



Testimony

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EXPORT CONTROLS

NASA Management Action and Improved Oversight Needed to Reduce the Risk of Unauthorized Access to Its Technologies

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Why GAO Did This Study

NASA develops sophisticated technologies and shares them with its international partners and others. U.S. export control regulations require NASA to identify and protect its sensitive technology; NASA delegates implementation of export controls to its 10 research and space centers. Recent allegations of export control violations at two NASA centers have raised questions about NASA's ability to protect its sensitive technologies. GAO was asked to review NASA's export control program.

This report assessed (1) NASA's export control policies and how centers implement them, and (2) the extent to which NASA Headquarters and CEAs apply oversight of center compliance with its export control policies. To do this, GAO reviewed export control laws and regulations, NASA export control policies, and State and Commerce export control compliance guidance. GAO also reviewed NASA information on foreign national visits and technical papers and interviewed officials from NASA and its 10 centers as well as from other agencies.

What GAO Recommends

In April 2014, GAO recommended that the NASA Administrator establish guidance to better define the CEA function, establish time frames to implement foreign national access corrective actions and assess results, and establish a more risk-based approach to oversight, among other actions. NASA concurred with all of our recommendations and provided information on actions taken or planned to address them.

View [GAO-14-690T](#). For more information, contact Belva Martin at (202) 512-4841 or martinb@gao.gov.

EXPORT CONTROLS

NASA Management Action and Improved Oversight Needed to Reduce the Risk of Unauthorized Access to Its Technologies

What GAO Found

Weaknesses in the National Aeronautics and Space Administration (NASA) export control policy and implementation of foreign national access procedures at some centers increase the risk of unauthorized access to export-controlled technologies. NASA policies provide Center Directors wide latitude in implementing export controls at their centers. Federal internal control standards call for clearly defined areas of authority and establishment of appropriate lines of reporting. However, NASA procedures do not clearly define the level of center Export Administrator (CEA) authority and organizational placement, leaving it to the discretion of the Center Director. GAO found that 7 of the 10 CEAs are at least three levels removed from the Center Director. Three of these 7 stated that their placement detracted from their ability to implement export control policies by making it difficult to maintain visibility to staff, communicate concerns to the Center Director, and obtain resources; the other four did not express concerns about their placement. However, in a 2013 meeting of export control officials, the CEAs recommended placing the CEA function at the same organizational level at each center for uniformity, visibility, and authority. GAO identified and the NASA Inspector General also reported instances in which two centers did not comply with NASA policy on foreign national access to NASA technologies. For example, during a 4-month period in 2013, one center allowed foreign nationals on a major program to fulfill the role of sponsors for other foreign nationals, including determining access rights for themselves and others. Each instance risks damage to national security. Due to access concerns, the NASA Administrator restricted foreign national visits in March 2013, and directed each center to assess compliance with foreign national access and develop corrective plans. By June 2013, six centers identified corrective actions, but only two set time frames for completion and only one planned to assess the effectiveness of actions taken. Without plans and time frames to monitor corrective actions, it will be difficult for NASA to ensure that actions are effective.

NASA headquarters export control officials and CEAs lack a comprehensive inventory of the types and location of export-controlled technologies and NASA headquarters officials have not addressed deficiencies raised in oversight tools, limiting their ability to take a risk-based approach to compliance. Export compliance guidance from the regulatory agencies of State and Commerce states the importance of identifying controlled items and continuously assessing risks. NASA headquarters officials acknowledge the benefits of identifying controlled technologies, but stated that current practices, such as foreign national screening, are sufficient to manage risk and that they lack resources to do more. Recently identified deficiencies in foreign national visitor access discussed above suggest otherwise. Three CEAs have early efforts under way to better identify technologies which could help focus compliance on areas of greatest risk. For example, one CEA is working with NASA's Office of Protective Services Counterintelligence Division to identify the most sensitive technologies at the center to help tailor oversight efforts. Such approaches, implemented NASA-wide, could enable the agency to better target existing resources to protect sensitive technologies.

