NASA Office of Inspector General Open Recommendations as of February 17, 2021

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 193 recommendations that remained open as of February 17, 2021. 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 February 17, 2021

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| 1 | 5/15/15 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2014 | IG-15-015 | 5 | Include cost-type contract payments in the Agency's recapture audit efforts. If NASA determines this proposal is not cost-effective, the CFO should document its justification for excluding these payments, including demonstrating that costs associated with recovering the funds are projected to be greater than the amount recovered. | Chief Financial Officer |
| 2 | 5/14/18 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2017 | IG-18-017 | 1 | Implement a procedure to use information regarding known improper payments, including the latest available data used for payment recapture reporting, when performing the annual risk assessment. | Chief Financial Officer |
| 3 | 5/14/18 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2017 | IG-18-017 | 3 | Develop a process for tracking overpayments identified and subsequently recovered through reductions in future billings on existing contracts such as contract credits. | Chief Financial Officer |
| 4 | 6/3/19 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2018 | IG-19-020 | 1 | Revise existing policies and procedures for reporting overpayments identified and recaptured from sources outside of the payment recapture audit by documenting the processes developed to gather, track, and report improper payments recaptured through credits on future billings and sustained questioned direct costs from post-award audits. | Chief Financial Officer |
| 5 | 6/3/19 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2018 | IG-19-020 | 2 | Provide training to those organizations or individuals responsible for reporting overpayments from future billing credits and sustained questioned direct costs from post- award audits to ensure they are aware of NASA's reporting requirements and their responsibility for tracking the information and communicating it to OCFO, including specific details of the information to be reported and the format it should be reported. | Chief Financial Officer |
| 6 | 11/7/19 | Review of NASA's Fiscal Year 2019 Digital Accountability and Transparency Act Submission | IG-20-004 | 2 | Incorporate a procedure into the existing Verification and Validation process to verify that procurement data is entered into FPDS-NG within three business days after contract award. | Procurement |
| 7 | 11/7/19 | Review of NASA's Fiscal Year 2019 Digital Accountability and Transparency Act Submission | IG-20-004 | 5 | Incorporate the results of this audit as detailed in this report and specifically identified according to data elements in Appendixes B and C when executing the Agency's Data Quality Plan and determining high risk control areas in FY 2020. | Procurement |

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| 8 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 1 | Ensure that the information system oversight process identifies delinquent control risk assessments and initiates timely corrective action to ensure that security controls are reviewed and tested in conformance with federal and Agency requirements. | Chief Information Officer |
| 9 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 3 | Perform an assessment to evaluate the feasibility of modifying RISCS to ensure that required data fields, system inventory sections, and other supporting documentation required for the creation or modification of an SSP are completed before a system can be authorized to operate. | Chief Information Officer |
| 10 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 4 | Update the current training for system owners and system assessment and authorization staff that covers the requirements for maintaining system security plans and supporting plan documentation in RISCS, as well as RISCS's data protection capabilities to keep that data secure. | Chief Information Officer |
| 11 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 5 | Issue clarifying policy guidance to ensure that information security controls for all active NASA information systems that are categorized as "other than satisfied" are properly supported by either a POA&M or Risk-Based Decision document and track exceptions in Agency-wide monitoring tools. | Chief Information Officer |
| 12 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 6 | Implement the necessary controls for the management of the hybrid common controls to include assessing control effectiveness and developing a POA&M or Risk-Based Decision document for every control assessed as 20ther than satisfied. | Chief Information Officer |
| 13 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 7 | Issue clarifying policy guidance that the Agency's system authorizing officials should ensure that all active information systems operated for the benefit of NASA, either by the Agency or other organizations, are covered by an approved contingency plan, when required. | Chief Information Officer |
| 14 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 8 | Issue clarifying policy guidance that the Agency's system authorizing officials should implement a formal review process to ensure that contingency plans for all applicable active information systems are reviewed on an annual basis to ensure they accurately reflect system requirements, procedures, organizational structure, and policies. | Chief Information Officer |

