

# **NASA Office of Inspector General**

## **Open Recommendations as of July 15, 2023**

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The National Aeronautics and Space Administration (NASA) Office of the Inspector General (OIG) makes recommendations to improve economy, efficiency, and effectiveness and to identify waste and mismanagement in NASA programs, projects, operations, and contractor activities. This report contains information about 188 recommendations that remained open as of July 15, 2023.

Although NASA may have already taken steps to implement these recommendations, a recommendation is not considered closed until it has been fully implemented. Further, the status of open recommendations is subject to change as NASA continues its efforts to implement them, and we review those efforts. Therefore, some recommendations identified as open in this report may have subsequently been closed.

**NASA OFFICE OF THE INSPECTOR GENERAL – OPEN RECOMMENDATIONS as of July 15, 2023**

Row No.	Issue Date	Report Title	Report No.	Recommendation No.	Recommendation	Responsible Office
1	1/11/2022	NASA's Management of its Astronaut Corps	IG-22-007	1	Further centralize and maintain its collection, summary, and monitoring of detailed astronaut data—to include skills, certifications, training, and demographics—to better support the sizing and alignment of the astronaut corps, and to help inform recruiting and training of astronauts to fulfill NASA’s strategic goals, including continuing to expand the diversity of the astronaut corps.	Human Exploration and Operations
2	1/11/2022	NASA's Management of its Astronaut Corps	IG-22-007	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, HLS, and Gateway.	Human Exploration and Operations
3	4/6/2022	Volatiles Investigating Polar Expansion Rover (VIPER)	IG-22-010	2	Develop a VIPER mission cost estimate that includes all critical mission components and risks, specifically associated with the Astrobotic task order, and update the MPAR accordingly.	Science
4	4/6/2022	Volatiles Investigating Polar Expansion Rover (VIPER)	IG-22-010	3	Update NPR 7120.8 to require major acquisition projects that cost over \$250 million to complete a JCL analysis.	Chief Engineer
5	4/6/2022	Volatiles Investigating Polar Expansion Rover (VIPER)	IG-22-010	4	Update NPR 7120.8 to require major acquisition projects that cost over \$250 million to implement EVM.	Chief Engineer
6	4/6/2022	Volatiles Investigating Polar Expansion Rover (VIPER)	IG-22-010	1	Coordinate with the Chief Knowledge Officer to submit and at appropriate intervals document and publish lessons learned associated with using a CLPS provider, particularly on major acquisitions.	Science
7	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	5	Establish procedural requirements to ensure compliance with the Title 51 requirement to report full life-cycle cost and schedule for all major programs should NASA elect to estimate, track, and report baseline costs for major programs or activities that exceed \$250 million by component rather than by mission.	Chief Engineer
8	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	6	Review NPR 7120.5F and update it as necessary to ensure compliance with laws and regulations and recommendations 1 through 5 above. Ensure the use and definitions of terms, such as “capability” and “life cycle,” are consistent with those established in federal statutes and other NASA procedural requirements and policy directives.	Chief Engineer
9	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	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 risk.	Chief Engineer
10	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	1	Estimate, track, and report ongoing production costs for all major programs, such as SLS and Orion, as development costs (Phase C & D) and not as Operations and Sustainment (Phase E) costs.	Chief Financial Officer