Chairmen Palazzo, Broun, Ranking Members Edwards, Maffei, and Members of the Subcommittees:

Thank you for the opportunity to participate in today's hearing on the National Aeronautics and Space Administration's (NASA) system to protect sensitive information, including through its export control program. NASA develops new and sophisticated technologies to accomplish its missions in areas such as robotic probes to explore the surface of Mars and spacecraft to transport humans and cargo beyond low-earth orbit. The National Aeronautics and Space Act directs NASA to provide the widest practical and appropriate dissemination of information concerning its activities and results. The U.S. export control system, regulated primarily by two agencies—the Departments of State and Commerce—seeks to limit the risk of sensitive information and items falling into the wrong hands while allowing legitimate sharing of information and trade to occur.¹ U.S. export control regulations require any exporter, including NASA, to protect its sensitive information and technology. To effectively achieve its mission, NASA has to strike a balance between protecting sensitive technologies and information and preserving its mission to support international partnerships and dissemination of information. NASA's export control program is governed by a NASA Policy Directive and NASA Procedural Requirement (export control NPR). These policies outline the goals of the export control program and NASA export control procedures contain detailed requirements and responsibilities for implementing the policy. NASA performs its mission through numerous programs and projects across its 10 research and space centers and headquarters.² NASA Headquarters Export Administrator (HEA), the

¹ Generally, exporters may submit an export license application to State if their items are controlled on the International Traffic in Arms Regulations (ITAR) U.S. Munitions List or to Commerce if their items are controlled on the Export Administration Regulations (EAR) Commerce Control List. Both the ITAR and EAR provide for exemptions and exceptions to licensing requirements, respectively. See 22 C.F.R. Part 12 and 15 C.F.R. Part 740. The Export Administration Act is not permanent legislation. Authority granted under the act lapsed in August 2001. 50 U.S.C. App. § 2419. However, Executive Order No. 13222, Continuation of Export Control Regulations, which was issued in August 2001 under the authority provided by the International Emergency Economic Powers Act (50 U.S.C. §§ 1701-1707) continues the controls established under the act, and the implementing Export Administration Regulations. Executive Order No. 13222 requires an annual extension and was recently renewed by Presidential Notice on August 8, 2013. 78 Fed. Reg. 49,107 (Aug. 12, 2013).

² The Jet Propulsion Laboratory (JPL) is a NASA federally funded research and development center managed by the California Institute of Technology under contract with NASA. For purposes of this statement, we refer to JPL as a NASA center.

Center Directors, and their appointed Center Export Administrators (CEA), as well as Center Project Managers are some of the key personnel responsible for implementing NASA's export control program.

Allegations of export control violations at two NASA centers over the last two years have raised questions about NASA's ability to protect its sensitive technologies. In April 2014, we issued a report entitled *Export Controls: NASA Management Action and Improved Oversight Needed to Reduce the Risk of Unauthorized Access to Its Technologies*.³ My remarks today are based on this report and initial actions NASA reported it has taken to begin addressing our recommendations.

Like the April 2014 report, this statement discusses (1) NASA's export control policies and how centers implement them, and (2) the extent to which NASA Headquarters and CEAs apply oversight of center compliance with its export control policies.

For our April 2014 report, we reviewed export control laws and regulations, NASA export control policies, and State and Commerce export control compliance program guidance. We also reviewed NASA information on foreign national visits and technical papers and interviewed export control and security officials from NASA Headquarters and its 10 centers as well as from other agencies. Our work was performed in accordance with generally accepted government auditing standards.

Weaknesses in Implementation of NASA Export Control Procedures Create Export Control Vulnerabilities

We found weaknesses in the implementation of NASA's export control policy and procedures concerning the CEA function and foreign national access procedures, which increase the risk of unauthorized access to export-controlled technology.