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| 15 | 6/25/20 | Review of NASA's Information Security Program under the FISMA FY 2019 Evaluation | IG-20-017 | 9 | Develop and implement an effective process to ensure that all IT security handbooks and other IT governance documents are reviewed and updated at least annually in accordance with NASA requirements. | Chief Information Officer |
| 16 | 5/15/20 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2019 | IG-20-016 | 1 | Complete steps outlined in the OMB guidance for when an agency is not compliant with IPIA for one fiscal year. Non- compliant agencies must submit a plan to Congress and OMB describing the actions that the agency will take to become compliant. | Chief Financial Officer |
| 17 | 5/15/20 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2019 | IG-20-016 | 2 | In accordance with OMB guidance, obtain a statistically valid estimate of the annual amount of improper payments in the SLS program for reporting in the FY 2020 AFR, and complete the associated required reporting. | Chief Financial Officer |
| 18 | 5/15/20 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2019 | IG-20-016 | 3 | Ensure that all risk factors are assigned risk ratings appropriately based on the supporting documentation in the risk assessment. | Chief Financial Officer |
| 19 | 5/15/20 | NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2019 | IG-20-016 | 4 | Change the timing of the Improper Payments Data Call so the results are available in time to consider for the improper payment risk assessment. | Chief Financial Officer |
| 20 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 1 | Improve the patch and vulnerability management program. | Chief Information Officer |
| 21 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 2 | Eliminate configuration weaknesses. | Chief Information Officer |
| 22 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 3 | Improve technical controls, including controls that monitor and control communications at the boundary of information systems. | Chief Information Officer |
| 23 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 4 | Improve the scope and extent of segregation of duties monitoring controls. | Chief Information Officer |
| 24 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 5 | Improve user administration controls, specifically around temporary elevated access and user access recertification. | Chief Information Officer |
| 25 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 6 | Utilize available layers of application security controls to enhance the existing defense in depth approach. | Chief Information Officer |
| 26 | 11/16/20 | Audit of NASA's Fiscal Year 2020 Financial Statements | IG-21-005 | 7 | Improve the scope and extent of financial system, database and infrastructure audit logging and review controls. | Chief Information Officer |

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| 27 | 12/22/20 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – An Agency Common System | IG-21-010 | 1 | Develop a POA&M or Risk-Based Decision document to address the deficiency in control SI-04. | Chief Information Officer |
| 28 | 12/22/20 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – An Agency Common System | IG-21-010 | 2 | Ensure that control SI-04 is assessed as soon as possible and that all ACS system controls are assessed timely in accordance with FISMA requirements. | Chief Information Officer |
| 29 | 12/22/20 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – An Agency Common System | IG-21-010 | 3 | Assign the personnel resources necessary to ensure the Agency's security plans for systems that inherit the controls within the Agency's new hybrid common controls system are updated and that those hybrid controls are removed from the ACS system security plan. | Chief Information Officer |
| 30 | 12/22/20 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – An Agency Common System | IG-21-010 | 4 | Establish a process to ensure that cost estimates are developed and included for all POA&Ms for the ACS system prior to their establishment and approval in RISCS to ensure that costs are properly captured and included in submissions to OMB. | Chief Information Officer |
| 31 | 12/22/20 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – An Agency Common System | IG-21-010 | 5 | Ensure that accurate cost estimates associated with the remediation of security weaknesses listed in POA&Ms are prepared and included for all open POA&Ms in the ACS system. | Chief Information Officer |
| 32 | 2/16/21 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – A Center Communications System | IG-21-013 | 1 | We recommend that the Information System Owner work with the Information System Security Officer to ensure the timely review and approval of the RBDs submitted in September 2020. | Marshall Space Flight Center |
| 33 | 2/16/21 | Fiscal Year 2020 Federal Information Security Modernization Act Evaluation – A Center Communications System | IG-21-013 | 2 | We recommend that the Information System Owner ensure that control CM-08, Information System Component Inventory, is assessed as soon as possible and that all CCS system controls are assessed timely in accordance with FISMA requirements. | Marshall Space Flight Center |
| 34 | 5/17/17 | Audit of the Construction of Test Stands 4693 and 4697 at Marshall Space Flight Center | IG-17-021 | 1 | Perform a comprehensive review of Program-funded construction projects to ensure adequate analysis, including all life cycle costs, is completed prior to project initiation. | Strategic Infrastructure |