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11	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	2	Include in the next MPAR to Congress the estimated baseline life-cycle cost and schedule for each Artemis mission (starting no later Artemis III) for which NASA proposes to expend funds in the subsequent fiscal year.	Chief Financial Officer
12	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	3	Should NASA elect to estimate, track, and report life-cycle costs for major programs or activities that exceed \$250 million by component rather than by mission, include estimates for each component in the MPAR and provide Congress a cost estimate, outside of the MPAR, for each Artemis mission currently planned, starting no later than Artemis III.	Chief Financial Officer
13	4/7/2022	NASA's Multi-Mission Program Cost Estimating	IG-22-011	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 projects are required for the successful implementation of a mission; regardless of how those programs/ projects are categorized (i.e., tightly coupled, single-project program, etc.).	Chief Financial Officer
14	8/4/2022	Ames Lease Management Practices	IG-22-015	1	Conduct cyclical reviews (no less than once every 5 years) of the Ames lease process to ensure compliance with federal and NASA requirements.	Strategic Infrastructure
15	8/4/2022	Ames Lease Management Practices	IG-22-015	2	Update applicable real estate policies and NASA-wide guidance to enhance requirements and procedures to comply with EUL authority and to require maintaining appropriate documentation, documenting decisions, and fostering transparent coordination and communication with internal and external stakeholders in a timely manner.	Strategic Infrastructure
16	8/4/2022	Ames Lease Management Practices	IG-22-015	3	Update applicable real estate policies and NASA-wide guidance to enhance requirements and standardize applicable financial practices (such as the benefit and cost analysis, life-cycle cost analysis, and audits of tenants' books and records when required) associated with leases.	Strategic Infrastructure
17	8/4/2022	Ames Lease Management Practices	IG-22-015	6	Ensure FRED and Center organizations' management such as the PSO, OCFO, and Facilities Engineering and Real Property Management Division are involved in the entire lease process from initial planning through termination to identify and assess resources, budgets, schedules, risks, and compliance with federal and NASA requirements.	Ames Research Center (Center Director)
18	8/4/2022	Ames Lease Management Practices	IG-22-015	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 RPAO, competition, life-cycle cost analysis, fair market value assessments, certifications, and termination clauses as appropriate.	Ames Research Center (Center Director)

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19	8/4/2022	Ames Lease Management Practices	IG-22-015	7	Establish a formal management structure for implementing the NASA Ames Development Plan that includes a documented and transparent process and emphasizes continuous internal and external stakeholder coordination for the research and development campus.	Ames Research Center (Center Director)
20	8/4/2022	Ames Lease Management Practices	IG-22-015	8	Establish a documented process with defined performance metrics to objectively measure progress and success for the research and development campus program, including evaluating tenant and partner contributions to NASA missions, and monitoring and reporting the performance metrics at least annually.	Ames Research Center (Center Director)
21	8/4/2022	Ames Lease Management Practices	IG-22-015	4	Update applicable real estate policies and NASA-wide guidance to incorporate applicable security requirements and agreement clauses in leases.	Strategic Infrastructure
22	8/4/2022	Ames Lease Management Practices	IG-22-015	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.	Office of Protective Services
23	8/4/2022	Ames Lease Management Practices	IG-22-015	10	Identify and implement mitigation strategies and resource requirements to address the security vulnerability assessment risks.	Office of Protective Services
24	11/30/2021	NASA's Utilization, Management, and Commercialization of Low Earth Orbit	IG-22-005	1	In order to mitigate risks to the Station's structural integrity, ensure the risks associated with cracks and leaks in the Service Module Transfer Tunnel are identified and mitigated prior to agreeing to an ISS life extension.	Human Exploration and Operations
25	5/18/2021	Audit of NASA 's Cybersecurity Readiness	IG-21-019	4	Determine the total annual cost of A&A for NASA's 526 systems, account for annual A&A costs at each Center, and set a baseline for what a typical A&A should cost.	Chief Information Officer
26	5/18/2021	Audit of NASA 's Cybersecurity Readiness	IG-21-019	5	Develop and include requirements in the planned consolidated cybersecurity contract (CyPRESS) for a dedicated enterprise A&A functional team to be provisioned to mission and institutional systems as required by the A&A lifecycle.	Chief Information Officer
27	5/18/2021	Audit of NASA 's Cybersecurity Readiness	IG-21-019	1	Formally integrate EA and ESA, and develop metrics on the overall progress and effectiveness of EA.	Chief Information Officer
28	5/18/2021	Audit of NASA 's Cybersecurity Readiness	IG-21-019	2	Collaborate with the Chief Engineer on strategies to strengthen EA across mission and institutional IT boundaries.	Chief Information Officer
29	5/18/2021	Audit of NASA 's Cybersecurity Readiness	IG-21-019	3	Determine the optimal organizational placement of the Enterprise Architect and Enterprise Security Architect.	Chief Information Officer
30	11/10/2020	NASA's Acquisition Strategy for the Lunar Gateway and Artemis Missions	IG-21-004	1	Baseline the Gateway requirements and specifications in contract modifications prior to updating and awarding the PPE and HALO fixed-price contracts.	Human Exploration and Operations
31	11/10/2020	NASA's Acquisition Strategy for the Lunar Gateway and Artemis Missions	IG-21-004	2	Ensure PPE and HALO delivery and launch dates are realistic by including sufficient schedule margin in the development schedule.	Human Exploration and Operations