Variations in CEA Position, Function, and Resources: NASA's export control policy provides the CEA the responsibility to ensure compliance of all Center program activities with U.S. export control laws and regulations and states that the position should be "senior-level," but does not define what "senior-level" means. NASA headquarters export control officials define senior-level as a person at the GS-15 level or in the senior

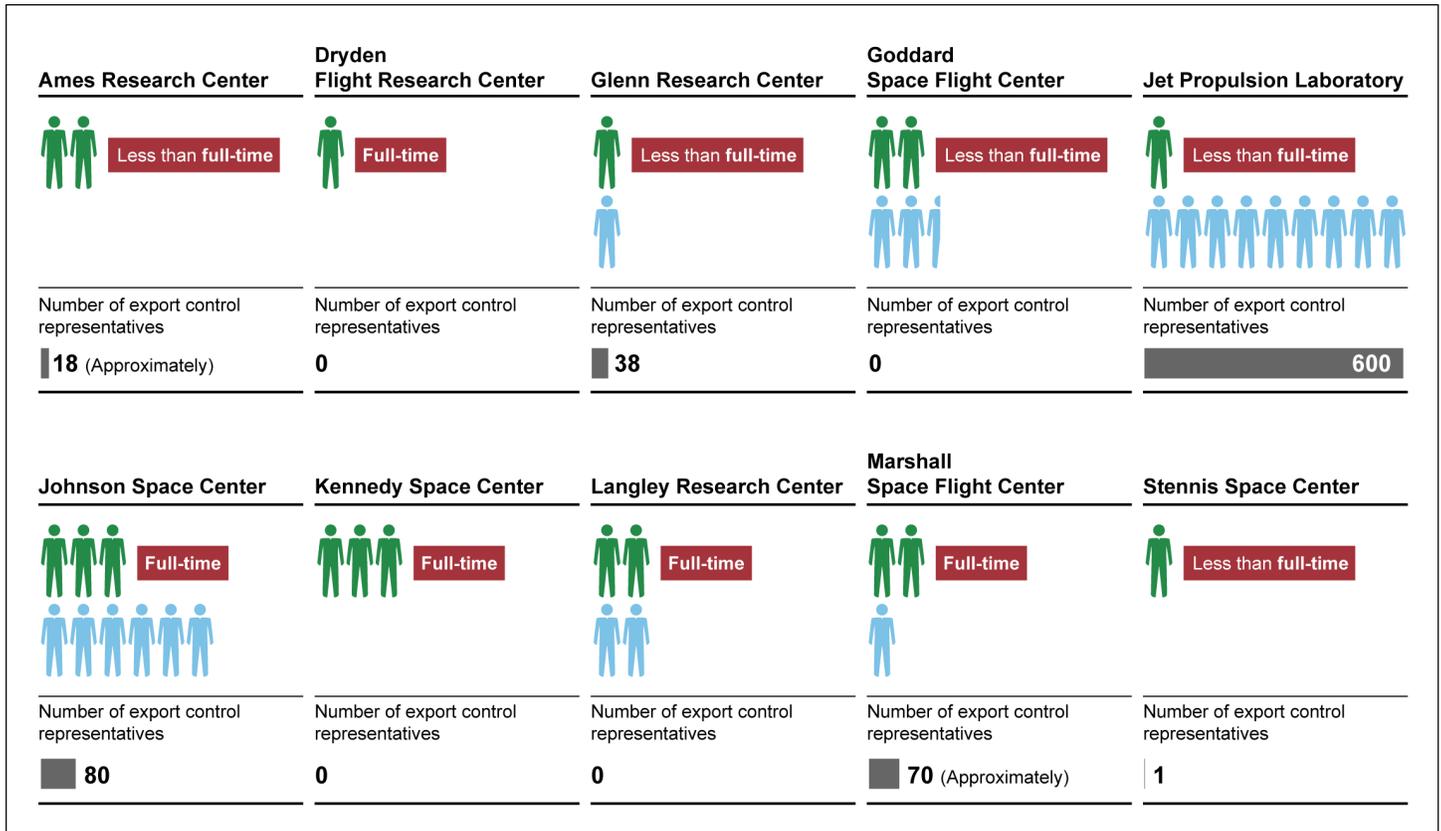
³ [GAO-14-315](#) (Washington, D.C.: April 15, 2014).

executive service; however, we found that no CEAs were at the senior executive service level, three were GS-15s, and the CEAs at the remaining seven centers were at the GS-14 and GS-13 levels.