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| 35 | 5/17/17 | Audit of the Construction of Test Stands 4693 and 4697 at Marshall Space Flight Center | IG-17-021 | 2 | Develop additional construction project guidance for establishing unallocated construction reserves for program- direct construction facility projects to better account for significant expected risks. | Strategic Infrastructure |
| 36 | 5/17/17 | Audit of the Construction of Test Stands 4693 and 4697 at Marshall Space Flight Center | IG-17-021 | 3 | Ensure facility needs, such as construction of new facilities and/or modification of existing facilities, are appropriately included in program planning and scheduling and that testing requirements are adequately understood prior to committing the Agency to construction or modification of test facilities. | Human Exploration and Operations |
| 37 | 5/23/18 | Audit of NASA's Security Operations Center | IG-18-020 | 1 | Develop a charter and set of authorities signed by the NASA constituent executives (including the NASA Administrator) that addresses the SOC's organizational placement, purpose, authority, and responsibilities. | Chief Information Officer |
| 38 | 5/23/18 | Audit of NASA's Security Operations Center | IG-18-020 | 2 | Establish Operational Level Agreements with NASA Centers, Mission Directorates, the Communications Services Office, the End User Services Office, the Agency Applications Office, and Web Services Office to clearly define incident response roles and responsibilities, ensure data storage and sharing needs are addressed, and opportunities to leverage economies of scale are identified and acted upon in support of Agency cybersecurity goals. | Chief Information Officer |
| 39 | 10/22/18 | NASA's Management of Historic Property | IG-19-002 | 1 | Develop a process to more effectively identify, validate ownership of, and coordinate within NASA and/or with other agencies on recovery of historic property. | General Counsel |
| 40 | 10/22/18 | NASA's Management of Historic Property | 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 | Strategic Infrastructure |
| 41 | 10/22/18 | NASA's Management of Historic Property | 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. | Strategic Infrastructure |
| 42 | 10/22/18 | NASA's Management of Historic Property | IG-19-002 | 5 | Ensure NASA policy and procedures for using the proceeds from facilities leased under NHPA authority appropriately aligns with Agency goals to minimize excess facilities. | Strategic Infrastructure |

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| 43 | 10/21/19 | NASA's Security Management | IG-20-001 | 2 | Standardize and streamline the facility security assessment process across the Agency to increase efficiency and inform decision making. | Office of Protective Services |
| 44 | 10/21/19 | NASA's Security Management | IG-20-001 | 3 | Research federal arrest authority (as directed in the Protective Services BSA Decision Memorandum) in conjunction with the Office of the General Counsel, formulate a unified response, and implement a consistent policy across the Agency. | Office of Protective Services |
| 45 | 10/21/19 | 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 |
| 46 | 10/21/19 | NASA's Security Management | IG-20-001 | 5 | Coordinate with the Office of the 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 |
| 47 | 10/21/19 | NASA's Security Management | IG-20-001 | 8 | Develop procedures that require Center protective services officials to be a stakeholder in the planning process to meet protective services requirements for existing and new tenants. | Office of Protective Services |
| 48 | 3/26/19 | Service Contracts | IG-19-014 | 1 | Develop an Agency-wide standardized set of metrics for contracts that can be collected, tracked, and analyzed over time to identify efficiencies resulting from a change in contract structure. | Procurement |
| 49 | 3/26/19 | Service Contracts | IG-19-014 | 2 | Require Center Procurement Offices to formally collect, track, and report data to the Headquarters Office of Procurement on these metrics at least annually. | Procurement |
| 50 | 3/26/19 | Service Contracts | IG-19-014 | 3 | Develop a community of practice to analyze what contract structure changes lead to the greatest efficiencies and to share these lessons learned with the Agency's procurement community. | Procurement |
| 51 | 10/2/20 | Final Memorandum, Audit of NASA's Compliance with the Geospatial Data Act | IG-21-001 | 1 | Appoint a senior agency official for geospatial information to coordinate with the Federal Geographic Data Committee to align NASA's geospatial data strategy with the national strategy and assist in the development of the required data, metadata, and quality standards. | Chief Information Officer |

