NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

REPORT PURSUANT TO THE GOOD ACCOUNTING OBLIGATION IN GOVERNMENT ACT OF 2019 (P.L. 115-414)

As of December 31, 2024

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NASA'S REQUIRED REPORTING UNDER THE GOOD ACCOUNTING OBLIGATION IN GOVERNMENT ACT OF 2019 (P.L. 115-414)

Background

In 2019, the President signed into law the "Good Accounting Obligation in Government Act." The Act was envisioned to improve transparency around long-standing audit recommendations issued by the Government Accountability Office (GAO) and Federal Offices of Inspectors General (OIG). By requiring agency reporting on the lack of progress towards implementation, the Congress postulated that Federal agencies would be held more accountable and that the public can more readily assess agency funding requests in light of unfulfilled efficiency improvements that could potentially yield cost savings.

Section 2 of the Act imposes an affirmative requirement on Federal agencies to submit an annual report on publicly issued GAO and OIG recommendations classified as "open" for a year or more from the date of the annual budget justification submission. Additionally, the Act also requires that agencies report on publicly issued GAO recommendations that were determined to be "closed, unimplemented." For both categories of recommendations – open and closed, unimplemented – Federal agencies are required to provide an explanation as to why final action[1] has not yet been completed. Finally, the Act also requires agencies perform a reconciliation of discrepancies between recommendations reported by GAO and their OIGs and the recommendations according to their agency records.

Summary

As of December 31, 2024, a combined total of 120 GAO and NASA OIG recommendations in 52 public reports were open for one year or more. Of these recommendations, 28 were issued by GAO in 19 reports and 92 were issued by the NASA OIG in 33 reports. There were no recommendations in GAO reports that were closed, unimplemented through December 31, 2024, that had not already been disclosed in prior reports issued in accordance with P.L. 115-414. NASA reconciled GAO's online database of recommendations and the recommendations reported in OIG's 2024 Fall Semiannual Report with its records.

Reporting Methodology and Report Structure

This report includes GAO and NASA OIG recommendations issued through December 31, 2023, that remained unimplemented for one year or more from the planned fiscal year (FY) 2026 budget justification submission date in early calendar year 2025.

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[1] Final Action: The completion of all actions that NASA management has concluded, in its management decision, are necessary with respect to the findings and recommendations included in an audit report; or, in the event that NASA management concludes no action is necessary, final action occurs when a management decision has been made. Source: *5 U.S.C. 405(a)(2).*

This report contains four appendices:

- Appendix A: GAO Recommendations Open One Year or More
- Appendix B: OIG Recommendations Open One Year or More
- Appendix C: Reconciliation of Agency Records with NASA OIG Semiannual Report and GAO's Database of Open Recommendations
- Appendix D: Glossary of Acronyms

For purposes of NASA's reporting under the Act, the following definitions are provided in order to enhance the utility and readability of this report:

- **Open:** Final action has either been completed and is pending auditor verification and validation or final action by NASA is pending/in-progress.
- **Closed:** Final action and corresponding auditor verification and validation of completed necessary actions has been completed.
- **Closed, Unimplemented:** Recommendation has been closed; however, final action has been partially completed, not completed, or action(s) not recommended have been taken. (Applicable only to GAO recommendations.)

While NASA has taken final action on 30 recommendations, the auditor is still verifying and validating the corrective actions; therefore, this report lists their status as "Open, Actions Completed." For recommendations with which NASA and the auditors agreed with planned corrective actions, this report provides implementation status updates and timelines to complete planned corrective actions, as well as any budgetary impacts to implement GAO recommendations. These recommendations are considered "Open, Actions In-Progress."

Appendix A
GAO Recommendations Open One Year or More

Open, Actions Completed

1. **Report: NASA: Actions Needed to Improve Transparency and Assess Long-Term Affordability of Human Exploration Programs** (GAO-14-385; 5/8/2014)

   Recommendation 1: To provide the Congress with the necessary insight into program affordability, ensure its ability to effectively monitor total program costs and execution, and to facilitate investment decisions, NASA's Administrator direct the Human Exploration and Operations Mission Directorate (HEOMD) to establish a separate cost and schedule baseline for work required to support the Space Launch System (SLS) Block I Exploration Mission 2 (EM-2) and report this information to the Congress through NASA's annual budget submission. If NASA decides to fly the SLS Block I beyond EM-2, establish separate life-cycle cost and schedule baseline estimates for those efforts, to include funding for operations and sustainment, and report this information annually to Congress via the agency's budget submission.

   Status: NASA Action Completed

   Office of Primary Responsibility: Explorations Systems Development Mission Directorate

   Target Completion Date: N/A

2. **Report: Space Launch System: Resources Need to be Matched to Requirements to Decrease Risk and Support Long Term Affordability** (GAO-14-631; 7/23/2014)

   Recommendation 2: To provide the Congress with the necessary insight into program planning and affordability, and to decrease the risk of cost and schedule overruns, we recommend that NASA's Administrator direct HEOMD to take the following action: To provide decision makers with an informed basis for making investment decisions regarding the SLS program, NASA should identify a range of possible missions for each future SLS variant that includes cost and schedule estimates and plans for how those possible missions would fit within NASA's funding profile.

   Status: NASA Action Completed

   Office of Primary Responsibility: Explorations Systems Development Mission Directorate

   Target Completion Date: N/A

3. **Report: NASA Information Technology: Urgent Action Needed to Address Significant Management and Cybersecurity Weaknesses** (GAO-18-337; 5/22/2018)

   Recommendation 3: The Administrator should direct the Chief Information Officer to address, in conjunction with the Chief Human Capital Officer, gaps in Information Technology (IT) workforce planning by fully implementing the eight key IT workforce planning activities noted in this report.

   Status: NASA Action Completed

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: N/A

4. **Report: NASA Human Space Exploration: Persistent Delays and Cost Growth Reinforce Concerns over Management of Programs** (GAO-19-377; 6/19/2019)

   Recommendation 3: We recommend the NASA Administrator ensure that the NASA Associate Administrator for Human Exploration and Operations direct the Exploration Ground Systems (EGS) program to demonstrate design maturity by completing three dimensional product modeling of the basic and functional design of the second Mobile Launcher prior to construction start.

   Status: NASA Action Completed

   Office of Primary Responsibility: Exploration Systems Development Mission Directorate

   Target Completion Date: N/A

5. **Report: Telecommunications: Agencies Should Fully Implement Established Transition Planning Practices to Help Reduce Risk of Costly Delays** (GAO-20-155; 4/7/2020)

   Recommendation 21: The Administrator of NASA should ensure that the agency's Chief Information Officer updates the telecommunications inventory to include all telecommunications assets and services in use at the agency, and updates NASA's process for ongoing maintenance of the inventory to include the complete inventory.

   Status: NASA Action Completed

   Office of Primary Responsibility: Office of the Chief Information Officer

   Target Completion Date: N/A

6. **Report: Telecommunications: Agencies Should Fully Implement Established Transition Planning Practices to Help Reduce Risk of Costly Delays** (GAO-20-155; 4/7/2020)

   Recommendation 22: The Administrator of NASA should ensure that the agency's Chief Information Officer completes efforts to identify the agency's future telecommunications needs using a complete inventory of existing telecommunications services.

   Status: NASA Action Completed

   Office of Primary Responsibility: Office of the Chief Information Officer

   Target Completion Date: N/A

7. **Report: Telecommunications: Agencies Should Fully Implement Established Transition Planning Practices to Help Reduce Risk of Costly Delays** (GAO-20-155; 4/7/2020)

Recommendation 24: The Administrator of NASA should ensure that the agency's Chief Information Officer conducts an analysis to support the anticipated cost savings identified as part of the agency's justification for its resource requests related to hardware and software upgrades for the telecommunications transition, and justifies its resource requests for transition program management staff; conducts an analysis to identify staff resources needed for the entire transition effort; and analyzes training needs for staff assisting with the transition.

Status: NASA Action Completed

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: N/A

8. **Report: Federal Research: Agencies Need to Enhance Policies to Address Foreign Influence** (GAO-21-130; 12/17/2020)

Recommendation 7: The Administrator of NASA should update the agency's conflict of interest policy to include a definition on non-financial conflicts, such as the one developed by the Office of Science and Technology Policy, and address these conflicts, both foreign and domestic.

Status: NASA Action Completed

Office of Primary Responsibility: Office of Procurement

Target Completion Date: N/A

9. **Report: Federal Research: Agencies Need to Enhance Policies to Address Foreign Influence** (GAO-21-130; 12/17/2020)

Recommendation 8: The Administrator of NASA should document procedures, including roles and responsibilities for addressing and enforcing failures to disclose required information, both foreign and domestic.

Status: NASA Action Completed

Office of Primary Responsibility: Office of Procurement

Target Completion Date: N/A

10. **Report: NASA Lunar Programs: Significant Work Remains, Underscoring Challenges to Achieving Moon Landing in 2024** (GAO-21-330; 5/26/2021)

Recommendation 1: The NASA Administrator, in coordination with the Associate Administrator for the Science Mission Directorate (SMD), should ensure the Volatiles Investigating Polar Exploration Rover (VIPER) project office includes relevant development costs from the Resource Prospector project and the cost of the Commercial Lunar Payload Services task order for the delivery of VIPER to the lunar surface into its cost baseline.

Status: NASA Action Completed

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: N/A

11. **Report: Federal Contracting: Senior Leaders Should Use Leading Companies' Key Practices to Improve Performance** (GAO-21-491; 7/27/2021)

    Recommendation 10: The Administrator of NASA should ensure the NASA Senior Procurement Executive uses a balanced set of performance metrics to manage the agency's procurement organizations, including outcome-oriented metrics to measure (a) cost savings/avoidance, (b) timeliness of deliveries, (c) quality of deliverables, and (d) end-user satisfaction.

    Status: NASA Action Completed

    Office of Primary Responsibility: Office of Procurement

    Target Completion Date: N/A

12. **Report: Research Reliability: Federal Actions Needed to Promote Stronger Research Practices** (GAO-22-104411; 7/28/2022)

    Recommendation 5: The Administrator of NASA should collect information on relevant indicators of rigor to assess the research projects the agency funds, and implement steps, as needed, to promote strong research practices in future work.

    Status: NASA Action Completed

    Office of Primary Responsibility: Office of the Chief Scientist

    Target Completion Date: N/A

13. **Report: Research Reliability: Federal Actions Needed to Promote Stronger Research Practices** (GAO-22-104411; 7/28/2022)

    Recommendation 6: The Administrator of NASA should take steps to collect information to determine whether current policies and requirements are adequate to achieve transparency by ensuring research results and data are findable, accessible, and usable, and implement programmatic or policy changes, if needed.

    Status: NASA Action Completed

    Office of Primary Responsibility: Office of the Chief Scientist

    Target Completion Date: N/A

14. **Report: Privacy: Dedicated Leadership Can Improve Programs and Address Challenges** (GAO-22-105065; 9/22/2022)

Recommendation 48: The Administrator of NASA should incorporate privacy into an organization-wide risk management strategy that includes a determination of risk tolerance.

Status: NASA Action Completed

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: N/A

15. **Report: Privacy: Dedicated Leadership Can Improve Programs and Address Challenges** (GAO-22-105065; 9/22/2022)

    Recommendation 49: The Administrator of NASA should fully define and document the role of the senior agency official for privacy or other designated privacy official in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages.

    Status: NASA Action Completed

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: N/A

16. **Report: Artificial Intelligence: Agencies Have Begun Implementation but Need to Complete Key Requirements** (GAO-24-105980; 12/12/2023)

    Recommendation 33: The Administrator of NASA should ensure that the agency updates and approves the agency's plan to achieve consistency with Executive Order (EO) 13960 section 5 for each Artificial Intelligence (AI) application, to include retiring AI applications found to be developed or used in a manner that is not consistent with the order.

    Status: NASA Action Completed

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: N/A

17. **Report: Small Business Subcontracting: Some Contracting Officers Face Challenges Assessing Compliance with the Good Faith Standard** (GAO-24-106225; 11/9/2023)

    Recommendation 9: The NASA Administrator should work with relevant contracting staff, such as small business specialists, to develop and implement just-in-time training for Contracting Officers (CO) related to good faith assessments.

    Status: NASA Action Completed

    Office of Primary Responsibility: Office of Procurement

Target Completion Date: N/A

Open, Actions In-Progress

18. **Report: Telecommunications: Agencies Need Better Controls to Achieve Significant Savings on Mobile Devices and Services** (GAO-15-431; 5/21/2015)

    Recommendation 28: To help the agency effectively manage spending on mobile devices and services, the Administrator of NASA should ensure a complete inventory of mobile devices and associated services is established.

