NASA OFFICE OF INSPECTOR GENERAL

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WASHINGTON, D.C. 20546-0001

February 4, 2025

The Honorable Jerry Moran
Chair
Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Chris Van Hollen
Ranking Member
Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Hal Rogers
Chairman
Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

The Honorable Grace Meng
Ranking Member
Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Subject: *NASA's Compliance with Federal Export Control Laws* (IG-25-003)

The National Aeronautics and Space Administration (NASA) Authorization Act of 2000 directs the NASA Office of Inspector General (OIG) to annually assess the Agency's compliance with federal export control laws and reporting requirements regarding cooperative agreements between NASA and China or any Chinese company.[1]

We last reported to you on these issues in February 2024. Since then, NASA has not established any new bilateral agreements with China. NASA has continued its work with the Chinese Academy of Sciences on bilateral science activities relating to space geodesy and glacier research in the Himalaya Region.[2] In June 2021, NASA began to exchange limited information with the China National Space Administration (CNSA) to ensure the safety of NASA's robotic Mars science missions and international partners'

[1] Pub. L. No. 106-391, codified at 51 U.S.C. § 30701(a)(3).

[2] Space geodesy uses space-based observations to monitor, map, and understand changes in the Earth's shape, rotation, and mass distribution.

missions in orbit around Mars. NASA anticipates these discussions will continue for the life of the Tianwen-1 mission.[3] Additionally, according to Agency officials, in November 2023, NASA permitted NASA-funded scientists to apply for access to CNSA's Chang'e-5 lunar samples.[4] As of December 2024, discussions are ongoing within the Agency regarding terms for the exchange of the samples and the process for engaging with CNSA. Lastly, in October 2024, NASA began to coordinate with the Beijing Institute of Tracking and Telemetry Technology on spacecraft collision mitigation measures, such as deconflicting maneuver plans. For each of these activities, the Agency made the appropriate notifications in accordance with the requirements outlined in Public Law 116-260.[5]

With regard to export control-related oversight work conducted by our office, during the past year we completed two audits that examined NASA's controls over sensitive information and information technology (IT) assets and security systems, many of which contain data subject to export control laws. We also initiated two new audits related to IT security. In addition, our Office of Investigations closed seven investigations related to inappropriate associations with China and the unauthorized access to export-controlled information. Furthermore, we are an active member of the U.S. Department of Homeland Security's Export Enforcement Coordination Center (E2C2). The E2C2 coordinates export enforcement efforts and intelligence sharing activities among federal agencies to identify and resolve conflicts involving violations of U.S. export control laws.

We summarize our 2024 export control and IT security systems audits and investigations below.

AUDIT REPORTS ISSUED

Audit of NASA's High-End Computing Capabilities (IG-24-009, March 14, 2024)

NASA's High-End Computing (HEC) capabilities provide computing systems and services to support the Agency's aeronautics, exploration, science, and space technology missions. HEC enables scientists and engineers to model and analyze large amounts of data, perform calculations at high speeds, and view results at a higher fidelity. In this audit, we assessed NASA's overall management of its HEC capabilities. Specifically, we focused on relevant policies, processes and controls, capacity planning, stakeholder engagement, and cybersecurity.

We found NASA needs a renewed commitment and sustained leadership attention to reinvigorate HEC efforts. NASA's HEC is not managed as a program or centralized service, and this disjointed organization and management exacerbates several HEC issues. NASA's HEC resources are oversubscribed and overburdened, and this scarcity drives schedule delays and often leads NASA teams to purchase their own HEC resources. The Agency also lacks a comprehensive strategy on commercial cloud versus on-premises HEC use. NASA's decentralized HEC management also raises cybersecurity concerns, with

[3] Tianwen-1 is an interplanetary mission by the China National Space Administration that launched in July 2020 and landed a rover on Mars in May 2021.

[4] In December 2020, China's Chang'e-5 lunar mission returned to Earth after retrieving lunar rocks and soil.

[5] Consolidated Appropriations Act, 2021, Pub. L. No. 116-260 (2020) requires NASA to certify to the Senate and House committees on appropriations and the Federal Bureau of Investigation (FBI) no later than 30 days prior to the event that the activities pose no risk of a transfer of technology, data, or other information with national security or economic security implications and that the activities will not involve knowing interactions with officials who have been determined to have direct involvement with violations of human rights.

mandated cybersecurity controls ignored or bypassed. Without an integrated HEC strategy and a more focused approach, the Agency's trailblazing science and technology research will continue to be unnecessarily limited by NASA's disjointed HEC efforts.

We made nine recommendations for the Agency to establish executive leadership and strategically position NASA's HEC to meet the Agency's specialized needs. NASA concurred or partially concurred with the recommendations; five are now closed, and the Agency is working to implement corrective action for the remaining.

To view the full report, visit NASA's High-End Computing Capabilities.