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| 52 | 10/2/20 | Final Memorandum, Audit of NASA's Compliance with the Geospatial Data Act | 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 |
| 53 | 10/2/20 | Final Memorandum, Audit of NASA's Compliance with the Geospatial Data Act | IG-21-001 | 3 | Develop records schedules in coordination with NARA for NASA's historically significant geospatial data assets. | Chief Information Officer |
| 54 | 10/2/20 | Final Memorandum, Audit of NASA's Compliance with the Geospatial Data Act | IG-21-001 | 4 | Collaborate with NARA to determine if there is value in establishing affiliated data archive agreements for NASA's remote sensing/earth observing geospatial data assets. | Chief Information Officer |
| 55 | 11/2/16 | NASA's Portfolio of Earth Science Missions | IG-17-003 | 1 | Update the Architecture Plan every 5 years to align with the release of Earth Science Decadal Surveys and mid-term Surveys and account for portfolio changes. | Science |
| 56 | 10/5/17 | NASA's Management of Spare Parts for its Flight Projects | IG-18-001 | 3 | Develop a standardized cataloging process for OSCAR to ensure NASA program and project officials can effectively identify and reserve compatible flight inventory. | Strategic Infrastructure |
| 57 | 10/5/17 | NASA's Management of Spare Parts for its Flight Projects | IG-18-001 | 5 | Work with Center logistics officials to develop alternative approaches to ensure Centers can meet the requirement to conduct complete reviews of spare parts inventories every 5 years. | Strategic Infrastructure |
| 58 | 5/6/20 | Management of Low-Boom Flight Demonstrator Project | IG-20-015 | 1 | Finalize the schedule-driven contingency plan for the community response testing and account for the resources (personnel and costs) it will require to implement. | Aeronautics Research |
| 59 | 5/6/20 | Management of Low-Boom Flight Demonstrator Project | IG-20-015 | 6 | Establish NASA requirements for programs and projects to perform internal EVM reporting that follow the same timeline as contractor reporting 90 days after the prime contract start date but no later than Key Decision Point (KDP)- C. | Chief Financial Officer |
| 60 | 5/6/20 | Management of Low-Boom Flight Demonstrator Project | IG-20-015 | 7 | Evaluate whether the monetary threshold for performing internal EVM is sufficient or additional criteria would be beneficial regarding the dollar-value of tasks related to providing Government furnished equipment (GFE) and performing in- house development work (discrete work) compared to NASA personnel performing integration, review, and management functions (level-of-effort work). | Chief Financial Officer |
| 61 | 5/7/19 | NASA's Heliophysics Portfolio | IG-19-018 | 2 | Complete implementation of 2015 NSWAP tasks in accordance with SWORM subcommittee deadlines; | Science |

