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United States Government Accountability Office
Washington, DC 20548

May 26, 2011

The Honorable Charles Bolden
Administrator
National Aeronautics and Space Administration
300 E Street, SW
Washington, DC 20024-3210

Subject: *Training Necessary to Address Data Reliability Issues in NASA Agreement Database and to Minimize Potential Competition with Commercial Sector*

Dear Administrator Bolden:

Today, GAO issued a correspondence identifying the internal controls that the National Aeronautics and Space Administration (NASA) has in place for reimbursable Space Act agreements and assessing to what extent the agency is adhering to those controls.¹ Specifically, our review focused on NASA's internal controls related to (1) fair reimbursement from agreement partners; (2) interference between agreement partners' work and NASA's use of its facilities; and (3) alignment of agreement partners' work with NASA's mission. In that correspondence, we reported that NASA was generally adhering to its controls for entering into reimbursable Space Act agreements. In our review, however, we also found several instances in which agreements were not completely and accurately recorded in the Space Act Agreement Maker (SAAM) database. In addition, we identified one instance where NASA awarded a reimbursable agreement when similar services may have been available in the private sector. This action appears contrary to the National Space Policy and may have also been contrary to the Commercial Space Competitiveness Act.

Federal government standards for internal controls state that control activities should help ensure that all transactions are completely and accurately recorded. NASA's SAAM database, managed by the Mission Support Directorate, is used to

¹GAO, *Reimbursable Space Act Agreements: NASA Generally Adhering to Fair Reimbursement Controls, but Guidance on Waived Cost Justifications Needs Refinement*, GAO-11-553R (Washington, D.C.: May 26, 2011).

assist in writing and storing information relating to Space Act agreements.² Although agreements are not required to be written using the system, Space Act agreements and related documentation, except for international agreements, are required to be stored there. According to NASA officials, the agency relies on SAAM-generated quarterly reports to help maintain the integrity of the system's data. For example, NASA officials stated that agreement managers use quarterly reports to identify (1) agreements that were begun, but not submitted (i.e. false starts); (2) agreements that have been submitted, but have not completed the review process; and (3) agreements that have been submitted and completed the review process, but have not been signed. Agreement managers at each NASA center also use monthly reports to track Space Act agreement-related work at the center.³ These reports are also sent to the Office of International and Interagency Relations at NASA headquarters for awareness and coordination purposes.

The Commercial Space Competitiveness Act provides that federal agencies, including NASA, may allow nonfederal entities to use space-related facilities on a reimbursable basis if the Administrator determines that, among other things, equivalent commercial services are not available on "reasonable terms."⁴ The 2006 and 2010 National Space Policies state that agencies should refrain from conducting United States government space activities that compete with U.S. commercial space activities, unless required by national security or public safety. NASA has developed internal controls related to this statutory provision and policy. For example, the agency has issued a Space Act Agreement Guide, an agency-level guidance document, and an interim directive on reimbursable agreements which reiterate the importance of avoiding competition by the federal government with the private sector. In addition, when drafting the agreement in the SAAM database, the responsible agency official (technical point of contact) is required to discuss how NASA goods, services, or facilities to be provided are unique and not available from the U.S. commercial market. Depending on the technical point of contact's response, the agreement could be flagged for additional review by the NASA center's Office of Chief Counsel.

Inaccurate Data in Space Act Agreement Maker Database

As part of our assessment of NASA's internal controls regarding fair reimbursement, we utilized the Space Act Agreement Maker (SAAM) database to identify partially reimbursable Space Act agreements, or those agreements with waived costs, awarded in fiscal years 2009 and 2010. In selecting agreements to review, we identified 20 agreements out of 58 whose agreement type had been incorrectly coded, resulting in inaccurate data within the SAAM database. This represented almost 34 percent of agreements awarded in fiscal years 2009 and 2010 that had been coded as partially reimbursable or fully reimbursable with dollar figures in the waived cost field. For

²GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C., November 1999).

³Monthly reports include information on (1) new agreements since the 15th of last month; (2) new agreements since the beginning of the fiscal year; and (3) ongoing agreements that will expire within the next 60 days.

