

NASA Office of Inspector General

Open Recommendations as of December 15, 2023

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 183 recommendations that remained open as of December 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 December 15, 2023

Row No.	Issue Date	Report Title	Report No.	Recommendation No.	Recommendation	Responsible Office
1	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	1	Establish a charter for the existing Supply Chain Resiliency Forum, to include representation from the Moon to Mars Program Office and major Artemis prime contractors.	Exploration Systems Development
2	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	2	Complete the Supply Chain Visibility Data Requirement Description effort to gain supplier data from contractors.	Procurement
3	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	3	Provide training to Contracting Officers on FAR Subpart 44.2 - Consent to Subcontracts, so that the Contracting Officers will utilize available supplier data to determine whether the contractor should enter a contract with a particular subcontractor.	Procurement
4	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	4	1. Centralize supply chain management for the Artemis campaign within the Moon to Mars Program Office.	Exploration Systems Development
5	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	5	Ensure data is regularly entered into a supplier database (e.g., Insight Central) to track supplier data and ongoing challenges.	Exploration Systems Development
6	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	6	Incorporate a representative from the Logistics Management Division into each Artemis-related program and project at appropriate milestones, including at the onset of a contract and each life-cycle milestone.	Exploration Systems Development
7	10/19/2023	NASA's Management of the Artemis Program's Supply Chain	IG-24-003	7	Ensure an Artemis-specific study of the Agency's industrial base and supply chain is completed on a recurring basis.	Exploration Systems Development
8	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	1	Establish achievable cost saving metrics beginning with Artemis IV SLS elements and production contracts.	Human Exploration and Operations
9	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	2	Transition the core stage and Exploration Upper Stage contracts to fixed-price contracts with a per mission price to codify the actual costs.	Human Exploration and Operations
10	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	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.	Human Exploration and Operations
11	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	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.	Human Exploration and Operations
12	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	5	Include contract flexibility on future SLS acquisitions that will allow NASA to pivot to other commercial alternatives.	Human Exploration and Operations
13	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	6	For each Artemis SLS rocket under EPOC, add compensation to the DST contract such as incentive fees for when the contractor achieves specific cost saving goals.	Human Exploration and Operations
14	10/12/2023	Artemis IV and Beyond	IG-24-001 - EPOC	7	Ensure Government Mandatory Inspection Points and government oversight teams remain throughout the EPOC transition period.	Chief, Safety and Mission Assurance

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15	10/4/2023	NASA's On-Orbit Servicing, Assembly, and Manufacturing-1 Mission (OSAM-1)	IG-24-002	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.	Space Technology
16	10/4/2023	NASA's On-Orbit Servicing, Assembly, and Manufacturing-1 Mission (OSAM-1)	IG-24-002	2	Ensure all work is contractually agreed upon and integrated into the contract SOW, and all changes are appropriately reflected in the SOW with adjustments to the contract value.	Space Technology
17	10/4/2023	NASA's On-Orbit Servicing, Assembly, and Manufacturing-1 Mission (OSAM-1)	IG-24-002	3	Issue guidance that contracting officials, as part of acquisition strategy planning, consider incorporating award or incentive fees into future fixed price development contracts.	Procurement
18	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	2	Reexamine its selection process to ensure PIs or their team have sufficient experience, including project management, and the ability to dedicate necessary resources to effectively manage ESSP projects.	Science
19	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	3	Reissue and require SMD stakeholders to follow the tenets of the 2017 decision memorandum on Class D missions (Class D Tailoring/Streamlining Decision Memorandum, December 7, 2017).	Science
20	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	4	In collaboration with NASA's Launch Service Program, develop a process to engage early and evaluate alternative launch options in the event that ESSP project encounters access to space issues.	Science
21	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	5	Conduct a lessons learned review of the 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.	Science
22	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	6	Develop a plan to provide principal investigators (PIs) and their teams with contract and project management training post-selection approval to better equip them to manage subcontractors.	Science
23	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	7	Develop a formal and clear guidance on the roles, responsibilities, and expectations for the inclusion of applications within Earth Venture Class projects.	Science
24	9/5/2023	Management of NASA's Earth System Science Pathfinder Program	IG-23-018	8	Develop a methodology for funding applications in Earth Venture Class projects.	Science
25	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	1	Implement necessary oversight to monitor RISCs for accuracy and completeness, so RISCs provides sufficient support for decision-making and determining compliance with federal requirements.	Chief Information Officer
26	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	2	Ensure the information system owner of the systems selected for testing perform a system inventory of software assets and licenses used within the system boundaries and updates RISCs as necessary.	Chief Information Officer
27	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	3	Implement necessary oversight to monitor RISCs for accuracy and completeness of software and license information.	Chief Information Officer
28	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	4	Continue its efforts in developing policies, procedures, and processes for risk framing, risk response, and risk monitoring.	Chief Information Officer
29	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	5	Continue its efforts to develop and implement the necessary entity-wide oversight policy and procedures to monitor risk through a risk register and a risk profile that provide enterprise-wide metrics to inform top management of its Information Technology (IT) risks.	Chief Information Officer