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| 62 | 5/7/19 | NASA's Heliophysics Portfolio | IG-19-018 | 3 | Reassess HPD's capabilities and resources and update the 2014 Roadmap for implementing 2013 Decadal recommendations with expected completion dates based on the Division's updated budget and priorities over the next 5 years. | Science |
| 63 | 5/7/19 | NASA's Heliophysics Portfolio | IG-19-018 | 4 | Establish a formal mechanism to increase collaboration with DOD and the commercial space industry regarding heliophysics research and space weather modeling and forecasting efforts. | Science |
| 64 | 6/18/19 | JPL Network Security | IG-19-022 | 8 | Establish a formal, documented threat-hunting process that includes roles and responsibilities, standard processes for conducting a hunt, and metrics to track success. | NASA Management Office |
| 65 | 5/29/19 | Management of NASA's Europa Mission | IG-19-019 | 7 | Consider requesting the NRC (now the National Academies of Sciences, Engineering, and Medicine) reexamine the Lander's priority under authority in the NASA Authorization Act of 2008. | Science |
| 66 | 5/29/19 | Management 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 and mitigating conflicts of interest risks. | Science |
| 67 | 8/27/20 | NASA's Policy and Practices Regarding the Use of Non- Agency IT Devices | IG-20-021 | 1 | Fully implement NAC and CDM at all Centers to detect, prevent, and remove unauthorized IT devices accessing NASA networks. | Chief Information Officer |
| 68 | 8/27/20 | NASA's Policy and Practices Regarding the Use of Non- Agency IT Devices | IG-20-021 | 2 | Incorporate into applicable IT policy and requirements documents IT systems security controls for life cycle management in accordance with NIST Special Publication 800-124. | Chief Information Officer |
| 69 | 8/27/20 | NASA's Policy and Practices Regarding the Use of Non- Agency IT Devices | IG-20-021 | 3 | Define requirements and implement controls to monitor and enforce MDM business rules, including defining the office responsible for performing monitoring and enforcement. | Chief Information Officer |
| 70 | 8/27/20 | NASA's Policy and Practices Regarding the Use of Non- Agency IT Devices | IG-20-021 | 4 | Revise cybersecurity policy, guidance, and requirements to provide OCIO with a level of direct oversight of enterprise- wide IT management to ensure consistent practices across Centers. | Chief Information Officer |
| 71 | 8/27/20 | NASA's Policy and Practices Regarding the Use of Non- Agency IT Devices | IG-20-021 | 5 | Revise NSINS to implement controls to ensure adequate SAISO visibility into cybersecurity practices at the Centers. | Chief Information Officer |

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| 72 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 1 | Communicate to the National Academies realistic costs of planetary science missions and consider resetting the cost caps and/or the cadence of PSD missions to reflect rising mission costs. | Science |
| 73 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 2 | In coordination with the Office of Chief Financial Officer, engage relevant Centers and technical capability leaders to identify budgetary and accounting system solutions within the current budgetary and full cost accounting system to adequately fund and sustain critical technical discipline capabilities needed to support current and future projects. | Science |
| 74 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 3 | In coordination with the Office of the Chief Human Capital Officer, review and identify opportunities based on existing NASA leading practices to foster and monitor mentoring to ensure a robust pipeline for PSD-related disciplines. | Science |
| 75 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 4 | In coordination with Space Communications and Navigation, complete an assessment of DSN's infrastructure in order to develop and implement a maintenance and upgrade plan to support PSD missions. | Science |
| 76 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 5 | In coordination with the Space Technology Mission Directorate, evaluate each Directorate's respective roles in basic research that may affect PSD projects and identify opportunities to advance technologies through flight demonstrations. | Science |
| 77 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 6 | Reassess the NEOO Program's priority in meeting the goal of cataloging 90 percent of the NEOs larger than 140 meters, establish cost and schedule estimate with proposed funding profile to meet the NEOO's goal of cataloging, and coordinate with Congress and request funding to support the implementation goal. | Science |
| 78 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 7 | In coordination with the NASA Shared Services Center, comply with the Federal Grant and Cooperative Agreements Act of 1977 on the proper use of grants and contracts to allow Center and Program personnel greater visibility into partner operations and to ensure that funding levels and performance are commensurate with requirements. | Science |