⁴51 U.S.C. § 50504

example, some agreements that had been coded as partially reimbursable Space Act agreements were actually fully reimbursable or non-reimbursable Space Act agreements – both of which do not involve waived costs. For other agreements labeled as partially reimbursable, NASA actually paid the partner instead of receiving payment from the partner. NASA officials told us that these were interagency acquisitions rather than Space Act agreements. We also identified 12 Space Act agreements that were labeled as fully reimbursable or fully non-reimbursable⁵ in SAAM, but included dollar figures in the waived cost field. NASA officials subsequently reported that 8 of these agreements were partially reimbursable, 3 were non-reimbursable, and only one was a fully reimbursable agreement. We later determined only 6 of these agreements were partially reimbursable. See table 1 below for further details regarding the agreements that we identified as being incorrectly coded as partially reimbursable agreements within the SAAM database. See table 2 below for further details regarding the agreements we identified as being incorrectly coded as fully reimbursable or fully non-reimbursable agreements with waived costs.

Table 1: Incorrectly Coded as Partially Reimbursable Space Act Agreements

SAAM Number	Center	SAAM Coding Error	Correct status
7730	Ames Research Center	Partially reimbursable	Interagency acquisition
8109	Glenn Research Center	Partially reimbursable	Fully reimbursable ^a
6212	Headquarters	Partially reimbursable	Interagency acquisition
7372	Johnson Space Center	Partially reimbursable	Fully-reimbursable
6689	Langley Research Center	Partially reimbursable	Non-reimbursable ^b
6206	Langley Research Center	Partially reimbursable	Fully reimbursable
8160	Langley Research Center	Partially reimbursable	Interagency acquisition
4569	Marshall Space Flight Center	Partially reimbursable	Non-reimbursable

^aFully reimbursable Space Act agreements are those under which NASA is fully reimbursed for costs associated with the undertaking of an agreement.

^bNon-reimbursable Space Act agreements involve NASA and one or more partners in a mutually beneficial activity that furthers NASA’s mission, where each party bears the cost of its participation and there is no exchange of funds between the parties.

Table 2: Incorrectly Coded as Fully Reimbursable or Fully Non-Reimbursable Space Act Agreements with Waived Costs

SAAM Number	Center	SAAM Coding Error	Correct status
7492	Glenn Research Center	Fully reimbursable with waived cost	Partially reimbursable
7507	Glenn Research Center	Fully non-reimbursable with waived cost	Non-reimbursable
5406	Goddard Space Flight Center	Fully non-reimbursable with waived cost	Non-reimbursable
5060	Johnson Space Center	Fully reimbursable with waived cost	Partially reimbursable
7793	Kennedy Space Center	Fully reimbursable with waived cost	Partially reimbursable
4646	Langley Research Center	Fully reimbursable with waived cost	Partially Reimbursable ^b
5161	Langley Research Center	Fully reimbursable with waived cost	Partially reimbursable

⁵The SAAM database provides two separate fields to identify agreement type. In the first field, the user selects fully or partially while in the second field the user chooses whether the agreement is reimbursable or non-reimbursable.

5896	Langley Research Center	Fully reimbursable with waived cost	Non-reimbursable
8263	Langley Research Center	Fully reimbursable with waived cost	Partially reimbursable
4528	Marshall Space Flight Center	Fully reimbursable with waived cost	Partially reimbursable
4987	Marshall Space Flight Center	Fully reimbursable with waived cost	Fully reimbursable
5592	Marshall Space Flight Center	Fully reimbursable with waived cost	Partially reimbursable amendment ^a

^aNASA officials initially identified this transaction as a partially reimbursable agreement. However, upon reviewing the documentation, we determined that this transaction was actually an amendment to a partially reimbursable agreement awarded in 2004. We did not include this amendment in our review.

^bThis agreement was not included in our review as it was originally identified by officials as an interagency acquisition.