In addition, NASA's export control NPR does not contain a provision on the placement of the export control function and CEA within the center's organizational structure. At some centers where they were several levels removed from the Center Director, CEAs stated that this placement makes it difficult to maintain authority and visibility to staff, to communicate concerns to center management, and to obtain the resources necessary to carry out their export control responsibilities. Conversely, a CEA at another center stated that his placement as Special Assistant to the Center Director creates a supportive environment to incorporate export controls into the project management processes and to require and provide export control training for the majority of center staff.

NASA headquarters' export control officials, as well as several CEAs, noted that limitations in staff resources and time spent on export control functions makes it difficult to carry out the full range of export control duties, such as improving center export control procedures or providing a more robust export control training program. However, NASA's export control NPR does not discuss the allocation of resources for the export control function or for the CEA within the center, and, according to NASA headquarters' export control officials, each Center Director has the discretion of how to allocate resources to the export control function. As a result, we found variation among the centers in the staff resources assigned to the export control function, as shown in figure 1.

Figure 1: NASA Center Export Control Staff Resources (as of Fiscal Year 2013)



 One person represents one civil servant or contractor personnel
 Civil servant
 Contractor personnel
 Center Export Administrator's percentage of time spent on export control function

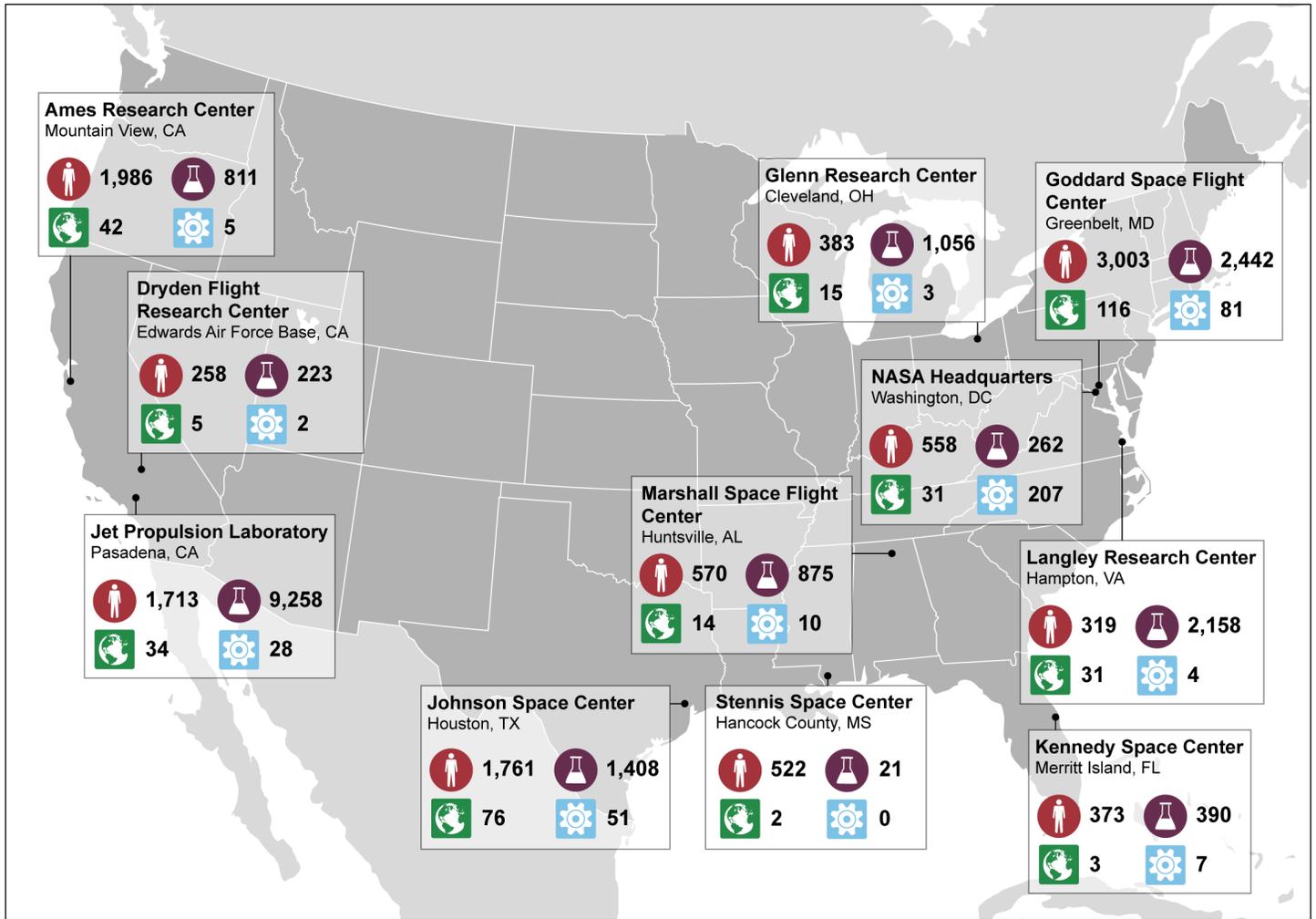
Source: GAO analysis of NASA data. | GAO-14-690T