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| 79 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 8 | Implement the National Academies recommendation to establish a common interface for CLPS contractors between instrument and spacecraft or to require that each commercial provider supply a document that describes provider and payload capabilities. | Science |
| 80 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 9 | In coordination with CLPS contracting personnel, establish procedures for evaluation, periodic re-evaluation, and monitoring of current and prospective CLPS contractors' past performance and financial capabilities risk, and steps to mitigate those risks when applicable. | Science |
| 81 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 10 | Comply with NASA policy to establish program/project quality assurance surveillance plans, or its intent thereof, for all applicable CLPS task orders. | Science |
| 82 | 9/16/20 | NASA's Management of the Planetary Science Portfolio | IG-20-023 | 11 | Develop procedures for periodic communication of the available hiring authorities, including but not limited to NEX and Pathways, guidance regarding the use of hiring authorities and the tools resident on USAJOBS.gov, monitoring of usage, and identifying and reporting usage challenges to Center and senior management. | Human Capital Management |
| 83 | 12/3/20 | NASA's Management of Hazardous Materials | IG-21-006 | 1 | Ensure that an appropriate organizational manager who is authorized to accept risks on the Center Director's behalf is included in the hazardous materials acquisition process as the concurring authority. | Mission Support |
| 84 | 12/3/20 | NASA's Management of Hazardous Materials | IG-21-006 | 3 | Ensure contractors and tenants at NASA Centers report their hazardous material inventory to Center management at least annually. | Mission Support |
| 85 | 12/3/20 | NASA's Management of Hazardous Materials | IG-21-006 | 4 | Evaluate Centers' application of Agency policy to maintain a list of restricted and prohibited materials and their associated waiver processes and make improvements as warranted. | Mission Support |
| 86 | 12/3/20 | NASA's Management of Hazardous Materials | 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. | Mission Support |
| 87 | 12/3/20 | NASA's Management of Hazardous Materials | IG-21-006 | 6 | Develop and implement an Agency-wide policy that establishes a standard for storage spaces and facilities used to house hazardous materials. | Mission Support |

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| 88 | 12/3/20 | NASA's Management of Hazardous Materials | 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. | Mission Support |
| 89 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 1 | Implement quantifiable research hour requirements. | Science |
| 90 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 2 | Establish a requirement for the Program to maximize research hours in the stratosphere that considers implementing an 8-hour, five times per week flight profile whenever SOFIA operates from Palmdale between May and November. | Science |
| 91 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 3 | Establish observation program completion metrics, based on science value prioritization, to increase the probability observations result in publications. | Science |
| 92 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 4 | Develop and implement a process to increase the timeliness of delivering data to researchers. | Science |
| 93 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 5 | Establish science metrics, such as publications and citations per year, as criteria for the performance evaluation of the USRA contract award fee. | Science |
| 94 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 6 | Establish a requirement for new technology implementation given the cancellation of HIRMES. | Science |
| 95 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 7 | Develop a process for tracking science instrument productivity and cost to maintain and establish an evaluation program to determine when an instrument should be retired. | Science |
| 96 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 8 | Reassess SOFIA's strategy and mission to identify and consider implementing alternative operational approaches and models to maximize SOFIA's capabilities within the Astrophysics portfolio and return on investment. | Science |
| 97 | 9/14/20 | Management of Stratospheric Observatory for Infrared Astronomy | IG-20-022 | 9 | Develop consensus between SMD officials and Program management and implement quantifiable operational and science output requirements. | Science |
| 98 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | 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 |

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| 99 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | 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 |
| 100 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | 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 |
| 101 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | IG-21-011 | 4 | Prioritize obtaining direct measurements needed to fill the 3 mm and smaller sized debris gap at the 600 to 1,000 km altitude in LEO. | Office of the Administrator |
| 102 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | IG-21-011 | 5 | Explore alternative orbital debris radar assets to fill the data gaps caused by the increased costs of utilizing existing radars and the loss of legacy assets. | Safety & Mission Assurance |
| 103 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | IG-21-011 | 6 | Explore commercial alternatives to obtaining information on debris smaller than 10 cm until Space Fence becomes fully operational. | Safety & Mission Assurance |
| 104 | 1/27/21 | NASA's Efforts to Mitigate Orbital Debris Hazardous | IG-21-011 | 7 | Coordinate with Mission Directorate officials to develop and document a formal signature process that clarifies needs and expectations and supports the timely delivery of ODARs and EOMPs before critical decision point reviews. | Safety & Mission Assurance |
| 105 | 3/28/16 | Audit of the Spaceport Command and Control System | IG-16-015 | 1 | Commission an independent assessment to evaluate the status of the SCCS software development effort and determine the necessary steps to reduce the risk of further cost, schedule, and performance issues, including consideration of acquiring commercial command and control software to replace some or all of the system currently under development. | Human Exploration and Operations |
| 106 | 3/9/17 | NASA's Management of Electromagnetic Spectrum | IG-17-012 | 2 | Incorporate the Spectrum Guidance for NASA Small Satellite Missions into formal NASA electromagnetic spectrum policies NPD 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 |
| 107 | 4/13/17 | NASA's Plans for Human Exploration Beyond Low- Earth Orbit | IG-17-017 | 4 | Include cost as a factor in NASA's Journey to Mars feasibility studies when assessing various missions and systems | Human Exploration and Operations |