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32	11/10/2020	NASA's Acquisition Strategy for the Lunar Gateway and Artemis Missions	IG-21-004	3	Develop a HEOMD policy that establishes a reasonable amount of recommended schedule margin by phase of the program or project.	Human Exploration and Operations
33	10/27/2020	NASA's Management of Its Acquisition Workforce	IG-21-002	1	Finalize and fully implement the Performance Metrics Dashboard to measure acquisition performance.	Procurement
34	10/27/2020	NASA's Management of Its Acquisition Workforce	IG-21-002	2	Document contract assignments to COs, CORs, and program/project managers in a centralized system for inclusion in the Performance Metrics Dashboard.	Procurement
35	10/2/2020	Geospatial Data Act Audit	IG-21-001	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.	Chief Information Officer
36	11/15/2021	NASA's Acquisition Strategy for the Artemis Program	IG-22-003	1	Develop a realistic, risk-informed schedule that includes sufficient margin to better align Agency expectations with the development schedule.	Human Exploration and Operations
37	11/15/2021	NASA's Acquisition Strategy for the Artemis Program	IG-22-003	2	Expand upon the existing draft Artemis IMS to include Artemis programs outside AES and ESD to properly align dependencies across directorates.	Human Exploration and Operations
38	11/15/2021	NASA's Acquisition Strategy for the Artemis Program	IG-22-003	3	Develop an Artemis-wide cost estimate, in accordance with best practices, that is updated on an annual basis.	Human Exploration and Operations
39	11/15/2021	NASA's Acquisition Strategy for the Artemis Program	IG-22-003	6	Develop a realistic funding profile and schedule given the underfunding of HLS in FY 2021, the selection of one HLS award, and the desire to compete a sustainability contract for future lunar missions.	Human Exploration and Operations
40	11/15/2021	NASA's Acquisition Strategy for the Artemis Program	IG-22-003	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 ESD systems.	Human Exploration and Operations
41	3/3/2020	Audit of NASA's Management of the Distributed Active Archive Data Centers	IG-20-011	1	In conjunction with ESDIS, once SWOT and NISAR 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 DAAC footprint.	Science
42	11/14/2019	NASA's Management of Crew Transportation to the International Space Station	IG-20-005	2	Correct identified safety-critical technical issues before the crewed test flights, including parachute and propulsion systems testing, to ensure sufficient safety margins exist.	Human Exploration and Operations
43	7/16/2020	Audit of NASA's Management of the Orion Multi Purpose Crew Vehicle	IG-20-018	2	To the extent practicable, adjust the production schedules for Artemis 4 and 5 to better align with the successful demonstration of Artemis 2 to reduce schedule delays associated with potential rework.	Human Exploration and Operations
44	9/16/2020	Planetary Science Division Portfolio	IG-20-023	2	In coordination with the Office of Chief Financial Officer, engage relevant Centers and technical capability leaders to implement budgetary and accounting system options to support critical discipline capabilities.	Science
45	12/3/2020	Audit of NASA's Management of Hazardous Material	IG-21-006	7	Require Center Directors to inspect and replace, as required, laboratory hazardous material storage structures and improve shelters that do not follow CDC guidelines or comply with Agency requirements.	Chief, Safety and Mission Assurance

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46	12/3/2020	Audit of NASA's Management of Hazardous Material	IG-21-006	5	Assess various options for development and implementation of an Agency-wide hazardous materials information system that tracks hazardous materials throughout the life cycle, and ensure processes are in place to consistently maintain a complete and accurate inventory.	Chief, Safety and Mission Assurance
47	10/21/2019	Audit of NASA's Security Management	IG-20-001	4	Evaluate Agency-wide jurisdictions to determine if it is feasible for all Centers to be under the same jurisdiction or at least to determine if individual Centers should have all of their property under the same type of jurisdiction	Office of Protective Services
48	10/21/2019	Audit of NASA's Security Management	IG-20-001	5	Coordinate with the Office of General Counsel 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.	Office of Protective Services
49	5/29/2019	Audit of NASA's Europa Mission	IG-19-019	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.	Science
50	3/17/2020	Audit of the Mobile Launcher	IG-20-013	3	Ensure life-cycle and milestone reviews incorporate programmatic and technical risks and are conducted with the Associate Administrator for Human Exploration and Operations Directorate and other senior Agency officials.	Human Exploration and Operations
51	3/17/2020	Audit of the Mobile Launcher	IG-20-013	4	Require the ML-2 project to develop an ABC separate from the EGS Program.	Human Exploration and Operations
52	3/10/2020	NASA's Cost Management of the Space Launch System	IG-20-012	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 program	Human Exploration and Operations
53	3/10/2020	NASA's Cost Management of the Space Launch System	IG-20-012	2	Establish methodologies and processes to track and set cost commitments for Artemis II.	Human Exploration and Operations
54	3/10/2020	NASA's Cost Management of the Space Launch System	IG-20-012	2	Determine 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).	Human Exploration and Operations
55	10/22/2018	Audit of NASA's Historic Property Management	IG-19-002	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; and we encourage NASA to adopt a process that more resembles the Smithsonian's approach to more effectively assess historic assets as to whether they should be retained or transferred to other organizations for preservation and utilization.	Strategic Infrastructure