    Status: The OCIO has previously submitted a Request for Closure for this recommendation. Upon GAO's request, the OCIO is in the final stages of providing an updated complete inventory of mobile devices and associated services to resubmit for closure. NASA is working closely with GAO to provide additional documentation to support closure consideration.

    Budget Implications: None Known

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: January 31, 2025

19. **Report: Telecommunications: Agencies Need Better Controls to Achieve Significant Savings on Mobile Devices and Services** (GAO-15-431; 5/21/2015)

    Recommendation 29: To help the agency effectively manage spending on mobile devices and services, the Administrator of NASA should ensure a reliable inventory of mobile service contracts is developed and maintained.

    Status: The OCIO has previously submitted a Request for Closure for this recommendation. Upon GAO's request, the OCIO is in the final stages of provided updated information on NASA's current mobile service contracts to resubmit for closure. NASA is working closely with GAO to provide additional documentation to support closure consideration.

    Budget Implications: None Known

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: January 31, 2025

20. **Report: Telecommunications: Agencies Need Better Controls to Achieve Significant Savings on Mobile Devices and Services** (GAO-15-431; 5/21/2015)

    Recommendation 30: To help the agency effectively manage spending on mobile devices and services, the Administrator of NASA should ensure procedures to monitor and control spending are established Agency-wide. Specifically, ensure that (1) procedures include assessing devices for zero, under, and over usage; (2) personnel with

authority and responsibility for performing the procedures are identified; and (3) the specific steps to be taken to perform the process are documented.

Status: The OCIO has previously submitted a Request for Closure for this recommendation. Upon GAO's request, the OCIO is in the process of finalizing updated evidence to resubmit for closure. In our latest efforts to bring this recommendation to closure, this new evidence will further explain how the new mobile service contracts are currently structured compared to how they were structured back when the audit was conducted in 2015. NASA is working closely with GAO to provide additional documentation to support closure consideration.

Budget Implications: None Known

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: January 31, 2025

21. **Report: NASA Commercial Crew Program: Plan Needed to Ensure Uninterrupted Access to the International Space Station** (GAO-18-476; 7/11/2018)

Recommendation 4: After completing the agency certification review, NASA's Chief Engineer and Chief of Safety and Mission Assurance, with support from the NASA Associate Administrator for Human Exploration and Operations and the Commercial Crew Program Manager, should document lessons learned related to loss of crew as a safety threshold for future crewed spaceflight missions, given the complexity of the metric.

Status: To achieve the Commercial Crew Program's objective of having two dissimilar, redundant, certified crew transportation systems to assure crewed access to space, NASA has prioritized its work with Boeing to understand the failures and anomalies experienced during Boeing's Crew Flight Test during the summer of 2024. NASA and Boeing are working to finalize the scope and timelines for various propulsion system test campaigns and analyses to better inform anomaly resolution efforts and propulsion system improvements leading to certification. Upon completion of Boeing's system certification, NASA will complete a comprehensive review of the lessons it learned regarding the use of the loss of crew metric as a safety threshold for vehicle design trade decisions.

Budget Implications: None Known

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: September 30, 2026

22. **Report: NASA Lunar Programs: Opportunities Exist to Strengthen Analyses and Plans for Moon Landing** (GAO-20-68; 12/19/2019)

Recommendation 3: The NASA Administrator should ensure that the NASA Associate Administrator for Human Exploration and Operations directs the Gateway program to update its overall schedule for 2024 to add a key decision point (KDP) II to occur before system integration.

Status: The Gateway Program transitioned from formulation to implementation after a successful KDP-I held in July 2023. The program held the first portion of the Gateway Critical Design Review (CDR)-Informed Synchronization Review in September 2024, anticipating close out of this life-cycle review milestone in calendar year 2025. Consistent with the tailoring approach applied to the life-cycle management of tightly coupled programs, Gateway must complete this next step before a plan and schedule for future reviews can be confirmed. Gateway will continue to conduct event driven synchronization reviews, based on configuration, maturity, and integrated analyses.

Given that an Agency Baseline Commitment (ABC) was established to include schedule commitment, NASA is working closely with GAO to provide additional documentation to support closure consideration.

Budget Implications: None Known

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

23. **Report: NASA Lunar Programs: Opportunities Exist to Strengthen Analyses and Plans for Moon Landing** (GAO-20-68; 12/19/2019)

Recommendation 4: The NASA Administrator should ensure that the NASA Associate Administrator for Human Exploration and Operations creates a life-cycle cost estimate for the Artemis III mission.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. By embracing flexibility and innovation, NASA aims to establish a robust infrastructure and lay the foundation for future exploration missions to Mars and beyond. The approach NASA is pursuing ensures that capabilities are developed to meet the needs of the architecture. These developments are consistent with NASA policy and follow the development process as documented in NASA command media (i.e., NASA Procedural Requirements (NPR) 7120.5, NASA Space Flight Program and Project Management Requirements). NASA recognizes GAO's critical role in promoting Artemis accountability and transparency; however, imposing a flight-by-flight cost assessment as a benchmark on individual Artemis missions can potentially hinder the success, innovation, and long-term sustainability of space missions. A more balanced approach that considers both short-term cost containment and long-term mission objectives is essential for achieving meaningful and impactful exploration and scientific discovery in space.

NASA utilizes a range of management and reporting tools to ensure transparency and accountability at the mission level for all stakeholders. These tools include project-level cost and schedule joint confidence level informed development commitments (including for major developmental upgrades), independent review at major life-cycle reviews and associated KDPs, documented and configuration-controlled mission definition baselines, by-mission schedule risk assessments, life-cycle cost estimates in Phase E, five-year

rolling estimates consistent with guidance provided in NPR 7120.5F, independent Agency financial auditing (including a 14th consecutive unmodified "clean" opinion in 2024), annual Agency budget requests, Agency-led baseline performance and major program reviews, independent reviews by the NASA Advisory Council and Aerospace Safety Advisory Panel, and multiple ongoing reviews from the governmental oversight entities.

NASA is working closely with GAO to provide additional documentation to support closure consideration.

Budget Implications: None Known

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

24. **Report: NASA Human Space Exploration: Significant Investments in Future Capabilities Require Strengthened Management Oversight** (GAO-21-105; 12/15/2020)

Recommendation 2: The NASA Administrator ensure that the NASA Associate Administrator for HEOMD directs the Exploration Systems Development organization to include cost, schedule, and technical performance updates for SLS Block 1B, SLS Block 2, Mobile Launcher 2, and the Orion Docking System in its quarterly program status reviews in order to maintain oversight of these development projects.

Status: To ensure transparency and accountability at the mission level for all stakeholders, NASA utilizes a range of management and reporting tools. These tools include independent review at major life-cycle reviews and associated KDPs, documented and configuration-controlled mission definition baselines, by-mission schedule risk assessments, life-cycle cost estimates in Phase E, five-year rolling estimates consistent with guidance provided in NPR 7120.5F, independent Agency financial auditing (including a 14th consecutive unmodified "clean" opinion in 2024), annual Agency budget requests, Agency-led baseline performance and major program reviews, independent reviews by the NASA Advisory Council and Aerospace Safety Advisory Panel, and multiple ongoing reviews from the OIG and GAO. Additionally, the Agency provides quarterly performance updates to GAO under the annual "Quick Look" audit (i.e., Assessments of NASA's Major Projects).

The Orion Rebaseline in 2021 included the NASA Docking System (NDS) under the Design Development Test and Evaluation cost estimate. NDS hardware delivery was completed July 31, 2024. NDS is an element in the Artemis III vehicle integration. In December 2023, a separate ABC was established for the SLS Exploration Upper Stage and its Associated Capabilities (EUS + CAPS) upgrades supporting Block 1B. The SLS Block 1B configuration will begin flying on Artemis IV. Additionally, the SLS Program plans to establish a separate ABC for the SLS Block 2 variant no earlier than six months following the Block 2 Preliminary Design Review (PDR).

NASA is working closely with GAO to provide additional documentation to support closure consideration.

Budget Implications: None Known

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: January 14, 2025

25. **Report: Leading Practices: Agency Acquisition Policies Could Better Implement Key Product Development Principles** (GAO-22-104513; 3/10/2022)

Recommendation 8: The NASA Administrator should ensure that the NASA Office of the Chief Engineer (OCE) update NASA acquisition policies to fully implement the following principle throughout development: applying iterative design approaches.

Status: NASA has responded to GAO's recommendation and implemented the following changes to address their recommendation based on how NASA operates.

- The NASA OCE and Office of the Chief Information Officer (OCIO) worked together to update organization policies that reflected the items outlined in the GAO's recommendation.

- The OCE updated NPR 7123.1D, NASA Systems Engineering Processes and Requirements, to clarify the NASA Technical Handbook, "NASA Systems Engineering Modeling Handbook for Systems Engineering" (NASA-HDBK-1009), used to supplement the NPR.

- The OCIO updated NPR 7120.7A, NASA Information Technology (IT) Program and Project Management Requirements, to include organizational changes from Transformation decision, including new IT Governance framework and the establishment of OCIO Service Lines. Updates to improve process or clarify requirements, including updated tailoring guidance, change management guidance, updated/clarified incremental and iterative development/release guidance to address the GAO audit finding and better support agile and incremental development, and additional information on the Project Communications Plan requirement. This includes language to include a Minimally Viable Product design process.

NASA is working closely with GAO to provide additional documentation to support closure consideration.

Budget Implications: None Known

Office of Primary Responsibility: Office of the Chief Engineer

Target Completion Date: January 27, 2025

26. **Report: NASA Lunar Programs: Improved Mission Guidance Needed as Artemis Complexity Grows** (GAO-22-105323; 9/8/2022)

Recommendation 2: The NASA Administrator, in coordination with the relevant mission directorates, should ensure that NASA conducts a schedule risk analysis (SRA) for the Artemis II mission as close as possible to completion of the Artemis I mission and update it as needed to incorporate schedule updates and new risks.

Status: An Artemis II preliminary SRA was performed post Artemis I mission as planned. This preliminary SRA used program data from January 2023 and allowed the Exploration Systems Development Mission Directorate (ESDMD) Schedule Analysis Team to validate its methods and identify critical path items. The preliminary SRA did not include a complete view of the Artemis II risk posture; however, it did identify the Orion Crew Module/Crew Service Module assembly, integration, and 23 production milestone through EGS integrated operations as the main critical path drivers for Artemis II. The preliminary SRA is a schedule management tool but does not represent the only source of data utilized to inform the new Artemis II launch readiness date.

Following the completion of the preliminary SRA, the Moon to Mars (M2M) Programs continued to evaluate findings from the flight and ground testing which have led to additional work and scope required in support of Artemis II. NASA concluded that these items (e.g., Orion Heatshield) posed a large enough safety risk that the manifest date needed to move. Additionally, Mobile Launcher 1 is undergoing integrated testing that has taken longer than planned as well as upgrades for the new crew escape system and a new liquid hydrogen sphere at the pad. Ensuring crew safety is the primary driver for the Artemis II schedule change. The Agency announced an updated schedule for Artemis II in December 2024, moving the launch readiness to no later than April 2026.

NASA is working closely with GAO to provide additional documentation to support closure consideration.

Budget Implications: None Known

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

27. **Report: Cybersecurity: Federal Agencies Made Progress, but Need to Fully Implement Incident Response Requirements** (GAO-24-105658; 12/4/2023)

Recommendation 17: The Administrator of NASA should ensure that the agency fully implements all event logging requirements as directed by Office of Management and Budget (OMB) guidance.

Status: The OCIO has conducted a thorough analysis of the current logging services, completed a market assessment, and is on track to finalize a strategic modernization plan and roadmap by the end of February 2025. This plan will outline the implementation of a new solution set or the enhancement of existing solutions, enabling the Agency to advance across all three Event Logging (EL) tiers through an iterative, measurable, and cost-effective approach. The phased three-year roadmap will define specific goals, objectives, investments, and process changes required to achieve EL3 by September 30, 2028.

Budget Implications: Yes, the Agency anticipates implemented corrective actions will have impacts to its budget. NASA anticipates increased labor costs associated with the "build phase" of the logging modernization effort. Additionally, the anticipated need to maintain the existing logging solution while developing and transitioning to the future state will contribute to higher costs.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: September 30, 2028

28. **Report: Artificial Intelligence: Agencies Have Begun Implementation but Need to Complete Key Requirements** (GAO-24-105980; 12/12/2023)

Recommendation 34: The Administrator of NASA should ensure that the agency updates its AI use case inventory to include all the required information, at minimum, and takes steps to ensure that the data in the inventory aligns with provided instructions.