Moreover, we found indications that the resources assigned to export controls at centers did not always appear to be commensurate with the export control workload. Specifically, 8 of the 10 centers had two or fewer civil servant staff to carry out export control activities for hundreds to thousands of foreign national visits, Scientific and Technical Information (STI) reviews, international agreements, and technical assistance agreements. For example, at one center in 2013, two civilian export

control officials working less than full time on export control activities were responsible for reviewing and providing any needed export control access restrictions for over 3,000 foreign national visitors and conducting STI reviews for over 2,000 publications. NASA's procedural requirements for STI requires that all STI intended for release outside of NASA or presented at internal meetings where foreign persons may be present undergo technical, legal, and export control reviews, among others, to ensure that information is not unintentionally released through publication.⁴ See figure 2 for export control workload by center for fiscal year 2013. The CEA at one of the centers stated that the time to complete required review activities leaves little time to improve procedures or provide more robust training. To address the variations in authority, placement, and resources of the CEAs, we recommended NASA establish guidance defining the appropriate level and placement for the CEA function and assess the CEA workload to determine appropriate resources needed at each Center. NASA concurred, indicating plans to update existing guidance and to explore strategies to enhance support for the export control function.

⁴NASA NPR 2200.2C, "Requirements for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information," STI NPR. (Apr. 19, 2001)

Figure 2: CEA Export Control Workload Activities in Fiscal Year 2013



-  Foreign national visits
-  Number of scientific and technical information reviews
-  International agreements
-  Technical assistance agreements

Source: GAO analysis of NASA data. | GAO-14-690T

Weaknesses in Foreign National Access: Throughout fiscal year 2013 NASA centers and Headquarters approved over 11,000 foreign national visits for periods ranging from less than 30 days to greater than 6 months. NASA's security procedure requires screening of all foreign national visitors prior to gaining approval for access to any NASA facility. However, we identified instances in which NASA security procedures for foreign national access were not followed, which were significant given the potential impact on national security or foreign policy from unauthorized access to NASA technologies. Specifically, at one center, export control officials' statements and our review of documentation identified instances between March and July of 2013, where foreign nationals fulfilled the role of sponsors for other foreign nationals by identifying the access rights to NASA technology for themselves and other foreign nationals for one NASA program.⁵ This is not in compliance with NASA's security procedures which provide that only NASA civil servants or JPL employees who are U.S. citizens can act as sponsors for foreign nationals, which is one step in NASA's process of approving and activating foreign national access. This center is taking action to address this issue and, as of December 2013, it developed a new approval process and criteria for foreign nationals requesting access to center automated databases and made revisions to center policies for information systems and foreign national access. We identified planned corrective actions at this and other Centers related to the management of foreign national access and, in our April report, we recommended that NASA develop plans with specific time frames to monitor these corrective actions to ensure their effectiveness. NASA concurred and indicated that it plans to take action to increase the effectiveness of its existing procedures and implement improvements.