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56	10/22/2018	Audit of NASA's Historic Property Management	IG-19-002	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. We encourage NASA to adopt a process that more resembles the Smithsonian's approach to assess historic assets more effectively as to whether they should be retained or transferred to other organizations for preservation and utilization.	Strategic Infrastructure
57	10/22/2018	Audit of NASA's Historic Property Management	IG-19-002	5	Ensure NASA policy for using the proceeds from facilities leased under NHPA authority appropriately aligns with Agency goals to minimize excess facilities.	Strategic Infrastructure
58	3/9/2017	NASA's Management of Electromagnetic Spectrum	IG-17-012	2	Incorporate the "Spectrum Guidance for NASA Small Satellite Missions" into formal NASA spectrum policies--NASA Policy Directive 2570.5E, "NASA Electromagnetic Spectrum Management - Revalidated 9/13/16," and NPR 2570.1C, "NASA Radio Frequency Electromagnetic Spectrum Management Manual."	Human Exploration and Operations
59	6/14/2022	Management and Resilience of NASA's Earth Science Disasters Program	IG-22-013	1	Establish and document Program management requirements in a strategic plan and/or NPR 7120.8 project plan format for consistent messaging on ESDP priorities, objectives, and quantifiable performance metrics.	Science
60	6/14/2022	Management and Resilience of NASA's Earth Science Disasters Program	IG-22-013	2	Perform a funding analysis of ESDP to determine if current resources are adequate to manage, oversee, and administer Program goals and objectives in accordance with its strategic plan and/or project plan.	Science
61	6/14/2022	Management and Resilience of NASA's Earth Science Disasters Program	IG-22-013	3	In accordance with the Stafford Act, coordinate with appropriate NASA offices to develop Memorandums of Understanding (MOUs) that facilitate reimbursement agreements with applicable federal agencies that request Agency support for disaster events.	Science
62	1/27/2021	NASA's Efforts to Mitigate Risks Posed by Orbital Debris	IG-21-011	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.	Office of the Administrator
63	1/27/2021	NASA's Efforts to Mitigate Risks Posed by Orbital Debris	IG-21-011	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.	Office of the Administrator
64	1/27/2021	NASA's Efforts to Mitigate Risks Posed by Orbital Debris	IG-21-011	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.	Office of the Administrator
65	3/14/2022	Audit of NASA's Insider Threat Program	IG-22-009	2	Improve cross-discipline communication by establishing a Working Group that includes OPS, OCIO, Procurement, human resource officials, and any other relevant Agency offices to collaborate on wide-ranging insider threat related issues for both classified and unclassified systems.	Office of Protective Services
66	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	3	To the extent that some or all of the Bechtel contract is converted to a fixed-price contract, ensure that an Independent Government Cost Estimate (IGCE) is established before entering into any new contractual agreements.	Human Exploration and Operations