Status: The OCIO conducted an Agency-wide collection of AI use cases. OCIO is tracking 676 AI use cases, 18 of which are required to be reported to the OMB. All required documents were uploaded to the OMB's MAX portal before the December 16, 2024, due date, to comply with the CIO Council's, "Guidance for 2024 Agency Artificial Intelligence Reporting Per EO 14110."

Consistent with the President's EO 14148, "Initial Rescissions of Harmful Executive Orders and Actions" all further actions to comply with EO 14110 have ceased.

Budget Implications: None Known

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: To be determined, all future actions depend on compliance with EO 14148, dated January 20, 2025.

Appendix B
OIG Recommendations Open One Year or More

Open, Actions Completed

1. **Report: NASA's Management of Space Launch System Program Costs and Contracts** (IG-20-012; 3/10/2020)

   Recommendation 2b: Review HEOMD and NASA program management policies, procedures, and ABC reporting processes to provide greater visibility into current, future, and overall cost and schedule estimates for the SLS Program and other human space flight programs. This review shall include the following: Establishing methodologies and processes to track and set cost commitments for Artemis II.

   Status: NASA Action Completed

   Office of Primary Responsibility: Exploration Systems Development Mission Directorate

   Target Completion Date: N/A

2. **Report: NASA's Management of Space Launch System Program Costs and Contracts** (IG-20-012; 3/10/2020)

   Recommendation 2c: Review HEOMD and NASA program management policies, procedures, and ABC reporting processes to provide greater visibility into current, future, and overall cost and schedule estimates for the SLS Program and other human space flight programs. This review shall include the following: Determining reporting and tracking procedures for setting cost and schedule commitments, and monitoring progress throughout the entire life cycle of the SLS Program (through at least 2030).

   Status: NASA Action Completed

   Office of Primary Responsibility: Exploration Systems Development Mission Directorate

   Target Completion Date: N/A

3. **Report: NASA's Management of the Gateway Program for Artemis Missions** (IG-21-004; 11/10/2020)

   Recommendation 3: Develop a HEOMD policy that establishes a reasonable amount of recommended schedule margin by phase of program or project.

   Status: NASA Action Completed

   Office of Primary Responsibility: Exploration Systems Development Mission Directorate

   Target Completion Date: N/A

4. **Report: NASA's Management of the Artemis Missions** (IG-22-003; 11/15/2021)

Recommendation 1: Develop a realistic, risk-informed schedule that includes sufficient margin to better align Agency expectations with the development schedule.

Status: NASA Action Completed

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: N/A

5. **Report: NASA's Management of Its Astronaut Corps** (IG-22-007; 1/11/2022)

   Recommendation 3: At least 18 months prior to the planned Artemis II launch, coordinate with Artemis program offices to complete the development and chartering of the framework of Artemis boards and panels to ensure alignment with future mission training needs for new vehicles and missions, including Orion, next-generation spacesuits, Human Landing System, and Gateway.

   Status: NASA Action Completed

   Office of Primary Responsibility: Exploration Systems Development Mission Directorate

   Target Completion Date: N/A

6. **Report: NASA's Cost Estimating and Reporting Practices for Multi-Mission Programs** (IG-22-011; 4/7/2022)

   Recommendation 4: Develop a formal process by which a risk-based probabilistic analysis is conducted to cover the global and interdependency risks of major programs and projects when those individual programs and projects are required for the successful implementation of a mission; regardless of how those programs and projects are categorized (i.e., tightly coupled, single-project program, etc.).

   Status: NASA Action Completed

   Office of Primary Responsibility: Office of the Chief Financial Officer

   Target Completion Date: N/A

7. **Report: NASA's Cost Estimating and Reporting Practices for Multi-Mission Programs** (IG-22-011; 4/7/2022)

   Recommendation 7: Establish procedural requirements for a risk posture analysis to ensure that major programs supporting multiple missions identify and estimate the cost and schedule impact of global and major interdependency risks.

   Status: NASA Action Completed

   Office of Primary Responsibility: Chief Program Management Officer

Target Completion Date: N/A

8. **Report: NASA's Compliance with the Payment Integrity Information Act for Fiscal Year 2021** (IG-22-014; 6/28/2022)

   Recommendation 7: Develop a detailed review process, such as a checklist or job aid, outlining the review procedures performed by the Quality Assurance Division within the reporting process for overpayments from sources other than recapture audits to ensure that the primary reviewer and the supervisory quality control reviewers are performing a thorough review of the aggregated submissions of overpayments. Necessary review steps include ensuring overpayments are not reported twice, capturing issues with overpayments submitted for the incorrect period, and tracking identified and collected portions that occur in different fiscal years for accurate reporting.

   Status: NASA Action Completed

   Office of Primary Responsibility: Office of the Chief Financial Officer

   Target Completion Date: N/A

9. **Report: NASA's Management of the Space Launch System Booster and Engine Contracts** (IG-23-015; 5/25/2023)

   Recommendation 6: Conduct a thorough review of the Booster Production and Operations Contract's scope of work and technical requirements needed to complete the respective periods of performance and update the contract as appropriate.

   Status: NASA Action Completed

   Office of Primary Responsibility: Exploration Systems Development Mission Directorate

   Target Completion Date: N/A

10. **Report: NASA's Earth System Science Pathfinder Program** (IG-23-018; 9/5/2023)

    Recommendation 2: Reexamine its selection process to ensure Principal Investigators (PI) or their teams have sufficient experience, including project management, and the ability to dedicate necessary resources to effectively manage Earth System Science Pathfinder (ESSP) projects.

    Status: NASA Action Completed

    Office of Primary Responsibility: Science Mission Directorate

    Target Completion Date: N/A

11. **Report: NASA's Earth System Science Pathfinder Program** (IG-23-018; 9/5/2023)

    Recommendation 7: Develop formal and clear guidance on the roles, responsibilities, and expectations for the inclusion of applications within Earth Venture Class projects.

Status: NASA Action Completed

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: N/A

12. **Report: NASA's Earth System Science Pathfinder Program** (IG-23-018; 9/5/2023)

Recommendation 8: Develop a methodology for funding applications in Earth Venture Class projects.

Status: NASA Action Completed

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: N/A

13. **Report: NASA's Management of the Artemis Supply Chain** (IG-24-003; 10/19/2023)

Recommendation 7: Ensure an Artemis-specific study of the Agency's industrial base and supply chain is completed on a recurring basis.

Status: NASA Action Completed

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: N/A

Open, Actions In-Progress

14. **Report: Audit of NASA's Historic Property** (IG-19-002; 10/22/2018)

Recommendation 2: Develop comprehensive procedures for identifying and managing heritage assets, including defining roles and responsibilities for the different NASA entities responsible for evaluating what historic items would most effectively be maintained by the Agency and considered as heritage assets.

Status: NASA is continuing to develop a comprehensive process to identify and manage its heritage assets. To accomplish this, NASA held a process identification and improvement (Lean Six Sigma Kaizen) event in January 2023 with participation from the Office of the Chief Financial Officer (OCFO), Office of Communications (OCOMM), and Office of Strategic Infrastructure (OSI). During the event, NASA documented the current and future state of the heritage assets process. NASA also developed a Heritage Assets Implementation Plan which included action items that aligned to the future state and were assigned to the appropriate organizations with expected completion dates. NASA has continued to work on the action items and is currently revising the implementation plan with dates of completion scheduled for summer 2025.

Office of Primary Responsibility: Office of Communications

Target Completion Date: July 1, 2025

15. **Report: Audit of NASA's Historic Property** (IG-19-002; 10/22/2018)

Recommendation 3: Evaluate and justify the existing list of NASA- and contractor-held heritage assets to determine whether NASA is the most effective owner and what property the Agency will retain because of its historical value.

Status: NASA is continuing to develop a comprehensive process to identify and manage its heritage assets. To accomplish this, NASA held a process identification and improvement (Lean Six Sigma Kaizen) event in January 2023 with participation from OCFO, OCOMM, and OSI. During the event, NASA documented the current and future state of the heritage assets process. NASA also developed a Heritage Assets Implementation Plan which included action items that aligned to the future state and were assigned to the appropriate organizations with expected completion dates. NASA has continued to work on the action items and is currently revising the implementation plan with dates of completion scheduled for summer 2025.

Office of Primary Responsibility: Office of Communications

Target Completion Date: July 1, 2025

16. **Report: Audit of NASA's Historic Property** (IG-19-002; 10/22/2018)

Recommendation 5: Ensure NASA policies and procedures for using the proceeds from facilities leased under National Historic Preservation Act authority appropriately aligns with Agency goals to minimize excess facilities.

Status: NASA published the NASA Policy Directive (NPD) 8800.14F, Policy for Real Estate Management, and NPR 8800.15F, Real Estate Management Program, to address the recommendation cited in this audit.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: February 28, 2025

17. **Report: Management of NASA's Europa Mission** (IG-19-019; 5/29/2019)

Recommendation 9: Reassess the process of isolating key project personnel from instrument selection to balance their additional insight in integration and cost estimation while maintaining fairness in the announcement and mitigating conflicts of interest risks.

Status: Following extensive consultations with the Office of the General Counsel (OGC) and others, SMD developed a draft Science Policy Directive responsive to this

recommendation's guidance from OIG. The draft continues through the concurrence process; only a few signatures remain.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: September 15, 2025

18. **Report: NASA's Security Management Practices** (IG-20-001; 10/21/2019)

Recommendation 5: Coordinate with the OGC to standardize the carrying of firearms by NASA civil servants in an Agency-wide policy while also addressing the appropriate situations when NASA contractors may carry their government-issued weapons off NASA property.

Status: NASA has endorsed and sent forward to Congress, via the OMB, the legislative proposal to pursue an administrative modification to the Space Act which will allow NASA security officers to carry firearms in their official duty off-Center while protecting NASA personnel and/or property. While the legislative proposal to make the administrative corrections to Title 51 of the United States Code, "National and Commercial Space Programs," to allow NASA contractors to be armed off-Center in support of their duties has the support of the Agency, the Office of Protective Services (OPS) cannot predict when it will be, or if it will ever be, enacted into law. As the Agency and OPS has no control over this external process, NASA believes that its commitment to advocate for this authority by continuing to resubmit until the correction is signed into law satisfies the intent of this portion of the OIG recommendation.

In May 2023, OPS brought onboard a Transformation manager and assigned an ad hoc group to further define the duties and responsibilities of NASA armed civil servant employees. The team developed and distributed a comprehensive survey and then analyzed the results.

A Community of Practice was recently established for Special Agents to establish a platform for group discussions, problem solving opportunities, information sharing (resources, knowledge, and ideas) and relationship building.

The Deputy Assistant Administrator for OPS facilitated meetings with all Chiefs of Protective Services to obtain consistency and uniformity across the enterprise. A decision was made to incorporate all elements into a Standard Operating Procedures (SOP) for Special Agents which has been completed but is going through final review with the NASA OGC. When the SOP is finalized, the standards will be incorporated into the applicable Position Descriptions. OPS also anticipates the finalization of the written qualifications and fitness for duty standards for the NASA civil servant sworn Federal Officers/Special Agents and finalization of an SOP no later than June 1, 2025. Once the SOP is complete, OPS will issue to the affected workforce and come back with a request to close this recommendation.

Office of Primary Responsibility: Office of Protective Services

Target Completion Date: July 30, 2025

19. **Report: NASA's Management of Crew Transportation to the International Space Station** (IG-20-005; 11/14/2019)

Recommendation 2: Correct identified safety-critical technical issues before the crewed test flights, including parachute, propulsion, and launch abort systems, to ensure sufficient safety margins exist.

Status: NASA works to identify, address, and resolve all safety-critical technical issues prior to any flight with crew. Any items that pose risk to flight are reviewed and tracked through the Certification of Flight Readiness Process and are dispositioned by Senior Agency leadership prior to proceeding to launch countdown. NASA has recently demonstrated evidence of this process to external stakeholders such as the Aerospace Safety Advisory Panel and will provide evidence of this process to the OIG along with specific examples.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: March 31, 2025

20. **Report: NASA's Management of Distributed Active Archive Centers** (IG-20-011; 3/3/2020)

Recommendation 1: In conjunction with Earth Science Data and Information System, once NASA-ISRO Synthetic Aperture Radar (NISAR) and Surface Water and Topography (SWOT) are operational and providing sufficient data, complete an independent analysis to determine the long-term financial sustainability of supporting the cloud migration and operation while also maintaining the current Distributed Active Archive Centers footprint.