NASA Awarded Partially Reimbursable Space Act Agreement when Similar Services May Have Been Available Commercially

During our review of partially reimbursable Space Act agreements, we identified one agreement from Glenn Research Center that may have been contrary to the Commercial Space Competitiveness Act and the National Space Policy. The agreement involved conducting small engine jet testing services for a commercial firm at a cost of \$78,685. NASA’s technical point of contact for the agreement, who was unaware of the limits on NASA competing with the private sector, told us that the commercial firm approached NASA in an attempt to receive small engine jet testing using Glenn Research Center’s Propulsion Systems Laboratory at a cheaper rate than what was charged commercially. Officials from Glenn Research Center’s Office of Chief Counsel stated they did not know that these services were available commercially because the technical point of contact had indicated in the SAAM database that NASA had unique capabilities to conduct this testing and that the services were not generally available commercially. As a result, NASA entered into the agreement to perform the work as it helped to sustain a core facility and competencies and even waived the center management and operations costs associated with performing the work. While we did not independently verify whether these services were available commercially, regardless, because of the technical point of contact’s lack of understanding of restrictions on competition with the private sector, the controls NASA had in place to prevent competition with the private sector were ineffective.

Conclusions

Inaccurate data in SAAM limit NASA’s visibility over Space Act agreements and the agency’s ability to make informed agreement management decisions. NASA’s internal controls on avoiding competition between the agency and the private sector are only as effective as the people implementing them. When technical points of contact either lack a thorough understanding of the limits on competing with the private sector or do not provide complete and accurate information regarding proposed partner activities in the SAAM database, the controls can be ineffective.

Recommendations for Executive Action

To improve the data integrity of the SAAM system, we recommend that the Administrator of NASA direct the Mission Support Directorate to

1. Rectify the data inaccuracies in the SAAM database that we have identified in this report.
2. Assess why the coding errors we have identified in this report occurred and develop procedures for enhancing the accuracy of the data.

To improve data integrity and ensure NASA does not violate statutory provisions or policy regarding competition with the private sector, we recommend that the Administrator direct the Mission Support Directorate to

1. Provide refresher training, as part of NASA's annual Space Act agreement community of practice, to SAAM users that explains the various agreement types, stresses the importance of accurately inputting data into the SAAM database, and clarifies NASA's policy regarding competition with the private sector.

Agency Comments and Our Evaluation

We provided a copy of the draft report to NASA for comment. In commenting on the report, the agency agreed with our overall findings and concurred with our recommendations. NASA indicated that the agency has already taken several actions and has planned additional action to address the issues we raised. For example, NASA stated that it has taken steps to identify and correct data inaccuracies that were reported herein. Further, the agency stated that the Mission Support Directorate has assessed why the coding errors occurred and identified two primary causes which they are working to address through additional training and changes to the SAAM database. Finally, the agency stated that it conducted training on proper agreement classification protocols and legal and policy requirements related to the competition with the private sector issue. NASA also provided technical comments that we have incorporated throughout the report as appropriate.

Scope and Methodology

The findings in this management letter were based on work completed as part of our review of NASA's internal controls for reimbursable Space Act agreements.⁶ As part of that review, we assessed the reliability of the SAAM data by (1) interviewing agency officials knowledgeable about the data, (2) reviewing existing information about the data and the system that produced them, and (3) performing electronic testing for obvious errors in accuracy and completeness. In the course of our review, we identified some limitations in the data, such as some agreements being incorrectly coded within the database and NASA officials acknowledging that the database did not contain all agreements. We took additional steps to mitigate the impact of these data limitations through further examination of agreements that appeared to be coded incorrectly or were not originally listed in the dataset as partially reimbursable Space Act agreements. We provided a list of partially reimbursable Space Act

⁶GAO-11-553R.

agreements and 12 fully reimbursable or fully non-reimbursable Space Act agreements with waived costs to NASA and officials confirmed that several had been coded incorrectly in the SAAM database. Through these mitigation steps, we were able to build our own list of partially reimbursable Space Act agreements to include in our review. We determined that our list of partially reimbursable Space Act agreements was sufficiently reliable for the purpose of that report. We reviewed all 44 partially reimbursable Space Act Agreements awarded in fiscal years 2009 and 2010, as identified in SAAM, at five NASA centers, including Glenn Research Center, Johnson Space Center, Kennedy Space Center, Langley Research Center, and Marshall Space Flight Center. We also reviewed public laws, the 2006 and 2010 National Space Policy, and NASA policies and procedures for reimbursable Space Act agreements. We identified one agreement at Glenn Research Center where NASA potentially competed with the private sector, interviewed the technical point of contact and agreement manager responsible for managing and overseeing the development of the agreement, and obtained a written response from Glenn's Office of Chief Counsel.