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67	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	4	Ensure acquisition officials minimize the availability of award fees when contract modifications and value increases are the result of shortcomings in contractor performance and require documentation of the rationale for any award fees granted.	Human Exploration and Operations
68	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	1	Evaluate Bechtel's support for the updated estimate of cost and schedule at project completion and finalize negotiations for Bechtel's currently proposed cost increases and NASA's government-driven changes.	Human Exploration and Operations
69	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	5	Issue policy guidance to reinforce current FAR and NASA FAR Supplement regulatory guidance for stopping or withholding payments to a contractor for significant deficiencies in business systems, such as the EVMS.	Procurement
70	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	3	To the extent that some or all of the Bechtel contract is converted to a fixed-price contract, ensure that the Critical Design Review has been completed in accordance with NASA's life-cycle policies prior to conversion.	Human Exploration and Operations
71	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	2	Before completing and finalizing the ML-2 project-level ABC, update the JCL analysis to reflect realistic life-cycle cost and schedule estimates to ensure effective budgeting and management of the project.	Human Exploration and Operations
72	9/8/2021	NASA's Management of the Construction of Facilities Process	IG-21-027	1	Develop and institute an agency-wide process to prioritize and fund institutional and programmatic Construction of Facilities (CoF) projects that align with Agency-level missions and goals and require business case analyses to be completed and considered as part of the process prior to the project's approval.	Strategic Infrastructure
73	9/8/2021	NASA's Management of the Construction of Facilities Process	IG-21-027	2	Revise NPR 8820.2G to define and establish parameters for the use of institutional and programmatic CoF funds and establish a cost-sharing method for facilities that will have more than one user.	Strategic Infrastructure
74	9/8/2021	NASA's Management of the Construction of Facilities Process	IG-21-027	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.	Strategic Infrastructure
75	9/29/2022	NASA's Contract Management of the Johns Hopkins University Applied Physics Laboratory	IG-22-017	1	Document this occurrence as a lessons learned, as well as provide supplemental guidance to NASA procurement officials that, in the absence of prohibitive regulation or direction, the FAR provides them the authority to take the lead in encouraging business process innovations to ensure efficient contract actions.	Procurement
76	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	1	Ensure hiring and promotion managers across NASA receive appropriate training to increase DEIA awareness on topics such as implicit bias and inclusive leadership.	Human Capital Management
77	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	2	Ensure leadership-related professional development courses and detail assignments are widely available to prepare a more diverse cohort of employees for promotional opportunities.	Human Capital Management
78	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	3	Establish a comprehensive Agency-wide mentoring program for both mid-level (GS-11, GS-12, and GS-13) and senior level employees at all NASA Centers.	Human Capital Management



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79	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	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.	Office of Diversity and Equal Opportunity
80	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	5	Develop a plan that consistently utilizes ERGs to conduct supplemental recruiting activities.	Office of Diversity and Equal Opportunity
81	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	6	Conduct an analysis of all applicant data (similar to interns), including veterans, to better understand hiring trends and outcomes.	Human Capital Management
82	4/20/2023	NASA's Efforts to Increase Diversity in Its Workforce	IG-23-011	7	Designate an official or organization to oversee coordination between the stakeholders (OCIO, ODEO, and OCHCO) to develop a sustainable operation and funding structure for the EDP.	Office of the Administrator
83	7/12/2023	Audit of NASA's Deep Space Network	IG-23-016	1	Explore more efficient options for DSN scheduling, such as maintaining a list of DSN users by priority that is updated in real-time and accessible to all users.	Space Operations
84	7/12/2023	Audit of NASA's Deep Space Network	IG-23-016	2	Ensure completion of the DAEP's remaining antennas and transmitters and finalize requirements for the LEGS project.	Space Operations
85	7/12/2023	Audit of NASA's Deep Space Network	IG-23-016	3	Finalize international agreements, obtain appropriate clearances for installing the remaining 80 kW transmitters, and establish mechanisms to allow for greater oversight of DAEP project sites.	Space Operations
86	7/12/2023	Audit of NASA's Deep Space Network	IG-23-016	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.	Space Operations
87	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	2	Conduct high quality, frequent, and routine self-assessment TRAs by project management beginning after the initial implementation of a technology development project as a basis for TRL assessment and risk management discussions.	Science
88	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	1	Create an 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.	Science
89	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	3	Per Title 51 and NPR 7120.5F, recalculate the life-cycle costs for Next-Gen RTG and DRPS projects to include funding NASA provides to DOE.	Science
90	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	4	Institute an EVM process for Next-Gen RTG and DRPS projects that conforms with NASA policy, FAR requirements, and industry best practices.	Science
91	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	5	For Next-Gen RTG and DRPS development efforts that transition to a space flight project, execute a JCL analysis at the proper phases in accordance with NPR 7120.5F.	Science
92	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	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.	Space Technology
93	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	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.	Science

