, and supporting ground systems. Space flight

projects flow from the implementation of national priorities through the Agency's Mission Directorates. Decomposing each project into phases organizes the process into more manageable pieces and provides managers with incremental visibility into the progress being made at a point in time, informing Federal management and budgetary environments. Every major NASA project goes through a distinct set of milestone reviews, phases, decision gates, and major events which are collectively referred to as the project life cycle.

Life cycle evaluations are designed to provide periodic assessments of the technical and programmatic status and health of a program or project at critical points in the life cycle. Certain reviews within the life cycle provide the basis for the Decision Authority to approve or disapprove the transition of a project to the next life cycle phase. The reviews within a life cycle vary depending on project type and each life cycle track has a distinct set of principal documents that must be developed to govern the conduct of each phase. Project managers follow their appropriate life cycle associated with their specific project type, as outlined in the NASA Space Flight Program and Project Management Handbook and the NASA Research and Technology Program and Project Management Requirements Guide.

This carefully coordinated set of formative evaluations represent continual self and independent assessments of project performance and incorporation of findings to ensure adequacy of planning and execution in accordance with approved plans and requirements. These evaluations are vital to ensure resources (staffing and funding) are sufficient for the planned technical effort, whether the technical maturity has evolved, what the technical and nontechnical internal issues and risks are, and whether the stakeholder expectations have changed.

Theory of Change

If NASA project managers follow the specific pre-determined reviews, assessments, and evaluations outlined for their specific project type, then NASA will be in a better position to ensure the safety of the crew and cargo, achieve intended project results, and properly steward taxpayer dollars.

Data and information

The table below (table 2) contains an explanation of several of the most common reviews that can occur throughout a project's life cycle evaluation and assessment process. This list is in alphabetical order and not necessarily sequenced by stage in the lifecycle, as it can vary by project type. This list is not comprehensive, but more reviews can be found in the NASA Space Flight Program and Project Management Handbook.

Table 2. Common Reviews in a Project's Lifecycle Evaluations and Assessments

Design Type	Description
Critical Design Review	Evaluation of the integrity of the project design and its ability to meet mission requirements with appropriate margins and acceptable risk within defined project constraints, including available resources. To determine if the design is appropriately mature to continue with the final design and fabrication phase.
Launch Readiness Review	Evaluation of a program/project and its ground, hardware, and software systems for readiness for launch.
Mission Concept Review	Evaluation to affirm the mission need and examine the proposed mission's objectives and the concept for meeting those objectives.
Mission Readiness Review	Evaluation of the readiness of the program and its projects, ground systems, personnel, and procedures for a safe and successful launch and flight/mission.
Preliminary Design Review	Evaluation of the completeness and consistency of the planning, technical, cost, and schedule baselines. Assessment of preliminary design compliance with applicable requirements.

Safety and Mission Success Review	Provides the knowledge, visibility, and understanding necessary for senior safety, engineering, and health and medical management to either concur or nonconcur in program decisions to proceed with a launch or significant flight activity.
System Acceptance Review	Evaluation of whether a specific end item is sufficiently mature to be shipped from the supplier to its designated operational facility or launch site.
System Design Review	Evaluation of the credibility and responsiveness of the proposed project requirements/architecture to the Mission Directorate requirements and constraints, including available resources, and allocation of requirements to projects.
System Integration Review	Evaluation of the readiness of the program, including its projects and supporting infrastructure, to begin system assembly, integration, and test.
System Requirements Review	Evaluation of whether the functional and performance requirements defined for the system are responsive to the program's requirements on the project and represent achievable capabilities.

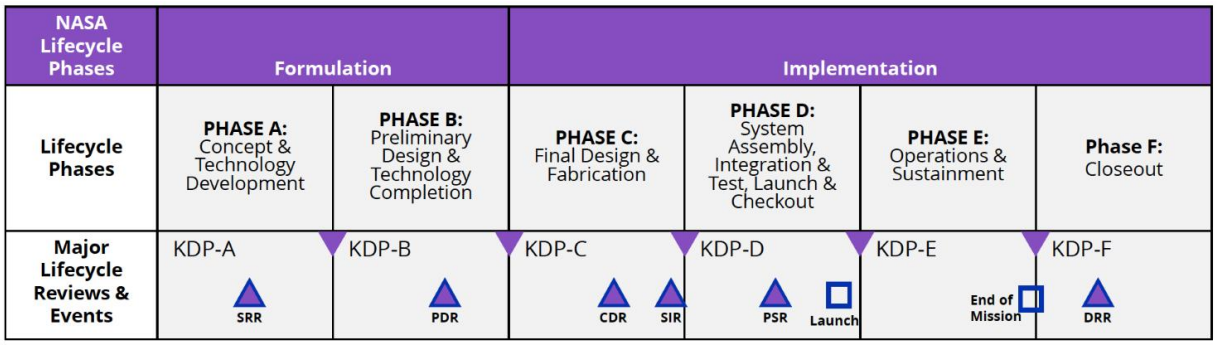
Evaluation Questions

Some reviews or a combination of reviews require signoff at the highest levels of the Agency. Without signatures from appropriate senior leaders, projects are not allowed to move to the next phase. These signoffs are referred to as Key Decision Points (KDP). Some of the most important critical questions that must be assessed for each KDP are listed below in table 3.