⁵ A foreign national sponsor is typically a NASA Project Manager or other NASA official who establishes and endorses the need for a relationship between the foreign national and NASA and requests their access to NASA facilities and information technology systems by identifying the foreign national's access rights to NASA technology for a NASA program.

NASA Lacks a Comprehensive Inventory of Export-Controlled Technologies and Is Not Fully Utilizing Oversight Tools

We found that NASA headquarters export control officials and some CEAs faced challenges in providing effective oversight. In particular, the lack of a comprehensive inventory of export-controlled technologies and not effectively utilizing available oversight tools limit their ability to identify and address risks.

Lack of a Comprehensive Inventory of Export-Controlled

Technologies: NASA headquarters export control officials and CEAs lack a comprehensive inventory of the types and location of export-controlled technologies at the centers, limiting their ability to identify internal and external risks to export control compliance. Five CEAs told us that they do not know the types and locations of export-controlled technologies, but rather rely on NASA program and project managers to have knowledge of this information. NASA's export control NPR provides that NASA Center Program and Project Managers, in collaboration with CEAs, are to identify and assess export-controlled technical data. Additionally, NASA Center Project Managers are required by NASA's export control NPR to provide appropriate safeguards to ensure export-controlled items⁶ and technical data are marked or identified prior to authorized transfer to foreign parties consistent with export control requirements. The CEA and security chief at one center told us that they requested a plan identifying where export-controlled and sensitive technologies are located within a research branch in order to facilitate foreign national visit requests. According to the branch manager, he was unable to provide this information, stating it would be too cumbersome to map out all of that information and try to restrict access to the areas with sensitive technologies. Assessing areas of vulnerability, including identifying and assessing export-controlled items, could better ensure that consistent procedures are practiced. NASA's lack of a comprehensive inventory of its export-controlled technologies is a longstanding issue that the NASA Inspector General identified as early as 1999.⁷

Three centers began recent efforts to identify export-controlled technologies at their centers—one of which involves coordination with the center counterintelligence officer. Specifically, at this center, the

⁶ "Item" means commodities, software, and/or technology/technical data. NASA NPR 2190.1B, "NASA Export Control Program" (Dec. 27, 2011).

⁷ NASA Inspector General Report, *NASA Control of Export-Controlled Technologies*, IG-99-020, (Mar. 31, 1999).

counterintelligence office collaborated with the CEA to conduct a sensitive technology survey—designed to identify the most sensitive technologies at the center—to better manage risks by developing protective measures for these technologies in the areas of counterintelligence, information technology security, and export controls. Such approaches, implemented NASA-wide, could enable the agency to take a more risk-based approach to oversight by targeting existing resources to identify the most sensitive technologies and then ensure the location of such technologies are known and protected. To implement a risk-based approach, we recommended NASA build off of existing information sources, such as assessments by NASA’s counterintelligence office, to identify targeted technologies. In its response, NASA highlighted plans to implement a risk-based approach that would include CEAs, program managers, and counterintelligence officials.