Status: At present, NISAR's launch date is no earlier than April 1, 2025. The SWOT launched in December 2022. The recommendation's assessment can be initiated following operationalization of the NISAR mission and once sufficient data has been realized.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 31, 2026

21. **Report: NASA's Management of Space Launch System Program Costs and Contracts** (IG-20-012; 3/10/2020)

Recommendation 2: Review HEOMD and NASA program management policies, procedures, and ABC reporting processes to provide greater visibility into current, future, and overall cost and schedule estimates for the SLS Program and other human space flight programs.

Status: NASA is working with the OIG on how to close out all Artemis cost by mission recommendations as NASA does not provide cost by mission but rather a cost by element. The Artemis implementation is unique from other NASA activities in that the

flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. By embracing flexibility and innovation, NASA aims to establish a robust infrastructure and lay the foundation for future exploration missions to Mars and beyond. The approach NASA is pursuing ensures that capabilities are developed to meet the needs of the architecture. These developments are consistent with NASA policy and follow the development process as documented in NASA command media (i.e., NPR 7120.5). NASA recognizes OIG's critical role in promoting Artemis accountability and transparency; however, imposing a flight-by-flight cost assessment as a benchmark on individual Artemis missions can potentially hinder the success, innovation, and long-term sustainability of space missions. A more balanced approach that considers both short-term cost containment and long-term mission objectives is essential for achieving meaningful and impactful exploration and scientific discovery in space.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

22. **Report: NASA's Management of the Orion Multi-Purpose Crew Vehicle Program** (IG-20-018; 7/16/2020)

Recommendation 2: To the extent practicable, adjust the production schedules for Artemis IV and V to better align with the successful demonstration of Artemis II to reduce schedule delays associated with potential rework.

Status: An update to the Artemis mission planning manifest is currently under way to include the new mission dates announced on December 6, 2024, for Artemis II and Artemis III. Artemis IV and V mission readiness and related production schedules will be assessed in the FY 2027 budget formulation process and used to inform the Agency budget submission. The Agency announced an updated schedule for Artemis II in December 2024, moving the launch readiness to no later than April 2026.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2026

23. **Report: NASA's Planetary Science Portfolio** (IG-20-023; 9/16/2020)

Recommendation 2: In coordination with the OCFO, engage relevant Centers and technical capability leaders to identify budgetary and accounting system solutions within the current budgetary and full cost accounting system to adequately fund and sustain critical technical discipline capabilities needed to support current and future projects.

Status: NASA is evaluating when any changes towards its management decision making process, which determines the allocation of available funding for such capabilities, are

warranted. In doing so, NASA is engaging, where appropriate, with relevant Centers and technical capability leaders. SMD has been formulating a coordinated response across the OCFO and other parties per recent guidance from OIG. SMD is expanding on its previous work towards implementation of the OIG's corrective action and closure of this recommendation.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 31, 2026

24. Report: Audit of NASA's Compliance with the Geospatial Data Act (IG-21-001; 10/2/2020)

Recommendation 2: Develop a unified Strategy Implementation Plan or "Roadmap" that defines detailed action items, milestones, and responsibilities for geospatial data management in support of missions across NASA.

Status: The OCIO, in coordination with SMD, has made progress on this item and is in the process of kicking off the Geospatial Data Inventory. This was an action taken by the Enterprise Data Working Group (EDWG) and they have developed a list of organizations outside of SMD who presumably have Geospatial datasets. The EDWG will be meeting with each organization to develop a process for inventorying non-SMD Geospatial datasets as well. The Agency is planning to finalize the Geospatial Data Strategy and its implementation plan by October 31, 2025.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: October 31, 2025

25. Report: NASA's Management of Its Acquisition Workforce (IG-21-002; 10/27/2020)

Recommendation 2: Document contract assignments to COs, Contracting Officer's Representatives (COR), and program/project managers in a centralized system for inclusion in the performance metrics dashboard.

Status: The Office of Procurement (OP) has developed and implemented the OP performance metrics dashboards including the documentation of contract assignments related to COs and CORs, but OP needs additional time to include the program/project managers, which do not fall under the purview of OP. OP expects to incorporate the program/project managers into the CO and COR Tracker Dashboard once the data has been received. The CO and COR Tracker Dashboard provides insight into the contract assignments and related actions for the CO and COR acquisition workforce community for all contracts not physically completed and closed out since FY 2015.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of Procurement

Target Completion Date: January 16, 2025

26. **Report: NASA's Efforts to Mitigate the Risks Posed by Orbital Debris** (IG-21-011; 1/27/2021)

Recommendation 1: Lead national and international collaborative efforts to mitigate orbital debris including activities to encourage active debris removal and the timely end-of-mission disposal of spacecraft.

Status: National efforts to mitigate and remove orbital debris as well as timely end-of-mission disposal continues with implementation of White House direction in Space Policy Directive-3, "National Space Traffic Management Policy." NASA led an interagency effort to update the U.S. Government Orbital Debris Mitigation Standard Practices (ODMSP). The Federal Communications Commission has incorporated aspects of the ODMSP into their regulations. National efforts are ongoing in the implementation of other White House debris related policies.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of International and Interagency Relations

Target Completion Date: February 28, 2025

27. **Report: NASA's Efforts to Mitigate the Risks Posed by Orbital Debris** (IG-21-011; 1/27/2021)

Recommendation 2: Collaborate with Congress, other federal agencies, and partners from the private and public sectors to adopt national and international guidelines on active debris removal and strategies for increasing global compliance rates for timely removal of spacecraft at the end of a mission.

Status: NASA continues to collaborate with the interagency and other stakeholders concerning orbital debris issues and timely spacecraft disposal and reports to Congress on these efforts. The NASA annual budget request to Congress continues to propose funding for research to advance technologies related to active debris removal. In collaboration with the Department of State and other interagency partners, NASA continues to regularly brief United Nations forums and the Inter-Agency Space Debris Coordination Committee on the debris environment, updates in policy and encourage adherence to international debris mitigation and spacecraft disposal guidelines.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of International and Interagency Relations

Target Completion Date: February 28, 2025

28. **Report: NASA's Efforts to Mitigate the Risks Posed by Orbital Debris** (IG-21-011; 1/27/2021)

Recommendation 3: Invest in methods and technologies for removing defunct spacecraft. As part of this effort, conduct a study evaluating the technical merit and cost to investing in active debris removal systems and technologies.

Status: NASA has invested in methods and technologies for removing defunct spacecraft and other debris items, including small debris. Selected relevant current investments include:

- Small Business Innovation Research – Procurements in process regarding Low Earth Orbit (LEO) Sustainability and Beyond LEO Sustainability, and ongoing investments in Ignite and Sequentials sub-programs cover many orbital debris areas.

- Small Satellite Technology – Several ongoing investments including autonomous collision avoidance, propulsion, and debris inspection.

- Space Technology Research Grants – Ongoing just-in-time collision avoidance and space-laser-based remediation concepts and graduate research in debris mitigation, tracking, and characterization.

A full list of Space Technology Mission Directorate (STMD) orbital debris investments (FYs 2022-2024) is available.

In addition, NASA's Office of Technology, Policy, and Strategy (OTPS) has conducted multiple analyses assessing the costs and benefits of active debris remediation and other approaches to space sustainability. The initial report, "Cost and Benefit Analysis of Orbital Debris Remediation," was released in April 2023. In May 2024, OTPS released the follow-on "Cost and Benefit Analysis of Mitigating, Tracking, and Remediating Orbital Debris." Work is currently underway on the Phase III assessment, which uses economic considerations to provide new insights.

Office of Primary Responsibility: Space Technology Mission Directorate

Target Completion Date: December 31, 2025

29. Report: NASA's Construction of Facilities (IG-21-027; 9/8/2021)

Recommendation 1: Develop and institute an Agency-wide process to prioritize and fund institutional and programmatic Construction of Facilities projects that align with Agency-level missions and require business case analyses to be completed and considered as part of the process prior to the projects' approval.

Status: The prioritization process was approved with the Agency Master Plan in October 2023. NASA has been working to update NPD 8810.2A, Master Planning for Real Property, and NPR 8810.1A, Center Master Planning, to address the recommendation.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: September 30, 2025

30. **Report: NASA's Construction of Facilities** (IG-21-027; 9/8/2021)

Recommendation 3: In coordination with the Mission Directorates, institute a process to ensure facility requirements are identified and funding sources are specified during a program's development and implementation phases.

Status: NASA has been working to update the OSI's Strategic Infrastructure Board charter to address this recommendation.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: September 30, 2025

31. **Report: NASA's Management of the Artemis Missions** (IG-22-003; 11/15/2021)

Recommendation 3: Develop an Artemis-wide cost estimate, in accordance with best practices, that is updated on an annual basis.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. By embracing flexibility and innovation, NASA aims to establish a robust infrastructure and lay the foundation for future exploration missions to Mars and beyond. The approach NASA is pursuing ensures that capabilities are developed to meet the needs of the architecture. These developments are consistent with NASA policy and follow the development process as documented in NASA command media (i.e., NPR 7120.5). NASA recognizes OIG's critical role in promoting Artemis accountability and transparency; however, imposing a flight-by-flight cost assessment as a benchmark on individual Artemis missions can potentially hinder the success, innovation, and long-term sustainability of space missions. A more balanced approach that considers both short-term cost containment and long-term mission objectives is essential for achieving meaningful and impactful exploration and scientific discovery in space.

NASA utilizes a range of management and reporting tools to ensure transparency and accountability at the mission level for all stakeholders. These tools include project-level cost and schedule joint confidence level informed development commitments (including for major developmental upgrades), independent review at major life-cycle reviews and associated KDPs, documented and configuration-controlled mission definition baselines, by-mission schedule risk assessments, life-cycle cost estimates in Phase E, five-year rolling estimates consistent with guidance provided in NPR 7120.5F, independent Agency financial auditing (including a 14th consecutive unmodified "clean" opinion in 2024), annual Agency budget requests, Agency-led baseline performance and major program reviews, independent reviews by the NASA Advisory Council and Aerospace Safety Advisory Panel, and multiple ongoing reviews from the governmental oversight entities.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

32. **Report: NASA's Management of the Artemis Missions** (IG-22-003; 11/15/2021)

Recommendation 4: Maintain an accounting of per-mission costs to increase transparency and establish a benchmark against which NASA can assess the outcome of initiatives to increase the affordability of Exploration Systems Development systems.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. By embracing flexibility and innovation, NASA aims to establish a robust infrastructure and lay the foundation for future exploration missions to Mars and beyond. The approach NASA is pursuing ensures that capabilities are developed to meet the needs of the architecture. These developments are consistent with NASA policy and follow the development process as documented in NASA command media (i.e., NPR 7120.5). NASA recognizes OIG's critical role in promoting Artemis accountability and transparency; however, imposing a flight-by-flight cost assessment as a benchmark on individual Artemis missions can potentially hinder the success, innovation, and long-term sustainability of space missions. A more balanced approach that considers both short-term cost containment and long-term mission objectives is essential for achieving meaningful and impactful exploration and scientific discovery in space.

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NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

33. **Report: NASA's Management of the International Space Station and Efforts to Commercialize Low Earth Orbit** (IG-22-005; 11/30/2021)

Recommendation 1: Ensure the risks associated with cracks and leaks in the Service Module Transfer Tunnel are identified and mitigated prior to agreeing to an International Space Station (ISS) life extension.

Status: NASA's ISS Program continues to work with the Russian partner, Roscosmos, to come to a long-term solution. The ISS Program current posture is to reduce the risk of an adverse event within the Service Module Transfer Tunnel by keeping the hatch closed and only entering when needed for visiting vehicle logistics. NASA and Roscosmos have agreed to the next face-to-face technical interchange meeting (targeting the end of February 2025) to craft a long-term solution to validate ISS through 2030. Roscosmos is only approved through 2028 per their government's four-year funding cycle. Roscosmos is working through their internal processes to be authorized to go beyond 2028 and expects to have a disposition in late 2026.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: December 31, 2026

34. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 1: Conduct cyclical reviews (no less than every 5 years) of the Ames lease process to ensure compliance with federal and NASA requirements.

Status: NASA updated and published the following: 14 Code of Federal Regulations 1204, Subpart 5; NPD 8800.14F, Policy for Real Estate Management; and NPR 8800.15F, Real Estate Management Program. The updates to these policies and guidance documents include addressing this recommendation.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: February 28, 2025

35. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 2: Update applicable real estate policies and NASA-wide guidance to enhance requirements and procedures to comply with Enhanced Use Lease authority and to require maintaining appropriate documentation, documenting decisions, and fostering transparent coordination and communication with internal and external stakeholders in a timely manner.