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94	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	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.	Science
95	3/20/2023	NASA's Management of Radioisotope Power Systems (RPS) Program	IG-23-010	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.	Science
96	6/28/2022	Audit of NASA's Compliance with the Payment Integrity Information Act for Fiscal year 2021	IG-22-014	3	Complete the OMB data call process for all programs with outlays over \$10 million.	Chief Financial Officer
97	6/28/2022	Audit of NASA's Compliance with the Payment Integrity Information Act for Fiscal year 2021	IG-22-014	4	Ensure that program outlays exclude any transactions that do not meet the outlay definition provided by OMB.	Chief Financial Officer
98	6/28/2022	Audit of NASA's Compliance with the Payment Integrity Information Act for Fiscal year 2021	IG-22-014	5	Revise the materiality risk calculation methodology and sampling and estimation methodology plan to include payment transactions only.	Chief Financial Officer
99	6/28/2022	Audit of NASA's Compliance with the Payment Integrity Information Act for Fiscal year 2021	IG-22-014	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.	Chief Financial Officer
100	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	4	Perform a detailed gap analysis and cost estimate for Artemis missions beyond Artemis IV that will help inform a cost-sharing strategy with international partners.	Exploration Systems Development
101	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	1	Establish a coordination strategy with NASA's international partners that includes recurring forums specifically for Artemis Accords signatories that are (or are interested in) participating in the Artemis campaign.	Exploration Systems Development
102	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	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.	Exploration Systems Development
103	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	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.	International and Interagency Relations
104	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	10	Develop an automated routing method for the processing of international agreements within NASA.	International and Interagency Relations
105	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	5	Establish a full-time export control team dedicated to the various Artemis programs in support of space flight developments.	Exploration Systems Development

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106	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	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.	Space Operations
107	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	7	Establish a full-time export control team dedicated to the Artemis programs in support of space flight operations.	Space Operations
108	1/17/2023	Review of NASA's Efforts to Partner with International Space Agencies for the Artemis Missions	IG-23-004	8	Coordinate with other federal agencies to gain a unique EAR classification for the Gateway as appropriate.	International and Interagency Relations
109	12/19/2022	Review of NASA's Space Technology Mission Directorate (STMD) Portfolio	IG-23-005	3	Complete efforts to develop additional outcome-based performance measures based on the transition, advancement, and infusion of technologies.	Space Technology
110	12/19/2022	Review of NASA's Space Technology Mission Directorate (STMD) Portfolio	IG-23-005	1	Reexamine its SPAR data system to ensure it provides as accurate and complete a picture of project costs as is practicable.	Space Technology
111	12/19/2022	Review of NASA's Space Technology Mission Directorate (STMD) Portfolio	IG-23-005	2	Update its STARPort data system with complete information on project alignment to STAR desired outcomes for all projects active in FY 2021 and beyond.	Space Technology
112	10/5/2022	Audit of NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022	IG-23-001	3	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.	Chief Information Officer
113	10/5/2022	Audit of NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022	IG-23-001	1	The role of the SAOGI is strategically positioned within the Agency to have responsibility, accountability, and authority needed to meet GDA-assigned agency responsibilities.	Chief Information Officer
114	10/5/2022	Audit of NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022	IG-23-001	2	Roles and responsibilities of the SAOGI and other key stakeholders are defined in both the Geospatial Data Strategy and its implementation plan.	Chief Information Officer
115	10/5/2022	Audit of NASA's Compliance with the Geospatial Data Act for Fiscal Year 2022	IG-23-001	4	Continued coordination with NARA to establish the appropriate level of scientific data for inclusion in NARA-approved records schedules.	Chief Information Officer
116	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	6	Conduct a thorough review of BPOC's scope of work and technical requirements needed to complete the respective periods of performance and update the contract as appropriate.	Exploration Systems Development
117	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	2	Coordinate with the Marshall procurement office to identify procurement needs and resources available under MAP to address staff capacity shortages at the senior procurement level to ensure sufficient oversight roles are staffed and separated from the contract actions.	Exploration Systems Development
118	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	3	Ensure Marshall procurement, legal, project planning and control, and SLS and booster program officials comply with best practices for establishing and maintaining internal controls, specifically on the appropriate process and procedures on REAs, fiscal law, and appropriate internal and external engagement.	Exploration Systems Development
119	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	4	Ensure Elements and procurement management comply with appropriate separation of roles and responsibilities for program and procurement actions and the FAR with respect to use of letter contracts, proper definitization, overpayments, and duplicative payments of award fees for modified scope and contracts.	Exploration Systems Development