Table 3. Critical Questions Considered During each KDP

Key Decision Point (KDP)	Priority Questions
KDP-A	• Does the project address critical NASA needs? • Can the project likely be achieved as conceived?
KDP-B	• Is the project's mission/system architecture credible and responsive to program requirements and constraints? • Can the project's mission likely be achieved within available resources with acceptable risk?
KDP-C	• Is the project's planning, technical, cost, and schedule baselines complete and consistent? • Does the project's preliminary design comply with requirements? • Are the project's cost and schedule adequate to enable mission success with acceptable risk?
KDP-D	• Is the project's risk commensurate with the project's payload classification? • Is the project ready for assembly, integration, and testing? • Is the project within its cost and schedule agency baseline commitment with acceptable risk?
KDP-E	• Is the project and all its supporting systems ready for a safe and successful launch? • Are early operations for the project within its cost and schedule agency baseline commitment with acceptable risk?

Figure 2. Project Management Lifecycle Phases and KDPs



Key Decision Point (KDP) is an event where NASA determines whether a project is ready to move to the next phase of its life cycle and establishes content, cost, and schedule commitments for that phase

System Requirements Review (SRR) evaluates whether the functional and performance requirements for the system meet the needs of the project and represent achievable capabilities

Preliminary Design Review (PDR) evaluates completeness/consistency of the planning, technical, cost, and schedule baselines developed during Formulation

Critical Design Review (CDR) evaluates the project design and its ability to meet mission requirements with appropriate margins and acceptable risk

System Integration Review (SIR) evaluates whether the projects is ready for integration and test, can be completed with available resources, and is ready for Phase D

Pre-Ship Review (PSR) ensures the completeness of any item of hardware or software before it is released to another facility for integration with a larger system or the spacecraft

Disposal Readiness Review (DRR) evaluates the readiness of the project and system for a disposal event, such as deorbiting

Methods to be used and Evaluation Design

The activities described represent a carefully coordinated, pre-defined process of formative evaluations throughout the life cycle of every major NASA project. KDPs represent summative program evaluations where decisions are made on whether projects are feasible, appropriate, and acceptable before being allowed to move to the next phase. The data gathered at each phase can be used to compare KDP maturity between cost, schedule, and technical parameters.

Challenges

Phasing remains a major challenge to the completion of the majority of NASA projects. Assessing resources for projects is a major part of the life cycle assessment and evaluation process and is reviewed at multiple points in the review process.

Timing is a major concern, especially for planetary missions which can only launch at certain points due to the alignment of planets. Slippages in schedule for any reason could lead to missing launch windows, which could cause major cost overruns.

Dissemination Strategies

NASA communicates how its projects are progressing in numerous ways including the Annual Performance Report, where the public can read about our performance on certain specific reviews. NASA also utilizes press releases and social media to highlight work on our projects. Furthermore, due to the complexity of the NASA mission, the Agency is subject to several congressionally mandated requirements like the annual assessment of our major projects, completed by the Government Accountability Office (GAO), as well as cost and schedule reporting to Congress and OMB for development projects. NASA's Office of Inspector General also regularly reviews NASA's management of major projects. All of these reports are publicly available.

Decision Authority on whether and how a program/project proceeds into the next phase is summarized and recorded in a Decision Memorandum. These memos describe the constraints and parameters within which the Agency, the program manager, and the project manager will operate; the extent to which changes in plans may be made without additional approval; any additional actions that came out of the KDP; and supporting data (i.e. cost and schedule data sheet) that provide further details. These memos are dispersed internally within the Agency and to certain external stakeholders.

Timeframe

The timeframe for this evaluation is ongoing and constant. Different projects move in and out of the life cycle paths constantly. For a list of where all NASA projects in development with life cycle cost estimates of $250M or more are in their particular life cycle and their next key milestone date, please see NASA's FY 2026 Major Program Annual Report (MPAR) within NASA's FY 2026 Budget Request. This report is updated annually with each President's Budget Request.

2.0 Cost and Schedule

NASA is on the cutting edge of scientific discovery and space exploration and develops large projects that span multiple years or decades. A major management challenge for NASA is developing estimates for and managing cost and schedule commitments given the technical complexity of these development projects. GAO found that NASA's projects had cumulatively overrun by $4.4 billion and 12 years in 2024. Improving cost and schedule models should help NASA to better predict and deliver on its project commitments.

For NASA spaceflight projects, NASA utilizes the following three general techniques in helping inform Agency management and external stakeholders with predicting project development costs and schedules.