Status: NASA updated and published the following: 14 Code of Federal Regulations 1204, Subpart 5; NPD 8800.14F; and NPR 8800.15F. The updates to these policies and guidance documents include addressing this recommendation.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: February 28, 2025

36. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 3: Update applicable real estate policies and NASA-wide guidance to enhance requirements and standardize applicable financial practices (such as benefit and cost analysis, life-cycle cost analysis, and audits of tenants' books and records when required) associated with leases.

Status: NASA updated and published the following: 14 Code of Federal Regulations 1204, Subpart 5; NPD 8800.14F; and NPR 8800.15F. The updates to these policies and guidance documents include addressing this recommendation.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: February 28, 2025

37. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 4: Update applicable real estate policies and NASA-wide guidance to incorporate applicable security requirements and agreement clauses in leases.

Status: NASA updated and published the following: 14 Code of Federal Regulations 1204, Subpart 5; NPD 8800.14F; and NPR 8800.15F. The updates to these policies and guidance documents include addressing this recommendation.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of Strategic Infrastructure

Target Completion Date: February 28, 2025

38. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 5: Implement written procedures in the lease process to ensure compliance with federal and NASA requirements applicable, but not limited to, timely involvement of the Real Property Accountable Officer, competition, life-cycle cost analysis, fair market value assessments, certifications, and termination clauses as appropriate.

Status: Updating the Center-level written procedure is dependent on revisions made to NPR 8800.15, in response to this audit, which was revised in October 2024 and posted to the NASA Online Directives Information System (NODIS) Document Library. Revised Center-level procedures will be completed by September 30, 2025.

Office of Primary Responsibility: Ames Research Center

Target Completion Date: September 30, 2025

39. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 9: Within the next 3 years, conduct a Center-wide security vulnerability risk assessment, including the districts outside Ames Campus, to ensure compliance with federal and NASA requirements.

Status: From January 29 – February 25, 2024, Ames Research Center (ARC) Protective Services Office completed an internal Threat Assessment Report (TAR) for the Moffett Federal Airfield, NASA Research Park (NRP) and ARC. The TAR was based on the current environment which is a controlled access perimeter. The OPS has also conducted additional analysis that identified facilities within the NRP that are not meeting requirements and must be properly secured prior to ARC moving to an open campus environment. OPS is currently working with ARC leadership to identify a funding source. In addition to identifying shortfalls, OPS is in constant communications with ARC leadership in their future plans of bringing academia and other tenants to this area to include the possibility of a housing development. OPS has provided ARC with options on properly implementing an open campus environment. Once a final determination is made on the direction of the NRP, the OPS will complete an appropriate assessment based upon final decisions versus hypotheticals. However, the timeline for this assessment will be based on available resources as mentioned in the Agency's initial response to this recommendation.

Office of Primary Responsibility: Office of Protective Services

Target Completion Date: December 31, 2027

40. Report: Ames Research Center's Lease Management Practices (IG-22-015; 8/4/2022)

Recommendation 10: Identify and implement mitigation strategies and resource requirements to address security vulnerability assessment risks.

Status: ARC leadership has not reached a decision on their desired end state for an "open campus" environment in the NRP. Implementation of identified minimum mitigation strategies and required mitigation strategies from the assessment is contingent upon a defined end state for "open campus," Center-dedicated funding, and OPS having sufficient resources (personnel and funding). The OPS has taken steps to mitigate vulnerabilities to an acceptable level for the current configuration of the NRP. To date, minimal studies and design work has been initiated by the Center. Any additional enhancements will be addressed once ARC leadership has reached a final decision on an open campus environment.

Office of Primary Responsibility: Office of Protective Services

Target Completion Date: December 31, 2027

41. Report: NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022 (IG-23-001; 10/5/2022)

Recommendation 1: Ensure the role of the Senior Agency Official for Geospatial Information (SAOGI) is strategically positioned within the Agency to have responsibility, accountability, and authority needed to meet Geospatial Data Act-assigned agency responsibilities.

Status: The OCIO and the SMD have collaborated to designate a SAOGI to oversee, coordinate, and facilitate the Agency's implementation of geospatial related requirements, policies, and activities to meet Geospatial Data Act-assigned agency responsibilities. A Memorandum of Understanding (MOU) will provide evidence of the SAOGI appointment and describes SMD's and OCIO's commitment to supporting the SAOGI in the execution of their duties.

NASA is working closely with the OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: January 13, 2025

42. **Report: NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022** (IG-23-001; 10/5/2022)

Recommendation 2: Ensure roles and responsibilities of the SAOGI and other key stakeholders are defined in both the Geospatial Data Strategy and its implementation plan.

Status: The OCIO has published NASA Interim Directive, (NID) 2800.149, NASA Data Governance, Roles, and Responsibilities, to NODIS. This NID defines the role of the Senior Data Official and Data Steward that are applicable to the SAOGI and the geospatial data.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: July 31, 2025

43. **Report: NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022** (IG-23-001; 10/5/2022)

Recommendation 3: Ensure the implementation plan for the Geospatial Data Strategy contains detailed action items and milestones, including those for developing a complete and accurate inventory of the Agency's geospatial data.

Status: The OCIO is actively working to complete the Geospatial Data Inventory. OCIO has created an EDWG that includes representation from Mission Directorates, Centers, and support organizations. OCIO has developed requirements for an Enterprise Data Catalog solution and have started developing the NPR 7120.7A, NASA Information Technology Program and Project Management Requirements, artifacts necessary to design, test and deploy a capability. Additionally, NASA has finalized a MOU between the Chief Data Officer and the SMD, Earth Science Division. Once signed, the MOU establishes distributed responsibilities for who will inventory geospatial data at NASA. Given the progress made to date, the final step to complete an interim inventory is to

release a tasking through the Information Technology Strategy Board/Data Governance Board and the EDWG so NASA can collect information about its Geospatial Data and complete this action. The estimated time to collect the data, analyze it, and upload it into the Agency's current data catalog database is June 30, 2025.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: June 30, 2025

44. **Report: NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022** (IG-23-001; 10/5/2022)

    Recommendation 4: Ensure continued coordination with National Archives and Records Administration (NARA) to establish the appropriate level of scientific data for inclusion in NARA-approved records schedules.

    Status: The NASA Records Officer is working with SMD's Program Manager for Core Data and Computing Services and with NARA to further refine retention schedules to submit for NARA approval. The OCIO reorganized and key stake holders' positions have shuffled. NARA has experienced some resource challenges impacting the development of a records retention schedule for NASA science data.

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: June 30, 2025

45. **Report: NASA's Partnerships with International Space Agencies for the Artemis Campaign** (IG-23-004; 1/17/2023)

    Recommendation 2: Establish NASA-led Artemis campaign boards and working groups for partners with agreed-upon commitments with NASA, and provide opportunities for liaison representation from international partner agencies.

    Status: International collaboration is the first recurring tenet in NASA's M2M architecture. NASA seeks international partnerships to help address gaps in the architecture, including through the annual international partner M2M workshops, which includes Artemis Accords signatories. NASA invited space agencies from Artemis Accords signatories, and other space agencies who have expressed interest in Artemis, to the international M2M workshop in February 2024 to continue the dialogue regarding NASA's objectives.

    NASA initiated and coordinated a series of technical presentations to the Artemis Accords community to provide science and technology underpinning and inform policy discussions for implementation of the Artemis Accords. Presentations provided to date focused on Artemis program updates, M2M architecture, and lunar lighting conditions.

    NASA continues to lead the formation of ad hoc working groups and convene meetings, workshops, and Principals' meetings among Artemis Accords signatories, including virtual and in-person meetings, to provide for the consultation of signatories on the implementation of the Artemis Accords. These meetings enable Artemis Accords

signatory working groups to exchange views on and advance Artemis Accords implementation.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

46. **Report: NASA's Partnerships with International Space Agencies for the Artemis Campaign** (IG-23-004; 1/17/2023)

Recommendation 5: Establish a full-time export control team dedicated to the various Artemis programs in support of space flight developments.

Status: NASA has made significant progress to establish and formalize the export control team for the M2M Programs serving the Artemis Missions. There are dedicated export control representatives across all six programs, as well as a team at the M2M enterprise level. This includes a senior-level civil servant to serve as the Export Control Coordinator (ECC) tasked with identifying export control tasks for the M2M Program, cross-program coordination, and serving as the primary point-of-contact to the Office of International and Interagency Relations (OIIR) and other external stakeholders. The ECC also leads the Artemis Processes Integration Team which is an informal forum to share M2M export control best practices and challenges with representative from M2M programs and resident centers. M2M also implemented more effective tools and practices that were needed to facilitate export control tasks between programs and centers. This team is fully dedicated to the export control needs in support of the Artemis mission.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

47. **Report: NASA's Partnerships with International Space Agencies for the Artemis Campaign** (IG-23-004; 1/17/2023)

Recommendation 6: Review export control requirements and consider additional roles for partner astronauts to increase their utilization in NASA space flight operations, to include amending existing agreements if necessary.

Status: The Human Spaceflight Division is actively collaborating with OIIR to determine the best way to address the recommendation. As part of this process, Human Spaceflight Division and OIIR will be meeting in the coming weeks to thoroughly assess and plan the next steps. This will include continued review of export control requirements, existing partner agreements, and utilization rates as appropriate.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: March 31, 2025

48. **Report: NASA's Partnerships with International Space Agencies for the Artemis Campaign** (IG-23-004; 1/17/2023)

    Recommendation 7: Establish a full-time export control team dedicated to the Artemis programs in support of space flight operations.

    Status: In December 2024, the M2M Division completed the hiring for the Export Control Team under the Project Planning and Control Operations Division. This team will be dedicated to the export control needs of the Artemis Programs.

    NASA is working closely with OIG to provide additional documentation to support closure consideration.

    Office of Primary Responsibility: Space Operations Mission Directorate

    Target Completion Date: March 31, 2025

49. **Report: NASA's Partnerships with International Space Agencies for the Artemis Campaign** (IG-23-004; 1/17/2023)

    Recommendation 9: In conjunction with NASA's Mission Directorates and the State Department, execute appropriate Artemis agreements with key international space agency partners to ensure partner roles and responsibilities are clearly understood and allow for efficient and timely partnerships in support of Artemis.

    Status: NASA had ongoing discussions with international partners regarding cooperation in the Artemis campaign and plans to continue to negotiate new partnerships as the Agency moves forward with the M2M architecture planning process. NASA has regular interactions with the international community regarding the architecture and opportunities for partners to contribute, with the next M2M workshop scheduled for February 2025 in the United Arab Emirates. At the time of the audit, the Artemis I mission and Gateway already included several international partnerships (Israel Space Agency, German Aerospace Center, Japan Aerospace Exploration Agency (JAXA), Italian Space Agency, Canadian Space Agency, and the European Space Agency (ESA)) for which the international agreements were coordinated with the State Department and reviewed by the interagency community. Since the conclusion of the audit, the M2M architecture and Artemis missions formulated in response to the M2M objectives that underpin NASA's strategy have resulted in several new partnerships and numerous studies of potential additional partnerships in Artemis II, Gateway, Lunar Surface, Lunar Science, Space Communications and Navigation, and Space Technology.

    Office of Primary Responsibility: Office of International and Interagency Relations

    Target Completion Date: March 31, 2025

50. **Report: NASA's Partnerships with International Space Agencies for the Artemis Campaign** (IG-23-004; 1/17/2023)

Recommendation 10: Develop an automated routing method for the processing of international agreements within NASA.

Status: The OIIR is creating a new Microsoft SharePoint document review and concurrence system to streamline the process of document collaboration and approval. By utilizing SharePoint's centralized platform, users can upload, track, and share documents with designated team members for review and feedback. The system allows for real-time comments, version control, and automated notifications to ensure everyone is aligned during each step of the approval process. With customizable workflows, users can set up specific approval stages, making it easier to manage concurrent reviews and track document status. This system enhances transparency, reduces the risk of errors, and accelerates decision-making, all while maintaining an organized and efficient review process.

Office of Primary Responsibility: Office of International and Interagency Relations

Target Completion Date: May 31, 2025

51. **Report: Review of NASA's Space Technology Mission Directorate Portfolio** (IG-23-005; 12/19/2022)

Recommendation 3: Complete efforts to develop additional outcome-based performance measures based on the transition, advancement, and infusion of technologies.

Status: Over the course of FY 2023 and FY 2024, in an effort to more fully identify outcome-based measurements which will better reflect progress toward transitions and infusions, STMD has included the following metrics for tracking:

- Performance Goal (PG) (1.1) Knowledge transitions in three of our Early Stage programs
    - The previous metric for these programs was an output of number of projects awarded.
    - Tracking knowledge transitions allows STMD to better understand the outcomes of these early-stage awards and how the information is being used after the life of the award (e.g., peer-reviewed journal publications, hiring of previous fellows, etc.).