Row No.	Issue Date	Report Title	Report No.	Recommendation No.	Recommendation	Responsible Office
120	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	7	Conduct a thorough review of BPOC's definitization to ensure proper liquidation of funds paid under the letter contract as progress payments are returned to the Agency and are appropriately paid when the performance of the work, per the contract, is completed.	Exploration Systems Development
121	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	8	Develop a separate non-fee bearing contract line item for completion of the 11 unfinished heritage RS-25 adaptation engines.	Exploration Systems Development
122	5/25/2023	NASA's Management of the Space Launch System Booster and Engine Contracts	IG-23-015	5	Update RS-25 production per engine cost estimate to include investment costs in restart facilities, equipment, new production overhead costs, and government-funded property.	Exploration Systems Development
123	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	1	Establish enterprise-wide (institutional and mission) Software Asset Management policy and procedures.	Chief Information Officer
124	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	3	Align the Agency Software Manager position to report to the Agency CIO.	Chief Information Officer
125	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	2	Implement a single Software Asset Management tool across the Agency.	Chief Information Officer
126	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	4	Establish formal legal representation and guidance for vendor software audits.	Chief Information Officer
127	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	7	Develop an Agency-wide process for limiting privileged access to computer resources in accordance with the concept of least privilege.	Chief Information Officer
128	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	5	Establish a software license awareness training 'short course' focusing on approvals, compliance, and other issues a general user might encounter.	Chief Information Officer
129	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	9	Centralize software spending insights to include purchase cards.	Chief Financial Officer
130	1/12/2023	Audit of NASA's Software Asset Management	IG-23-008	6	Implement a centralized repository for NASA's internally developed software applications.	Chief Information Officer
131	5/17/2023	ARMD's Efforts on Electrified Aircraft Propulsion Research and Development	IG-23-014	1	Coordinate with Agency JCL experts in addressing estimation challenges relative to X-plane development and lower TRL efforts and adjust risk analyses accordingly to derive higher probability/confidence cost and schedule estimates.	Aeronautics Research
132	5/17/2023	ARMD's Efforts on Electrified Aircraft Propulsion Research and Development	IG-23-014	2	Re-evaluate ARMD's planning and support of the U.S. 2021 Aviation Climate Action Plan priorities and commit project resources and funding accordingly to minimize funding instabilities for these efforts.	Aeronautics Research
133	5/3/2023	Audit of NASA's Management of its Artificial Intelligence Capabilities	IG-23-012	1	Establish a standardized definition for AI within the Agency, to include harmonizing the definitions in the NASA Framework for the Ethical Use of Artificial Intelligence (AI), NASA's Responsible AI Plan, and NASA AIML SharePoint.	Chief Information Officer
134	5/3/2023	Audit of NASA's Management of its Artificial Intelligence Capabilities	IG-23-012	2	Ensure the standardized AI definition is used to identify, update, and maintain the Agency's AI use case inventory.	Chief Information Officer
135	5/3/2023	Audit of NASA's Management of its Artificial Intelligence Capabilities	IG-23-012	3	Identify a classification mechanism to assist in the rapid application of federal requirements for cybersecurity controls and monitoring practices.	Chief Information Officer
136	5/3/2023	Audit of NASA's Management of its Artificial Intelligence Capabilities	IG-23-012	4	Develop a method to track budgets and expenditures for AI use case inventory.	Chief Information Officer