Underutilization of Oversight Tools: NASA’s oversight tools, including annual audits, export control conferences with CEA, and voluntary disclosures, have identified deficiencies, but NASA headquarters has not addressed them. Specifically, we found that seven centers have unresolved findings, recommendations, or observations spanning a period from 2005 to 2012, in areas including export control awareness, management commitment, resources, training, foreign national visitor processes, and disposal of property. At five centers, responding to audit findings and implementing recommendations required that the CEA coordinate with other offices and programs across the center beyond the CEA’s control. The remaining two centers cited resource constraints, organizational priorities, and insufficient coordination with center management as barriers to implementing corrective actions and resolving recommendations. NASA’s current procedures do not address coordination among offices at a center to address findings from annual audits.

Further, NASA headquarters export control officials hold annual export control program reviews with the CEAs to discuss export control changes and CEA concerns and recommendations for the program. At NASA’s 2013 annual review, the CEAs presented NASA headquarters export control officials with a list of comments regarding the export control program, many of which echo the issues raised in our April 2014 report, such as CEA position and resources, foreign national access, and awareness of export-controlled technologies. NASA headquarters’ export control officials stated that they agree with the issues raised by the CEAs but acknowledged that they have not fully addressed the CEA concerns from the most recent program review in March 2013 and have not

developed specific plans to do so. In fact, we found that over the last 3 years, NASA headquarters export control officials provided only one policy update or other direction to address export control concerns raised by the CEAs. In our April report, we made two recommendations to address underutilization of the audit and program review tools. To ensure implementation of audit findings, we recommended that NASA direct Center Directors to oversee implementation of the audit findings. Similarly, we recommended that NASA develop a plan, including timeframes, to ensure CEA issues and suggestions for improvement are addressed. NASA concurred and plans to revise existing guidance.

NASA may also be missing an opportunity to use voluntary disclosures to help improve export control compliance. NASA's export control NPR provides that it is every NASA employee's personal responsibility to comply with U.S. export control laws and regulations; and further provides the Departments of State and Commerce's regulatory requirements for voluntary self disclosure of noncompliance in export activities, even if the errors were inadvertent. NASA's headquarters' export control program officials told us that few or no voluntary disclosures might indicate a weakness in a center's export control program. We found little usage of the voluntary disclosure process at the NASA centers: a total of 13 voluntary disclosures divided among four of the NASA centers since 2011, and potential noncompliance ranged from failure to file a record of shipment to Germany to potential foreign national exposure to a program's technical data. The remaining six NASA centers have not submitted voluntary disclosures since 2011. We found that a similar event may lead to a voluntary disclosure at one center but not another and that CEA approaches toward voluntary disclosures at some centers may affect NASA's ability to identify and report potential violations of export control regulations. To ensure consistency in reporting potential export control violations, in our April 2014 report, we recommended that NASA re-emphasize to CEAs the requirements on how and when to notify headquarters. NASA concurred and plans to revise and develop additional guidance.

As stated above, NASA concurred with all of our recommendations and stated that our findings and recommendations complement results from the recent reviews by the NASA's Inspector General and the National Academy of Public Administration. Further, NASA stated in its response to each of these reviews that it plans to adopt a more comprehensive, risk-based approach to enhance its export control program.

Subsequent to our report, the NASA Administrator issued an email to all employees reiterating the importance of the export control program and announcing plans to expand the online and in-person export control training. This is an important step as it sets a tone from the top and could help ensure the centers apply consistent approaches. However, it will be important for NASA to be vigilant in assessing actions taken to help ensure effective implementation and to avoid a relapse into the former practices. Collectively, improvements in all of these areas can help NASA strike an effective balance between protecting the sensitive export-controlled technologies and information it creates and uses and supporting international partners and disseminating important scientific information as broadly as possible.

Mr. Chairmen, Ranking Members, and members of the subcommittees, this concludes my prepared remarks. I would happy to answer any questions that you may have.

GAO Contact and Staff Acknowledgements

For questions about this statement, please contact Belva Martin at (202) 512-4841, or at (martinb@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions to this testimony include William Russell, Assistant Director; Caryn Kuebler, Analyst-in-Charge; Marie Ahearn; Lisa Gardner; Laura Greifner; Amanda Parker; and Roxanna Sun.

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