- PG (1.2) Project owner satisfaction for Prizes, Challenges, and Crowdsourcing
    - The previous metric was an output of the number activities released.
    - Tracking owner satisfaction allows STMD to better understand if the activities being conducted are advancing the technologies/ideas forward.

- PG (1.4) Licenses and software usage agreements through Technology Transfer program
    - There was not previously a metric for this program.

        - Tracking licenses and software usage agreements ensures that innovations developed for exploration and discovery are broadly transitioned to the public, maximizing the benefit to the Nation.

    - PG (1.5) Tracking strategic engagement opportunities
        - There was not previously a metric for this portfolio.
        - Strategic engagement opportunities are designed to improve the pipeline of proposers and awardees to broaden the innovative ideas being proposed and selected.

    - PG (3) Suborbital and orbital testing of technologies through two STMD programs
        - The previous metric was a schedule-based milestone metric.
        - The stated goal of these programs is to "rapidly demonstrate promising technologies" and this outcome focused measure is more closely coupled with that mission.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Space Technology Mission Directorate

Target Completion Date: January 6, 2025

52. Report: NASA's Software Asset Management (IG-23-008; 1/12/2023)

Recommendation 2: Implement a single Software Asset Management tool across the Agency.

Status: The effort to implement a single Software Asset Management tool Agency-wide is underway. Initial capabilities should be deployed quarters 2 through 3 of FY 2025. Additional licensing is necessary to achieve full agency view. Budget request for necessary licensing is in review.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: October 1, 2027

53. Report: NASA's Software Asset Management (IG-23-008; 1/12/2023)

Recommendation 9: Centralize software spending insights to include purchase cards.

Status: NASA implemented a change in 2024 to track software purchases made with purchase cards but there is more work to be done. A cross-directorate working group has been formed to address all of the processes that are required to address this recommendation.

Office of Primary Responsibility: Office of the Chief Financial Officer

Target Completion Date: January 30, 2026

54. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 1: Create a Radioisotope Power Systems (RPS) resource allocation and technology development strategic plan that includes an evaluation and mitigation of risks for each project through its completion and provide a communication plan to stakeholders and mission managers.

Status: The RPS Program is creating an RPS resource allocation and systems development strategy informed by the annual program planning, budget, and execution process that includes the evaluation and mitigation of risks for each project through its completion and will utilize the RPS Program's Stakeholder engagement element to effectively communicate as appropriate with stakeholders. In addition, the Planetary Science Division (PSD) is preparing a Technology Development Plan in response to the most recent planetary decadal survey that will be comprehensive to planetary science technology needs. This plan will document the requirements and priorities for RPS technology and new system development, the rationale for investment, and the strategies for acquiring them.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: September 30, 2025

55. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 2: Conduct high quality, frequent, and routine self-assessment technology readiness assessments (TRA) by project management beginning after the initial implementation of a technology development project as a basis for technology readiness level assessment and risk management discussions.

Status: Per NPR 7120.5F, the planned frequency of TRAs for projects within the RPS Program will be updated in alignment with key project milestone reviews, such as PDR and CDR. NASA is continuing to source supporting documentation of pending updates or adjustments that will be made to a specific standardized plan for TRA frequency in alignment with lessons learned following completion of Next-Generation Radioisotope Thermoelectric Generator (Next-Gen RTG) Project PDR, estimated to be complete in March 2025.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: September 30, 2025

56. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 3: Per Title 51 and NPR 7120.5F, recalculate the life-cycle costs for Next-Gen RTG and Dynamic Radioisotope Power System (DRPS) projects to include funding NASA provides to Department of Energy (DOE).

Status: As stated in the RPS Program Plan, Sec. 1.5.1.7, the Next-Gen RTG and DRPS are subject to NPR 7120.8, NASA Research and Technology Program and Project Management Requirements, during the technology maturation phase and then subject to NPR 7120.5, once a commitment to a qualification system development has been made. The Next-Gen RTG Project recently became subject to NPR 7120.5, and DRPS is subject to NPR 7120.8. These projects will be managed in alignment with their respective NPR as required, including requirements for life-cycle costs calculations.

Additionally, the partnership with DOE is a reimbursable Interagency Agreement, and funds are sent to DOE for multiple purposes, including Constant Rate Production of fuel clads and for development of new technologies. The funds sent to DOE for technology development will be included in the life-cycle costs for those respective projects, including DRPS and Next-Gen RTG.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 31, 2026

57. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 4: Institute an earned value management (EVM) process for Next-Gen RTG and DRPS projects that conforms with NASA policy, Federal Acquisition Regulation (FAR) requirements, and industry best practices.

Status: DOE owns and manages the contracts with commercial industry to build the Next-Gen RTG and DRPS. NASA cannot compel another federal agency to institute EVM on their contracts through its own procedural requirements. NASA has limited access to particular data on contractor performance so any compensating controls process would need to balance the cost of execution with the limited ability of NASA to respond to the results. DOE is not a commercial contractor on which NASA can impose traditional controls and reporting requirements; the commercial contracts are governed under the DOE FAR supplement, not the NASA FAR Supplement. NASA will institute a highly tailored compensating controls process for projects governed under 7120.5F, " in the RPS Program, currently Next-Gen RTG.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 31, 2026

58. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 5: For Next-Gen RTG and DRPS development efforts that transition to a space flight project, execute a joint cost and schedule confidence level (JCL) analysis at the proper phases in accordance with NPR 7120.5F.

Status: The Next-Gen RTG project has now transitioned to governance under NPR 7120.5F. A JCL will be performed as required, and evaluation is ongoing in accordance with the project schedule.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 31, 2026

59. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 6: In coordination with DOE, develop a means for the RPS Program to obtain high-fidelity Pu-238 and fueled clad current and future inventory information.

Status: During the process of securing concurrence from DOE to share the monthly reports of meeting agendas with OIG, DOE changed the monthly report content. The RPS Program is currently in discussions with DOE leadership; RPS Program management met with DOE leadership in December 2024 and further meetings are scheduled in January 2025 to restore the fidelity of reporting commensurate with the level of detail the RPS Program feels is sufficient to address the recommendation. Additional time is needed to provide sufficient time to address these recent changes to DOE reporting, and, once fidelity is restored, to allow a few months to accumulate reports.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: September 30, 2025

60. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 7: Develop a means to quantify risk of future Pu-238 and fueled clad availability that can be communicated to NASA mission managers and incorporated into mission development proposals and plans.

Status: NASA's PSD has completed its review and has determined that currently, there is no way to provide, and no reliable way to quantify the production risk or fuel availability to mission planners due to security concerns. NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 31, 2025

61. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 8: Leverage the RPS Program's existing business processes with its element structure to monitor fission technology development for SMD feasibility and educate stakeholders on the possibilities and differences.

Status: The RPS Program continues to engage in strategic discussions across Mission Directorates at a low level with plans to formalize monitoring structures. The RPS Program team is working to bring new RPS Program leadership up to speed so progress

can be made to formalize monitoring structures with new PSD, SMD, STMD, and ESDMD leadership.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: September 30, 2025

62. **Report: NASA's Management of Its Radioisotope Power Systems Program** (IG-23-010; 3/20/2023)

Recommendation 9: Reevaluate the need and if appropriate reauthorize the organizational position of the Nuclear Power and Propulsion System Capability Leadership Team through the appropriate Mission Directorate and provide the Team responsibility for monitoring and advocating strategic nuclear power coordination across NASA.

Status: STMD is reassessing its organizational construct and intends to address this corrective action in context of the overall restructuring of technical roles and responsibilities. In light of new leadership and ongoing reorganization activities, STMD is determining how to best meet this recommendation.

Office of Primary Responsibility: Space Technology Mission Directorate

Target Completion Date: July 31, 2025

63. **Report: NASA's Efforts to Increase Diversity in Its Workforce** (IG-23-011; 4/20/2023)

Recommendation 1: Ensure hiring and promotion managers across NASA receive appropriate training to increase diversity, equity, inclusion and accessibility (DEIA) awareness on topics such as implicit bias and inclusive leadership.

Status: As of December 2024, activities for this recommendation were in progress. Consistent with the President's EOs, including 14151, "Ending Radical and Wasteful Government DEI Programs and Preferencing," and 14148, "Initial Rescissions of Harmful Executive Orders and Actions," all DEIA-related activities have ceased.

Office of Primary Responsibility: Office of Diversity and Equal Opportunity

Target Completion Date: Not applicable, in compliance with EOs 14148 and 14151, dated January 20, 2025.

64. **Report: NASA's Efforts to Increase Diversity in Its Workforce** (IG-23-011; 4/20/2023)

Recommendation 2: Ensure leadership-related professional development courses and detail assignments are widely available to prepare a more diverse cohort of employees for promotional opportunities.

Status: The Office of the Chief Human Capital Officer (OCHCO) made progress to implement the corrective action plan, however, the revamp of NPR 3300.1C, Employment, Appointment Authorities, and Details, was more extensive than could be accomplished by the NPR expiration date of December 1, 2024. OCHCO was provided

an extension to update this NPR until June 30, 2025, to complete the revamp of the NPR. Consistent with the President's EOs, including 14151, "Ending Radical and Wasteful Government DEI Programs and Preferencing," and 14148, "Initial Rescissions of Harmful Executive Orders and Actions," all DEIA-related activities have ceased.

Office of Primary Responsibility: Office of Diversity and Equal Opportunity

Target Completion Date: Not applicable, in compliance with EOs 14148 and 14151, dated January 20, 2025.

65. Report: NASA's Efforts to Increase Diversity in Its Workforce (IG-23-011; 4/20/2023)

Recommendation 4: Conduct a barrier analysis to identify obstacles restricting women and minorities from senior management positions and develop a plan to address and eliminate these obstacles.

Status: In January 2024, the Agency initiated a barrier analysis to examine certain Agency-wide triggers and leadership pipeline barriers. This barrier analysis is not currently moving forward. Consistent with the President's EOs, including 14151, "Ending Radical and Wasteful Government DEI Programs and Preferencing," and 14148, "Initial Rescissions of Harmful Executive Orders and Actions," all DEIA-related activities have ceased.

Office of Primary Responsibility: Office of Diversity and Equal Opportunity

Target Completion Date: Not applicable, in compliance with EOs 14148 and 14151, dated January 20, 2025.

66. Report: NASA's Efforts to Increase Diversity in Its Workforce (IG-23-011; 4/20/2023)

Recommendation 6: Conduct an analysis of all applicant data (similar to interns), including veterans, to better understand hiring trends and outcomes.

Status: OCHCO had developed the first version of an applicant flow data analysis tool that automates basic analysis of applicant flow data and was working to automate data collection and cleaning to provide more precise near-real-time Applicant Flow Data. Consistent with the President's EOs, including 14151, "Ending Radical and Wasteful Government DEI Programs and Preferencing," and 14148, "Initial Rescissions of Harmful Executive Orders and Actions," all DEIA-related activities have ceased.

Office of Primary Responsibility: Office of Diversity and Equal Opportunity

Target Completion Date: Not applicable, in compliance with EOs 14148 and 14151, dated January 20, 2025.

67. Report: NASA's Efforts to Increase Diversity in Its Workforce (IG-23-011; 4/20/2023)

Recommendation 7: Designate an official or organization to oversee coordination between the stakeholders (OCIO, Office of Diversity and Equal Opportunity, and OCHCO) to develop a sustainable operation and funding structure for the Enterprise Data Platform (EDP).

Status: NASA's initial response noted that the OCIO was developing the EDP as a "Platform as a Service" and "Data as a Service" capability with projected Agency-wide availability to NASA stakeholders and users. This effort was covered under the Mission Support Directorate Digital Transformation Roadmap, and the Information Data and Analytics Service Line (IDAS) within OCIO had the responsibility to lead and coordinate with stakeholders of the EDP. In August 2022, responsibility for enabling Data Services was transitioned to the IDAS, which focused on critical data capabilities such as the EDP. A team of data engineers and application developers acquired key priority data sets from systems and sources that were internal and external to NASA, and those data sets were ingested into EDP.

Consistent with the President's EOs, including 14151, "Ending Radical and Wasteful Government DEI Programs and Preferencing," and 14148, "Initial Rescissions of Harmful Executive Orders and Actions," all DEIA-related activities have ceased.

Office of Primary Responsibility: Office of Diversity and Equal Opportunity

Target Completion Date: Not applicable, in compliance with EOs 14148 and 14151, dated January 20, 2025.

68. Report: Audit of NASA's Deep Space Network IG-23-016; 7/12/2023)

Recommendation 1: Explore more efficient options for Deep Space Network (DSN) scheduling, such as maintaining a list of DSN users by priority that is updated in real-time and accessible to all users.