1. Early in formulation, the Agency requires projects to produce probabilistic cost and schedule estimates.
2. As a prerequisite to approval for implementation, the Agency requires projects to produce a probabilistic model of its baseline project plan to help inform Agency cost and schedule commitments.
3. Lastly, within the implementation phase of development, the Agency utilizes earned value management to track projects' performance against that commitment.

Given a project's relative lack of maturity during formulation, the probabilistic cost and schedule estimate incorporates broad uncertainties regarding the project's scope, technical approach, safety objectives, acquisition strategy, implementation schedule, and associated costs. The project team develops its cost and schedule estimates using many different techniques. These include, but are not limited to, bottom-up estimates where specific work items are estimated by the performing organization using historical data or engineering estimates; vendor quotes; analogies; and parametric cost and schedule models.

In addition to the requirement for projects to produce probabilistic cost and schedule analysis in formulation, the Agency also conducts independent assessments on the probabilistic analysis. Independent assessments of cost and schedule in early formulation often utilize agency parametric models as cross checks. This evaluation primarily deals with the Agency's in-house parametric capability to help inform early formulation probabilistic cost and schedule estimates.

Parametric cost and schedule models utilize relationships between historic program costs/schedules and technical parameters to predict future costs/schedules. Cost and Schedule Estimating Relationships (CERs/ SERs) are used to capture these relationships and are developed using statistical techniques – including regression analysis. These models are a solid foundation for probabilistic cost and schedule estimating and will generally do a good job of estimating unless: a project has major cost drivers not modeled by the CERs (probably the source of outliers); the model does not contain analogous data to estimate; or the programmatic content and approach are not defined properly (test hardware, development approach, funding availability, etc.).

As such, the Agency has invested resources in historical data collection, statistical data analysis, and deployment of cost models to be utilized in early formulation to better inform cost and schedule

estimates. Though these efforts have been going on in some capacity for over 40 years, there is a need to enhance these efforts to appropriately capture technology, project management, systems engineering, software, and acquisition trends within the cost and schedule estimates produced. This evaluation plan will outline current plans for incorporating these activities. Continued inherently complex and unique projects, as well as continued poor cost and schedule performance, drives the need to perform this analysis.

Theory of Change

If NASA expands its cost and schedule modeling paradigm and suite of tools, improving the capability to estimate cost and schedule needs early in project formulation when NASA is socializing mission costs with external stakeholders such as Congress and OMB, then the Agency will be better positioned to make baseline project commitments that are statistically achievable, delivering projects closer to on-time and on-budget.

Evaluation Question(s)

The following questions are addressed in the Agency's annual parametric tool development:

- What new NASA mission data has become available to collect and add to the Agency's parametric tool set?
    - Are there any technical input parameters that have not historically been collected that need to be collected?
    - What new or existing data sources are most appropriate to mine?
- Are current normalization techniques (e.g., adjusting for inflation) still valid?
    - Is additional normalization needed given the impacts of COVID and supply chain issues?
    - Is additional stratification of data needed?
    - Which historical data points are no longer analogous to modern technology or assumptions?
- What technical parameters are statistical drivers that will form CERs/SERs?
    - Are there additional statistical techniques that can be utilized?
- What is the best way to deploy and communicate CER/SER research, methodology and results to the cost and schedule communities?
    - Is the community properly trained to use CERs/SERs effectively?

Data and Information

Most data will be collected via the One NASA Cost Engineering (ONCE) database, including technical and mission classification data. ONCE is composed of historical NASA Cost Analysis Data Requirements (CADRe) that have programmatic data by milestone. Other NASA systems and personnel will be utilized for data that may be missing from the sources listed above.

Methods to Be Used and Evaluation Design

For each current Cost and Schedule parametric model, evidence-building activities will include:

- Statistical analysis of technical drivers that drive cost and to what extent. Analysis will be updated as additional data is collected from completed NASA projects. Historically, methods for analysis vary but generally consist of principal component analysis, stepwise regression, and cluster analysis.

- Normalizing new data and adding to historical data sets that drive analysis will be examined to determine relevance. Methods include normalizing mission externalities, inflation, and acquisition approach (e.g. block buys/builds).

- Further stratification of data will be examined for refined CERs/SERs. Analysis will be supported by methods such as principal component analysis, stepwise regression, multivariable regression, and nearest neighbor analysis.

Challenges

Agency data collection efforts are key to sound model development.

For firm fixed priced acquisitions it can be difficult to collect cost data at a detail level that is useful for cost modeling purposes.

Dissemination Strategies

Data analysis results for all NASA cost and schedule models are available to all NASA personnel. Analysis of statistical fits and descriptive statistics are available for broad distribution with each model's supporting documentation.

Timeframe

The timeframe for this evaluation is ongoing. Primary models are continuously collecting and conducting analysis. Deployment of model updates are scheduled every 12-18 months for configuration purposes.