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| 108 | 7/30/18 | NASA's Efforts to Complete ISS Research to Enable Long- Duration Human Space Fight and Plans for the Station's Future Disposition | IG-18-021 | 3 | Ensure there is a contingency plan for each exploration- enabling technology demonstration not scheduled to be fully tested by 2024, such as: a. Identification of alternate testing platforms, b. Impact to technical risk of exploration systems, and c. Impact to the technology demonstration schedule. | Human Exploration and Operations |
| 109 | 7/30/18 | NASA's Efforts to Complete ISS Research to Enable Long- Duration Human Space Fight and Plans for the Station's Future Disposition | IG-18-021 | 4 | Complete all end-of-mission critical systems and open work related to nominal and contingency deorbit operations. | Human Exploration and Operations |
| 110 | 7/30/18 | NASA's Efforts to Complete ISS Research to Enable Long- Duration Human Space Fight and Plans for the Station's Future Disposition | IG-18-021 | 5 | Develop options for obtaining supplemental emergency deorbit propellant support from U.S. commercial vehicles. | Human Exploration and Operations |
| 111 | 4/26/18 | NASA's Management of ISS Commercial Resupply Services Contracts | IG-18-016 | 5 | Ensure the ISS Program decides by January 2020 whether to compete task orders beyond the minimum guarantee of six for each contractor through the existing IDIQ contract or through the On-Ramp clause. | Human Exploration and Operations |
| 112 | 4/5/18 | NASA's Management of the Goddard Institute for Space Studies and Related Activities | IG-18-015 | 8 | To the extent practicable, implement the GAO's best practices for establishing partnerships, including the formalization of agreements that outline the roles and responsibilities of each agency in the performance and application of climate research performed at GISS. | Office of International and Interagency Relations |
| 113 | 3/17/20 | NASA's Management 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 Mission Directorate and other senior Agency officials. | Human Exploration and Operations |
| 114 | 3/17/20 | NASA's Management 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 |
| 115 | 3/10/20 | 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 programs. | Human Exploration and Operations |
| 116 | 3/10/20 | NASA's Cost Management of the Space Launch System | IG-20-012 | 2b | Establishing methodologies and processes to track and set cost commitments for Artemis II. | Human Exploration and Operations |