Status: NASA created a multi-Directorate group to address DSN scheduling and priorities. The group completed a successful workshop in March 2024 at Jet Propulsion Laboratory and identified key areas of improvement. The team is currently assessing these areas and developing an action plan.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: September 30, 2025

69. Report: Audit of NASA's Deep Space Network IG-23-016; 7/12/2023)

Recommendation 2: Ensure completion of the Deep Space Network Aperture Enhancement Project's (DAEP) remaining antennas and transmitters and finalize requirements for the Lunar Exploration Ground Sites (LEGS) project.

Status: The DAEP continues on schedule to complete additional builds. This could be impacted by agency funding decisions. The LEGS project team has completed requirements and drafted a Project Charter to set the final cost and schedule target.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: October 31, 2029

70. Report: Audit of NASA's Deep Space Network IG-23-016; 7/12/2023)

Recommendation 3: Finalize international agreements, obtain appropriate clearances for installing the remaining 80 kilowatt transmitters, and establish mechanisms to allow for greater oversight of DAEP project sites.

Status: The government-to-government agreement with the Kingdom of Spain was signed on June 10, 2024. The agreement with the Commonwealth of Australia does not expire until 2043. The 80 kilowatt transmitter approval and commitment request from Spain are in work. NASA's overseas partners in Australia have secured the Airspace Restrictions necessary for the new 80-kilowatt X-Band Transmitter through the Airspace Change Proposal as of December 2024. The Space Communications and Navigation program has restructured to have a dedicated program executive overseeing the DAEP. Additionally, NASA has empowered the Jet Propulsion Laboratory to have on-site oversight during critical periods of DAEP builds.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: October 31, 2029

71. Report: Audit of NASA's Deep Space Network IG-23-016; 7/12/2023)

Recommendation 4: Explore options for utilizing commercial and international partners networks to offload excess demand from the DSN and to serve as backups in the event of network overages or outages.

Status: NASA recognizes the importance of exploring options for leveraging commercial and international partners' networks to address excess demand, enhance resilience, and mitigate the impact of potential network overages or outages. Below are actions NASA has taken and continues to pursue.

<u>Leveraging Commercial Partners under the Near Space Network (NSN) Services Contract</u>

To address the growing demand on the DSN, NASA has proactively sought to integrate additional commercial capabilities into its communications infrastructure. As part of the recently (December 2024) awarded NSN Services Contract, NASA partnered with four commercial providers—Intuitive Machines, Kongsberg Satellite Services, SSC Space U.S., and Viasat—to supply critical ground and space relay services. This $4.82 billion contract represents a substantial investment in commercial partnerships, providing additional capacity and redundancy for current and future NASA missions. These services will help offload demand from the DSN, particularly for missions operating in near-Earth and cis-lunar environments, thereby allowing the DSN to focus its resources on supporting missions beyond two million kilometers.

The NSN Services Contract also includes provisions for scalability and flexibility, ensuring that NASA can adapt to increasing data demands and evolving mission requirements. By utilizing industry expertise, NASA is strengthening the overall reliability and robustness of its communication networks, including availability as a backup to the DSN during periods of high demand or unexpected outages.

Strengthening International Partnerships

In addition to commercial partnerships, NASA has significantly expanded its collaboration with international space agencies to enhance global communication capabilities. Recent efforts include:

- **ESA**: NASA continues to work closely with ESA on joint utilization of both agencies' ground stations, ensuring complementary support for deep space missions. ESA's Estrack network has provided critical backup to the DSN for missions such as the James Webb Space Telescope and Artemis I, and will support the upcoming Nancy Grace Roman Space Telescope.

- **JAXA**: Collaboration with JAXA has included coordination of ground station resources to support both NASA and JAXA missions. This cooperation ensures efficient use of global resources and mutual support during mission-critical operations.

- **United Kingdom Space Agency (UKSA)**: NASA recently (quarter 4, 2024) completed successful demonstrations with UKSA partners, showcasing the potential for integrating their communication capabilities into NASA's network. These show tracks demonstrated technical compatibility and operational effectiveness, further strengthening the Agency's ability to leverage international infrastructure as a backup for DSN operations.

Ongoing Evaluation and Future Plans

NASA is actively evaluating additional opportunities for collaboration with both commercial and international partners to enhance DSN capabilities. This includes conducting technical assessments, joint simulations, and planning for interoperability to ensure seamless integration of partner networks during mission operations. The lessons learned from recent partnerships and demonstrations will inform future strategies for reducing demand on the DSN and enhancing network resilience.

NASA is fully committed to addressing the OIG's recommendation by leveraging commercial and international networks to offload excess demand and provide redundancy for the DSN. Through strategic investments, like the NSN Services Contract and expanded collaboration with ESA, JAXA, and UKSA, NASA is building a resilient, scalable, and efficient communications infrastructure to support its ambitious exploration and science goals. NASA is working closely with the OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Space Operations Mission Directorate

Target Completion Date: March 31, 2025

72. Report: National Aeronautics and Space Administration Federal Information Security Modernization Act of 2014 Evaluation Report for Fiscal Year 2023 (IG-23-017; 8/17/2023)

Recommendation 8: Revise its policies and procedures to document and implement a lessons learned process based on risk events within the Information Security Continuous Monitoring (ISCM) and Risk Management areas. System security personnel should be

instructed to record, analyze, and revise control activities to improve NASA's security posture.

Status: NASA hired its Enterprise Cybersecurity Risk Management Officer (ECRMO) in March 2024 and the update of the ISCM strategy was assigned for action (pending the hire of complementary strategy lead for vulnerability management) in May 2024. The ECRMO leads a small team that will update the ISCM and will address the lessons learned process. If during this update they determine that other policy documents should also be updated, this action will be implemented.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: September 30, 2025

73. **Report: National Aeronautics and Space Administration Federal Information Security Modernization Act of 2014 Evaluation Report for Fiscal Year 2023** (IG-23-017; 8/17/2023)

Recommendation 11: Continue to implement the necessary entity-wide oversight to improve enforcement mechanisms and controls to ensure all standard baselines and vulnerabilities are monitored and remediated in accordance with Federal and Agency requirements.

Status: The OCIO organizational transformation has resulted in a more robust vulnerability management program by implementing the following Agency-wide improvements. These include collaboration with Agency stakeholders, implementation of automation tools to efficiently addresses vulnerabilities within federal guidelines, increased enforcement, and monitoring through the use of centralized dashboards that provide real-time views of compliance and remediation status. Enhancements to the vulnerability management program will continue to ensure that NASA is in compliance with Federal and Agency cybersecurity requirements.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: July 31, 2025

74. **Report: National Aeronautics and Space Administration Federal Information Security Modernization Act of 2014 Evaluation Report for Fiscal Year 2023** (IG-23-017; 8/17/2023)

Recommendation 15: Ensure that the security controls in control families Program Management (PM), Personally Identifiable Information Processing and Transparency, and Supply Chain Risk Management are updated and defined within the Agency's ISCM strategy.

Status: NASA hired its ECRMO in March 2024 and the update of the ISCM strategy was assigned for action (pending the hire of complementary strategy lead for vulnerability management) in May 2024. The ECRMO leads a small team that will update the ISCM and include reference to the control families noted.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: September 30, 2025

75. **Report: National Aeronautics and Space Administration Federal Information Security Modernization Act of 2014 Evaluation Report for Fiscal Year 2023** (IG-23-017; 8/17/2023)

    Recommendation 16: Document the NASA Manual Inventory (NMI) process in NASA's ISCM Strategy to ensure its hardware inventory monitoring process is accurate, complete, and fully aligns with NASA's other continuous monitoring guidance and integrates processes, associated outputs, and incorporates results to provide situational awareness.

    Status: NASA hired its ECRMO in March 2024 and the update of the ISCM strategy was assigned for action (pending the hire of complementary strategy lead for vulnerability management) in May 2024. The ECRMO leads a small team that will update the ISCM and will document the NMI system strategy to ensure the inventory process aligns with other continuous monitoring guidance. If during this update it is determined that other policy documents should also be updated, this action will be recommended.

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: September 30, 2025

76. **Report: National Aeronautics and Space Administration Federal Information Security Modernization Act of 2014 Evaluation Report for Fiscal Year 2023** (IG-23-017; 8/17/2023)

    Recommendation 20: Continue its efforts to prioritize projects that address the complexities required across Event Logging (EL) tiers to meet the intermediate (EL2) maturity level in accordance with OMB M-21-31.

    Status: The OCIO has conducted a thorough analysis of the current logging services, completed a market assessment, and is on track to finalize a strategic modernization plan and roadmap by the end of February 2025. This plan will outline the implementation of a new solution set or the enhancement of existing solutions, enabling the Agency to advance across all three EL tiers through an iterative, measurable, and cost-effective approach. The phased three-year roadmap will define specific goals, objectives, investments, and process changes required to achieve EL3 (i.e., advanced) by September 30, 2028.

    Office of Primary Responsibility: Office of the Chief Information Officer

    Target Completion Date: September 30, 2028

77. **Report: National Aeronautics and Space Administration Federal Information Security Modernization Act of 2014 Evaluation Report for Fiscal Year 2023** (IG-23-017; 8/17/2023)

    Recommendation 27: Ensure that each information system owner of external systems has a current Interconnection Security Agreement that defines how each entity will manage, operate, use, and secure the interconnection.

    Status: The OCIO is in the final stages of review and publication of the "Information Exchanges Supplement: Information Security Agreements" supplement to the

Assessment and Authorization Handbooks with a planned release in early January 2025. The current due date of March 31, 2025, will allow enough time for proper dissemination of the Supplement.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: March 31, 2025

78. **Report: NASA's Earth System Science Pathfinder Program** (IG-23-018; 9/5/2023)

Recommendation 5: Conduct a lessons learned review of the Geostationary Carbon Cycle Observatory (GeoCarb) mission to identify what NASA, PI, and contractor practices and activities should be revised and applied to the management of future Earth Venture Class projects.

Status: Lessons learned from the GeoCarb Mission have been gathered and documented. At this time, SMD is awaiting final review of the lessons learned before completion.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 28, 2025

79. **Report: NASA's Earth System Science Pathfinder Program** (IG-23-018; 9/5/2023)

Recommendation 6: Develop a plan to provide PIs and their teams with contract and project management training post-selection approval to better equip them to manage subcontractors.

Status: SMD is continuing to evaluate and finalize options for ensuring that selected PI-led teams have access to the information they need to be successful in contract and project management. In addition, the ESSP Program Office is continuing to provide PI-led teams with expertise in NASA processes and tailoring to the appropriate risk posture.

Office of Primary Responsibility: Science Mission Directorate

Target Completion Date: March 28, 2025

80. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

Recommendation 1: Establish achievable cost saving metrics beginning with Artemis IV SLS elements and production contracts.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. With this said, efforts towards implementing this recommendation are pending Agency deliberations.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: December 31, 2027

81. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

    Recommendation 2: Transition the core stage and Exploration Upper Stage contracts to fixed-price contracts with a per mission price to codify the actual costs.

    Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. With this said, efforts towards implementing this recommendation are pending Agency deliberations.

    Office of Primary Responsibility: Exploration Systems Development Mission Directorate

    Target Completion Date: December 31, 2027

82. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

    Recommendation 3: If keeping contracts as cost-plus-award-fee, increase the percentage of cost as a factor when conducting contractor evaluations for award fee purposes.

    Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. With this said, efforts towards implementing this recommendation are pending Agency deliberations.

    Office of Primary Responsibility: Exploration Systems Development Mission Directorate

    Target Completion Date: December 31, 2027

83. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

    Recommendation 4: Conduct a detailed review of all contractor-submitted documents to ensure the government's rights to data and processes are not unnecessarily transferred to the contractor.

    Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. The Agency is finalizing the approach for the next steps of the SLS contract strategy.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: December 31, 2027

84. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

Recommendation 5: Include contract flexibility on future SLS acquisitions that will allow NASA to pivot to other commercial alternatives.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. The Agency is finalizing the approach for the next steps of the SLS contract strategy.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: December 31, 2027

85. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

Recommendation 6: For each Artemis SLS rocket under Exploration Production and Operations Contract (EPOC), add compensation to the Deep Space Transport, LLC contract such as incentive fees for when the contractor achieves specific cost saving goals.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and cost-effective human exploration of the Moon and beyond. The Agency is finalizing the approach for the next steps of the SLS contract strategy.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: December 31, 2027

86. **Report: NASA's Transition of the Space Launch System to a Commercial Services Contract** (IG-24-001; 10/12/2023)

Recommendation 7: Ensure Government Mandatory Inspection Points and government oversight teams remain throughout the EPOC transition period.