Evaluation of NASA's Information Security Program under the Federal Information Security Modernization Act for Fiscal Year 2024 (IG-24-019, September 12, 2024)

The Federal Information Security Modernization Act requires the OIG to conduct an annual evaluation of NASA's information security program and practices. For FY 2024, Inspectors General were required to assess 65 metrics in 5 security function areas. In addition, we tested a subset of information systems to determine the maturity of the Agency's information security program.

Similar to ratings in the prior 3 years, we rated NASA's information security program at a Level 3—meaning policies, procedures, and strategies were consistently implemented, but quantitative and qualitative effectiveness measures were lacking—a rating that falls short of being considered effective.

In addition to our overall assessment, we identified two areas of concern: (1) information system documentation maintained outside of the Agency's system of record and (2) enterprise-level risk and privacy activities not conducted. While we did not make any recommendations, we communicated these recurring issues to NASA management during our review and plan to continue to monitor them during the FY 2025 FISMA evaluation.

To view the full report, visit Evaluation of NASA's Information Security Program under the Federal Information Security Modernization Act for 2024.

ONGOING AUDIT WORK

Audit of NASA's Zero Trust Architecture

Zero trust architecture (ZTA)—a cybersecurity framework focusing on "never trust, always verify"—is dominating cybersecurity discussions across the federal government and private industry alike. Unlike traditional cybersecurity models that enforce stringent defenses at a system's perimeter, or boundary, but are more relaxed internally, zero trust treats every access request to a system with consistent scrutiny, regardless of its origin. Every agency faces unique challenges and considerations as part of its zero trust strategy, and NASA is no exception. In this audit, we are assessing NASA's progress and challenges in implementing ZTA, with a focus on (1) policy, (2) legacy IT systems, and (3) cybersecurity.

Evaluation of NASA's Information Security Program under the Federal Information Security Modernization Act for Fiscal Year 2025

Required by the Federal Information Security Modernization Act of 2014, the Office of Inspector General is conducting the fiscal year 2025 evaluation of NASA's information security program and will report the results to the Office of Management and Budget.

INVESTIGATIONS

Contractor Agrees to a Civil Settlement

Based on a qui tam filed with the United States District Court for the Western District of Texas and a joint investigation by NASA OIG and the Defense Criminal Investigative Service (DCIS), a Small Business Innovative Research contractor agreed to a civil settlement of $1.35 million to resolve claims that it violated export control laws and misrepresented its eligibility to receive contracts under the program.

Costs Recovered from University Following False Statements

The Ohio State University agreed to repay $214,000 to NASA after an internal investigation found that a principal investigator on numerous NASA grants failed to disclose his concurrent participation in a foreign talent program.

University Agrees to Civil Settlement

The Research Foundation of the State University of New York failed to verify whether a professor receiving NASA funding had any foreign affiliations that would have precluded them from receiving NASA contracts. As a result of the oversight, the university falsely certified to NASA that the professor was eligible for funding and agreed to a civil settlement of $313,574, of which $97,318 was awarded to NASA.

Former Employee Accesses International Traffic in Arms Regulations Data

A former Kennedy Space Center employee requested engineering data that contained International Traffic in Arms Regulations (ITAR) and proprietary data on launch vehicles. The ITAR and proprietary data was deleted from the employee's personal devices and the matter was referred to NASA management. The employee resigned in lieu of proposed removal for actions unrelated to this investigation.

University of Alabama Professor Discloses Membership to Chinese Communist Party

A University of Alabama professor working on multiple NASA grants disclosed membership to and yearly payments made to the Chinese Communist Party, a violation of federal law. Through an affidavit, the individual agreed to renounce and terminate the membership.

University of Delaware Agrees to Civil Settlement

The University of Delaware agreed to pay $715,580 to resolve civil allegations that it failed to disclose a professor's affiliations with and support from the People's Republic of China in connection with federal research funding.

Chinese National Charged in Multi-Year "Spear-Phishing" Campaign

As a result of a joint investigation between the FBI and NASA OIG a Chinese national was indicted on charges for wire fraud and aggravated identity theft arising from his efforts to fraudulently obtain computer software and source code created by NASA, research universities, and private companies.

If you or your staff have any questions or would like further information on any of the audit reports or investigations discussed in this letter, please contact me or Renee Juhans, OIG Executive Officer, at 202-358-1220 or renee.n.juhans@nasa.gov.

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Robert H. Steinau
NASA OIG Senior Official

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Associate Administrator for International and Interagency Relations

David Mitchell
Associate Administrator for Mission Support Directorate

Enclosure—1

ENCLOSURE I: CONGRESSIONAL RECIPIENTS

United States Senate

Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Commerce, Science, and Transportation
Committee on Homeland Security and Governmental Affairs

U.S. House of Representatives

Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Oversight and Government Reform
Committee on Science, Space, and Technology