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| 117 | 3/10/20 | NASA's Cost Management of the Space Launch System | IG-20-012 | 2c | 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 |
| 118 | 3/10/20 | NASA's Cost Management of the Space Launch System | IG-20-012 | 5 | Conduct a thorough review of each major SLS contract's scope of work and technical requirements needed to complete the period of performance to assist in eliminating incremental contract value increases to the contract and lessen contract management burden, as in the case of the Boosters contract. | Human Exploration and Operations |
| 119 | 3/3/20 | NASA's Distributed Active Archive Centers | IG-20-011 | 1 | In conjunction with ESDIS, once NISAR and SWOT are operational and providing sufficient data, complete an independent analysis to determine the long-term financial sustainability of supporting the cloud migration and operation while also maintaining the current DAAC footprint. | Science |
| 120 | 3/3/20 | NASA's Distributed Active Archive Centers | IG-20-011 | 3 | In coordination with the OCIO, and during the next security plan review cycle, ensure all applicable information types are considered during system categorization, that appropriate premises are used when determining impact levels, and that the appropriate categorization procedures are standardized across ESDIS systems. | Science |
| 121 | 11/14/19 | NASA's Management of Crew Transportation to the International Space Station | IG-20-005 | 1 | Revise current schedules and establish realistic timetables for the remaining reviews and flights occurring before final certification and missions to the ISS. | Human Exploration and Operations |
| 122 | 11/14/19 | 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, propulsion, and launch abort systems, to ensure sufficient safety margins exist. | Human Exploration and Operations |
| 123 | 7/16/20 | NASA's Management of the Orion Multi-Purpose Crew Vehicle Program | IG-20-018 | 2 | To the extent practicable, adjust the production schedules for Artemis IV and V to better align with the successful demonstration of Artemis II to reduce schedule delays associated with potential rework. | Human Exploration and Operations |
| 124 | 10/27/20 | NASA's Management of its Acquisition Workforce | IG-21-002 | 1 | Finalize and fully implement the performance metrics dashboard to measure acquisition performance. | Procurement |
| 125 | 10/27/20 | 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 in the performance metrics dashboard. | Procurement |

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| 126 | 10/27/20 | NASA's Management of its Acquisition Workforce | IG-21-002 | 3 | Ensure all certified contracting and COR program participants utilize FAITAS to record their certifications and continuous learning requirements by an established deadline. | Chief Financial Officer |
| 127 | 10/27/20 | NASA's Management of its Acquisition Workforce | IG-21-002 | 4 | Take action to ensure that active CORs that have not met continuous learning requirements are removed from their COR position in a timely manner. | Procurement |
| 128 | 11/10/20 | NASA's Acquisition Strategy for the 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 |
| 129 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 2 | Ensure PPE and HALO delivery and launch dates are realistic by including sufficient schedule margin in their development schedules. | Human Exploration and Operations |
| 130 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 3 | Develop a HEOMD policy that establishes a reasonable amount of recommended schedule margin by phase of program or project. | Human Exploration and Operations |
| 131 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 4 | Confirm at selection the launch system provider for the co- manifested PPE and HALO will meet spacecraft mass, length, and other requirements. | Human Exploration and Operations |
| 132 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 5 | Work with the contractors to obtain a credit for the amount already spent on launch services under the PPE contract. | Human Exploration and Operations |
| 133 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 6 | Take action to enforce NASA policy to definitize contracts within 6 months of award. | Human Exploration and Operations |
| 134 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 7 | Definitize the remaining development and delivery portion of the HALO contract by PDR plus 3 months. | Human Exploration and Operations |
| 135 | 11/10/20 | NASA's Acquisition Strategy for the Artemis Missions | IG-21-004 | 8 | Ensure the maturity of system requirements are fully understood before selecting the acquisition method and contract type for future acquisition strategies supporting Artemis and Mars missions by describing the state of the program requirements in the acquisition strategy memorandum for each new acquisition. | Human Exploration and Operations |

Note: This table omits 58 recommendations that NASA determined to be classified or sensitive and are therefore unsuitable for public release.

RECENTLY CLOSED RECOMMENDATIONS

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| Row | Issue Date | Report Title | Report no. | Rec | Recommendation | Responsible Office |
| No. | | | | no. | | |
| 1 | 12/3/20 | NASA's Management of Hazardous Materials | IG-21-006 | 8 | Inspect and evaluate Centers' 90-day storage facilities and processes and make improvements as warranted. | Mission Support |
| 2 | 9/17/15 | NASA's Response to Orbital's 2014 Launch Failure: Impacts on Commercial Resupply of the International Space Station | IG-15-023 | 7 | Consider whether contract provisions relating to the boards should be revised to more closely align with NASA Mishap Investigation Board procedures (NASA Procedural Requirements 8621.1B, Chapter 4). | Human Exploration and Operations |
| 3 | 7/16/20 | NASA's Management of the Orion Multi-Purpose Crew Vehicle Program | IG-20-018 | 3 | Ensure procurement 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. | Procurement |