Row No.	Issue Date	Report Title	Report No.	Recommendation No.	Recommendation	Responsible Office
137	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	2	Design and implement the necessary entity-wide oversight, enforcement mechanisms, and controls to ensure all system-level BIAs are accurate and reviewed annually, as well as ensure the information system owners of the systems selected for testing in this evaluation complete a system-level BIA.	Chief Information Officer
138	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	3	Review all information systems to determine if a BIA has been performed in accordance with NASA's Information Technology Security Handbook (ITS-HBK), Contingency Planning (ITS-HBK-2810.08-01A).	Chief Information Officer
139	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	17	RMA recommends the Office of the Chief Information Officer revise its ISCM policies to document and implement lessons learned based on risk events whereby employees are instructed to record, analyze, and revise control activities to improve NASA's security posture.	Chief Information Officer
140	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	1	Implement the necessary entity-wide oversight to monitor RISCS for delinquent ATOs and SARs and ensure the information system owners of the systems selected for testing in this evaluation complete delinquent ATOs and SARs so RISCS provides sufficient information to determine NASA's risk exposure.	Chief Information Officer
141	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	4	Implement the necessary entity-wide oversight to monitor RISCS for accuracy and completeness, including reviewing portfolio-wide reports or dashboards demonstrating compliance with Federal requirements and enhancing decision-making.	Chief Information Officer
142	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	7	Document the NMI process in NASA's ISCM Strategy to ensure its hardware inventory monitoring process is accurate, complete, and fully aligned with NASA's other continuous monitoring guidance.	Chief Information Officer
143	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	5	Design and implement the necessary entity-wide oversight enforcement mechanisms and ensure the information system owner of the system selected for testing during this evaluation perform a system inventory of its software assets and licenses to ensure all software and license information are accurate and reviewed annually.	Chief Information Officer
144	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	6	Develop policies, procedures, and processes to manage the cybersecurity risks of risk framing, risk response, and risk monitoring in accordance with NASA policy.	Chief Information Officer
145	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	9	Implement the necessary oversight to monitor POA&Ms and RBDs in RISCS to identify ones that require action so it can ensure that the ISOs take the necessary action to review, update, and approve POA&Ms and RBDs, as necessary, before they become delinquent, taking into consideration the length of time required to obtain necessary approvals, and update RISCS.	Chief Information Officer
146	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	10	Ensure that the system owners of the systems selected for testing in this evaluation address its past due POA&Ms and unapproved RBDs.	Chief Information Officer
147	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	11	Ensure that the system owner of the system selected for testing in this evaluation addresses its unapproved RBD.	Chief Information Officer

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148	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	8	Develop a policy and implement the necessary entity-wide oversight to monitor risk through a risk register and a risk profile to provide enterprise-wide metrics to inform top management of its IT risks.	Chief Information Officer
149	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	12	RMA recommends the Office of the Chief Information Officer incorporates supplier risk evaluations into its continuous monitoring practices outlined in NASA's ISCM Strategy.	Chief Information Officer
150	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	13	Increase its resources and effort to enforce MFA using a NASA Identify based account and token from Agency ICAM service offerings (i.e., NASA PIV, Agency Smart Badge) for all moderate and high information systems in NASA's environment to comply with NASA, NIST, and OMB's guidelines.	Chief Information Officer
151	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	14	Ensure the information system owner of the system selected for testing during this year's evaluation implement PIV or Phishing Resistant MFA for its non-privileged users to comply with NASA, NIST, and OMB's guidelines.	Chief Information Officer
152	12/19/2022	Evaluation of NASA's Information Security Program under FISMA for FY 2022	IG-23-006	15	RMA recommends the Office of the Chief Information Officer ensure the security controls for protecting PII and other agency-sensitive data throughout the data lifecycle found in control families PM, PT, and SR are updated and defined within the Agency's ISCM strategy.	Chief Information Officer
153	5/16/2023	Audit of NASA's Compliance with the Payment Integrity Information Act for Fiscal Year 2022	IG-23-013	1	Enhance the NASA PIIA: Risk Assessment Methodology document by including detailed information and job aids, such as a checklist, and outlining the review procedures to ensure that a thorough review of the risk assessment ratings is performed before approving the risk assessment. The review procedures should include steps to verify that risk factor question ratings are accurate and that risk condition-level ratings correspond to their underlying risk factor ratings.	Chief Financial Officer

**Note: This table omits 35 recommendations that NASA determined to be classified or sensitive and are therefore unsuitable for public release.**

**RECENTLY CLOSED RECOMMENDATIONS**

Row No.	Issue Date	Report Title	Report no.	Recommendation No.	Recommendation	Responsible Office
1	9/29/2022	NASA's Contract Management of the Johns Hopkins University Applied Physics Laboratory	IG-22-017	2	In addition, we recommend the Marshall Space Flight Center Director require the Marshall Procurement Office:2. Document a process to periodically assess and compare the total cost estimate for awarded APL tasks to the established maximum and take timely action to modify the contract or request a deviation from the FAR to exclude a maximum for ARDES II and any future ARDES-type IDIQ contracts for APL.	Marshall Space Flight Center (Center Director)