Status: The Artemis implementation is unique from other NASA activities in that the flexible architecture is a guiding principle within the Artemis program, enabling NASA to adapt to changing requirements, leverage partnerships, and achieve sustainable and

cost-effective human exploration of the Moon and beyond. The Agency is finalizing the approach for the next steps of the SLS contract strategy.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: December 31, 2027

87. **Report: NASA's Efforts to Demonstrate Robotic Servicing of On-Orbit Satellites** (IG-24-002; 10/4/2023)

Recommendation 1: Recoup the costs of the labor and services (supplemental work) provided by NASA to Maxar to complete the work on the spacecraft bus contract.

Status: Effective October 1, 2024, NASA began the process of an orderly shutdown of the OSAM-1 project. Prior to cancellation, NASA determined that the OIG's reporting of $2 million in Questioned Costs was disallowed and planned to write them off.

Analysis by the project to recover the costs determined that Maxar severely underbid the contract due to a lack of understanding of the requirements. They bid their standard, commercial bus with some changes. Expectations on the government side for the level of documentation and verification rigor were very different from Maxar commercial practices, and the contract documentation was not specific enough to make these differences clear. Additionally, the schedule delays incurred by waiting until Maxar delivered on the contract items ended up costing the project far more than any expenditures made to enable Maxar to deliver to any schedule. For these reasons, and in light of the cancellation of the program, additional attempts to recoup costs will not be made.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Space Technology Mission Directorate

Target Completion Date: January 23, 2025

88. **Report: NASA's Management of the Artemis Supply Chain** (IG-24-003; 10/19/2023)

Recommendation 2: Complete the Supply Chain Visibility Data Requirement Description effort to gain supplier data from contractors.

Status: NASA's OP issued Procurement Information Circular (PIC) 24-04 for the Implementation of Supply Chain Visibility (SCV) Reporting on July 16, 2024. The PIC provides instructions to COs across the Agency to implement the approved baseline Data Requirements Description (DRD) for SCV Reporting by NASA prime contractors into NASA contract solicitations and awards for new procurements of products and services on the approved Agency Mission Program and Project List with estimated contract values of $20 million or more. The PIC implements the prior decision of the NASA Supply Chain Resiliency Board to proceed with the implementation of SCV Reporting by prime contractors. As referenced in the PIC, NASA forms and templates used in NASA procurements were updated to assure the appropriate implementation of the DRD for

SCV Reporting and an internal NASA SharePoint site was established to provide the approved requirements, information and guidance for implementation and monitoring of the reporting. The Supply Chain Risk Management program within NASA's Office of Safety and Mission Assurance – on behalf of the Supply Chain Risk Board (SCRB) and in collaboration with the OP, Mission Directorates, and other SCRB members – is the overall lead for the implementation of the SCV Reporting process and the secure management and use of SCV reporting within the NASA Supply Chain Insight Central (SCIC) information and analysis services platform for internal NASA analytical, planning and decision-making purposes.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

89. Report: NASA's Management of the Artemis Supply Chain (IG-24-003; 10/19/2023)

Recommendation 5: Ensure data is regularly entered into a supplier database (e.g., Insight Central) to track supplier data and ongoing challenges.

Status: The NASA SCIC information services and analysis platform continues to serve as a key element of the Agency's evolving capabilities to build visibility and insight into the supply chains for NASA mission programs and projects and support the pro-active identification, analysis, and management of risks threatening the provisioning of products and services as required for mission performance. There is an ongoing level of inputs and monitoring for compliance to the Section 5.5 of the NPR 8735.2C, Hardware Quality Assurance Program Requirements for Programs and Projects.

NASA is working closely with OIG to provide additional documentation to support closure consideration.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: March 31, 2025

90. Report: NASA's Management of the Artemis Supply Chain (IG-24-003; 10/19/2023)

Recommendation 6: Incorporate a representative from the Logistics Management Division (LMD) into each Artemis-related program and project at appropriate milestones, including at the onset of a contract and each life-cycle milestone.

Status: The NASA LMD continues to work closely with the M2M Program to strategize approaches to improving parts availability and supply chain challenges. LMD is looking to bring on a full time M2M Product Support Manager/Logistician that will be matrixed from LMD to support the M2M overall logistics and supply chain efforts, but staffing this role is currently on hold. In the interim, LMD has allocated time from one of the existing Product Support Integrator Team members to assist M2M with communication strategies

for logistics and meet regularly to discuss progress. Recent efforts include facilitating training on the Web Federal Logistics Information System (WebFLIS)—a system managed by the Defense Logistics Agency and provides visibility into the Department of Defense supply chain—to the Programs and Industrial partners. LMD anticipates that access to WebFLIS will help with parts shortages in the manufacturing process. LMD will continue to partner with the M2M Program and engage in program execution planning.

Office of Primary Responsibility: Exploration Systems Development Mission Directorate

Target Completion Date: December 31, 2025

91. Report: NASA's Privacy Program (IG-24-006; 12/19/2023)

Recommendation 5: Ensure that designated members of a Breach Response Team participate in a tabletop exercise, at least annually.

Status: NPR 1382.1, NASA Privacy Procedural Requirements, will be updated to ensure that designated core Branch Response Team members participate annually in an Agency Incident Response Assessment conducted by the Cybersecurity Privacy Division. OCIO is in the final stages to submit evidence and artifacts for closure.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: September 20, 2025

92. Report: NASA's Privacy Program (IG-24-006; 12/19/2023)

Recommendation 6: Require those with specific security and privacy roles to take privacy role-based training.

Status: The OCIO has updated the specification content and submitted it for final review and publication. The review and publication process will take until January 2025 at the earliest to complete. Simultaneously, OCIO will be implementing changes to the Risk Information Security Compliance System role provisioning process to ensure role-based training for the specified roles is complete before provisioning new roles and is taken within the next calendar year for those with current roles. Thereafter, roles will be de-provisioned if the annual recurring training has not been taken within 365 days of the previous completion date.

Office of Primary Responsibility: Office of the Chief Information Officer

Target Completion Date: April 30, 2025

Appendix C
Reconciliation of Agency Records with NASA OIG Semiannual Report and GAO's Database of Open Recommendations

Reconciliation with NASA OIG's Fall 2024 Semiannual Report Public Reports and Recommendations Open for One Year or More (As of 12/31/2024)		
	Reports	**Recommendations**
Total Open Public Reports and Recommendations as of 9/30/2024 in Table 3 of OIG's Fall 2024 Semiannual Report [a]	**39**	**123**
Less: Open Public Reports and Recommendations in Table 3 Issued Between 1/1/24 and 3/31/24 [b]	(2)	(11)
Net Public Reports and Recommendations Open One Year or More in Table 3	**37**	**112**
Less: Public Reports and Recommendations in Table 3 Closed Between 10/1/24 – 12/31/24 [c]	(4)	(20)
Total Public Reports and Recommendations Open One Year or More as of 12/31/2024 per Agency Records	**33**	**92**

[a] Table 3, "Audit Recommendations Yet to be Implemented, Previous Semiannual Report" of NASA OIG's semiannual report can be found at https://oig.nasa.gov/office-of-inspector-general-oig/semiannual-reports/semiannual-report-to-congress-fall-2024/.

[b] Reports IG-24-008, 3 recommendations; and IG-24-009, 8 recommendations.

[c] All recommendations for reports IG-22-009, IG-22-010, IG-22-012, and IG-23-012 were closed. Additionally, 11 recommendations from reports IG-21-002, IG-23-004, IG-23-008, IG-23-015, IG-24-002, and IG-24-006 were also closed; however, other recommendations remain open in those reports as disclosed in Appendix B.

Reconciliation with GAO's Database of Open Recommendations Public Reports and Recommendations Open for One Year or More (As of 12/31/2024)		
	Reports	**Recommendations**
Total Open Public Reports and Recommendations per GAO's Database of Open Recommendations [a]	**24**	**34**
Less: Open Public Reports and Recommendations Issued Between 1/1/24 and Present [b]	(7)	(8)
Add: Recommendations closed between 1/1/25 and date database was queried [c]	2	3
Less: Recommendations closed before database was updated [d]		(1)
Total Public Reports and Recommendations Open One Year or More as of 12/31/2024 per Agency Records	**19**	**28**

[a] GAO's Database of Open Recommendations provides status only as of the date of query. NASA queried the database January 24, 2025. The database is located at https://www.gao.gov/reports-testimonies/recommendations-database.

[b] Reports GAO-24-106624, 1 recommendation; GAO-24-106878, 1 recommendation; GAO-25-106943, 1 recommendation; GAO-25-107041, 1 recommendation; GAO-25-107114, 2 recommendations; GAO-25-107179, 1 recommendation; and GAO-25-107402, 1 recommendation.

[c] Reports GAO-19-377, 1 recommendation and GAO-21-130, 2 recommendations.

[d] GAO communicated to NASA that recommendation 9 of GAO-22-104513 was considered closed in December 2024 and that the database will subsequently be updated.

Appendix D
Glossary of Acronyms

Acronym	Description
ABC	Agency Baseline Commitment
AI	Artificial Intelligence
ARC	Ames Research Center
CDR	Critical Design Review
CO	Contracting Officer
COR	Contracting Officer's Representative
DAEP	Deep Space Network Aperture Enhancement Project
DEIA	Diversity, Equity, Inclusion and Accessibility
DOE	Department of Energy
DRD	Data Requirements Description
DRPS	Dynamic Radioisotope Power System
DSN	Deep Space Network
ECC	Export Control Coordinator
ECRMO	Enterprise Cybersecurity Risk Management Officer
EDP	Enterprise Data Platform
EDWG	Enterprise Data Working Group
EGS	Exploration Ground Systems
EL	Event Logging
EM-2	Exploration Mission 2
EO	Executive Order
EPOC	Exploration Production and Operations Contract
ESA	European Space Agency
ESDMD	Exploration Systems Development Mission Directorate
ESSP	Earth System Science Pathfinder
EUS	Exploration Upper Stage
EUS + CAPS	EUS and its Associated Capabilities
EVM	Earned Value Management
FAR	Federal Acquisition Regulation
FY	Fiscal Year
GAO	Government Accountability Office
GeoCarb	Geostationary Carbon Cycle Observatory
HEOMD	Human Exploration and Operations Mission Directorate
IDAS	Information Data and Analytics Service Line
ISCM	Information Security Continuous Monitoring
ISS	International Space Station
IT	Information Technology
JAXA	Japan Aerospace Exploration Agency
JCL	Joint Cost and Schedule Confidence Level
KDP	Key Decision Point
LEGS	Lunar Exploration Ground Sites

Acronym	Description
LEO	Low Earth Orbit
LMD	Logistics Management Division
M2M	Moon to Mars
MOU	Memorandum of Understanding
NARA	National Archives and Records Administration
NASA	National Aeronautics and Space Administration
NDS	NASA Docking System
Next-Gen RTG	Next-Generation Radioisotope Thermoelectric Generator
NID	NASA Interim Directive
NMI	NASA Manual Inventory
NISAR	NASA-ISRO Synthetic Aperture Radar
NODIS	NASA Online Directives Information System
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
NRP	NASA Research Park
NSN	Near Space Network
OCE	Office of the Chief Engineer
OCFO	Office of the Chief Financial Officer
OCHCO	Office of the Chief Human Capital Officer
OCIO	Office of the Chief Information Officer
OCOMM	Office of Communications
ODMSP	Orbital Debris Mitigation Standard Practices
OGC	Office of the General Counsel
OIG	Office of Inspector General
OIIR	Office of International and Interagency Relations
OMB	Office of Management and Budget
OP	Office of Procurement
OPS	Office of Protective Services
OSAM-1	On-Orbit Servicing, Assembly, and Manufacturing 1
OSI	Office of Strategic Infrastructure
OTPS	Office of Technology, Policy, and Strategy
PDR	Preliminary Design Review
PG	Performance Goal
PI	Principal Investigator
PIC	Procurement Information Circular
PM	Program Management
PSD	Planetary Science Division
RPS	Radioisotope Power Systems
SAOGI	Senior Agency Official for Geospatial Information
SCIC	Supply Chain Insight Central

Acronym	Description
SCRB	Supply Chain Risk Board
SCV	Supply Chain Visibility
SLS	Space Launch System
SMD	Science Mission Directorate
SOP	Standard Operating Procedures
SRA	Schedule Risk Analysis
STMD	Space Technology Mission Directorate
SWOT	Surface Water and Topography
TAR	Threat Assessment Report
TRA	Technology Readiness Assessment
UKSA	United Kingdom Space Agency
VIPER	Volatiles Investigating Polar Exploration Rover
WebFLIS	Web Federal Logistics Information System