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30	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	6	Implement the necessary oversight of RISCS to ensure that ISOs take 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
31	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	7	Ensure the system owners of the systems selected for testing address past due POA&Ms and RBDs.	Chief Information Officer
32	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	8	Revise its policies and procedures to document and implement a lessons learned process based on risk events within the ISCM and Risk Management areas. System security personnel should be instructed to record, analyze, and revise control activities to improve NASA's security posture.	Chief Information Officer
33	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	9	Incorporate supplier risk evaluations into its continuous monitoring practices.	Chief Information Officer
34	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	10	Continue developing and implementing plans to integrate its C-SCRM controls and processes across the three Agency levels.	Chief Information Officer
35	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	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.	Chief Information Officer
36	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	12	Continue the ongoing effort to enforce mandatory multifactor authentication using a NASA identity-based account and token from Agency ICAM service offerings (i.e., NASA PIV, Agency Smart Badge) for all information systems in NASA's environment.	Chief Information Officer
37	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	13	Ensure each information system owner of the systems selected for testing implements multifactor authentication for its non-privileged users.	Chief Information Officer
38	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	14	Develop and implement an ISCM Strategy in accordance with OMB Circular No. A-130, Managing Information as a Strategic Resource, and NIST SP 800-137A, Assessing Information Security Continuous Monitoring (ISCM) Programs: Developing an ISCM Program Assessment, including defining metrics, status monitoring frequencies, and control assessment frequencies.	Chief Information Officer
39	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	15	Ensure that the security controls in control families PM, PT, and SR are updated and defined within the Agency's ISCM strategy.	Chief Information Officer
40	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	16	Document the 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.	Chief Information Officer
41	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	17	Implement the necessary oversight to monitor RISCS for delinquent or invalid ATOs and SARs so that RISCS provides sufficient information to determine NASA's risk exposure.	Chief Information Officer

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42	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	18	Ensure ATOs and SARs are properly completed for the systems selected for testing.	Chief Information Officer
43	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	19	Ensure each information system owner of the systems selected for testing (1) updates the SSP to specify the specific application associated with the implementation statement for each NIST SP 800-53 Revision 5 control, and (2) has the system controls assessed by an independent assessor.	Chief Information Officer
44	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	20	Continue its efforts to prioritize projects that address the complexities required across EL tiers to meet the intermediate (EL2) maturity level in accordance with OMB M-21-31.	Chief Information Officer
45	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	21	Design and implement the necessary entity-wide oversight, enforcement mechanisms, and controls to ensure all system-level BIAs are accurate and reviewed annually.	Chief Information Officer
46	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	22	Review all information systems to determine if a BIA has been performed in accordance with NASA policy.	Chief Information Officer
47	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	23	Ensure each information system owner of the systems selected for testing performs and completes a system-level BIA.	Chief Information Officer
48	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	24	Implement the necessary oversight to monitor RISCS for delinquent testing of contingency plans.	Chief Information Officer
49	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	25	Ensure each information system owner of the systems selected for testing conducts a test of its contingency plan annually.	Chief Information Officer
50	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	26	Ensure each information system owner of the systems selected for testing confirms the adequacy of its recovery procedures and the plan's overall effectiveness.	Chief Information Officer
51	8/17/2023	Evaluation of NASA's Information Security Program under FISMA for FY 2023	IG-23-017	27	Ensure that each information system owner of external systems has a current ISA that defines how each entity will manage, operate, use, and secure the interconnection.	Chief Information Officer
52	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
53	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
54	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
55	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
56	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

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57	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
58	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
59	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
60	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
61	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
62	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
63	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
64	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
65	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
66	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
67	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
68	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

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69	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
70	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
71	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
72	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
73	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
74	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
75	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
76	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
77	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
78	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
79	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
80	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
81	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
82	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
83	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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84	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
85	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
86	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
87	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
88	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
89	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
90	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
91	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
92	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
93	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
94	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
95	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
96	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
97	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

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98	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
99	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
100	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
101	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
102	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
103	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
104	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
105	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
106	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
107	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
108	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
109	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
110	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

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111	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)
112	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
113	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
114	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
115	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
116	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
117	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
118	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
119	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
120	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
121	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
122	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

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123	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
124	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
125	6/9/2022	NASA's Management of the Mobile Launcher 2 Contract	IG-22-012	5	To increase accountability and improve future selection and management of contracts, we recommend the Assistant Administrator for Procurement 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
126	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
127	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
128	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
129	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
130	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
131	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
132	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
133	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

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134	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
135	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
136	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
137	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
138	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
139	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
140	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 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
141	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
142	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
143	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
144	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
145	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
146	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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147	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
148	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
149	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
150	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
151	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
152	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
153	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
154	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
155	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
156	3/10/2020	NASA's Cost Management of the Space Launch System	IG-20-012	2	Establishing methodologies and processes to track and set cost commitments for Artemis II.	Human Exploration and Operations
157	3/10/2020	NASA's Cost Management of the Space Launch System	IG-20-012	2	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).	Human Exploration and Operations
158	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
159	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

Row No.	Issue Date	Report Title	Report No.	Recommendation No.	Recommendation	Responsible Office
160	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
161	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
162	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
163	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
164	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
165	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
166	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

Note: This table omits 17 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	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
2	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
3	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

Note: This table omits 23 closed recommendations that NASA determined to be classified or sensitive and are therefore unsuitable for public release.