We conducted this performance audit from July 2010 to May 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We are sending copies of this report to interested congressional committees. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>. If you have any questions, please contact me at (202) 512-4841 or chaplainc@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this letter.

Key contributors to this report were Shelby S. Oakley, Assistant Director; Jeffrey Hartnett; Morgan Delaney Ramaker; Laura Greifner; Jean McSween, Megan Porter; Andrew Redd; Swati Thomas; and Alyssa Weir.

Sincerely Yours,



Cristina T. Chaplain
Director
Acquisition and Sourcing Management

Comments from the National Aeronautics and Space Administration

National Aeronautics and Space Administration
Headquarters
Washington, DC 20546-0001



May 20, 2011

Reply to Attn of: Office of the General Counsel

Ms. Cristina Chaplain
Director
Acquisition and Sourcing Management
United States Government Accountability Office
Washington, DC 20548

Dear Ms. Chaplain:

The National Aeronautics and Space Administration (NASA) appreciates the opportunity to review the Government Accountability Office (GAO) draft reports entitled "NASA Reimbursable Space Act Agreements" (GAO-11-553R; report number 120926) and "NASA Data Issues and Compliance" (GAO-11-552R; report number 120983). NASA values the continued open communications between NASA and the GAO team and appreciates the constructive comments arising as a result of this effort

NASA agrees with GAO's concern regarding managing programs and projects as efficiently and effectively as possible, especially within a budget that is likely to be constrained due to the fiscal limitations currently faced by all Federal Government agencies. NASA remains dedicated to continuous improvement of the Agency's Space Act Agreement's (SAA) internal controls and business practices. We are pleased that GAO recognized the policy requirements and other internal controls in place related to Agency SAA practices and found that NASA is generally adhering to those controls.

We also appreciate GAO's constructive findings from the two reports regarding the need to clarify existing Agency guidance in regard to certain Reimbursable SAA pricing policies (i.e., waived costs), the need for improved training and internal controls to ensure the data integrity in NASA's Space Act Agreement Maker (SAAM) system, and the need for improved training and internal controls to ensure that NASA does not violate statutory provisions or policy regarding competition with the private sector. NASA is committed to promptly addressing these issues and, in fact, has already taken several actions and has planned additional action toward that end, as discussed below.

In the two draft reports, GAO makes a total of four recommendations to the NASA Administrator to address the findings identified in the reports. Those recommendations, and NASA's responses, are as follows:

GAO-11-553R

Recommendation 1: Direct the Offices of the Chief Financial Officer and General Counsel to refine the agency's policy to clearly define the type of information that is required to support the justification in the estimated price report. This type of information may include documenting that there is a clear and demonstrated benefit to NASA and quantifying the benefit to the extent practicable.

NASA's Response: Concur. The Office of the Chief Financial Officer (OCFO) is already working with the Office of General Counsel (OGC) and other offices addressing this recommendation. We are in the process of reviewing these and other refinements to NASA Interim Directive 9090.1, as part of the transition to a NASA Procedural Requirement this year. Among the refinements being reviewed are reporting requirements including the additional types of information recommended above.

GAO-11-552R

Recommendation 1: Direct the Office of Program and Institutional Integration to rectify the data inaccuracies in the SAAM database that we have identified in this report.

NASA's Response: Concur. All of the data inaccuracies identified in the GAO report have been corrected in coordination with the respective Center and Headquarters Agreement Managers.

Recommendation 2: Direct the Office of Program and Institutional Integration to assess why the coding errors identified in this report occurred and develop procedures for enhancing the accuracy of the data.

NASA's Response: Concur. The Mission Support Directorate (MSD) has assessed each instance and found that there were two primary causes for the data entry errors:

- 1) Initial misclassification by the Agreement initiator due to a lack of understanding of how to classify certain Agreements in the system. We also identified some problematic SAAM data entry protocols that confused users and allowed erroneous classification entries such as "Fully Nonreimbursable" or "Fully Reimbursable [with waived costs entered]," which contributed to this problem.

- 2) Failure or inability of the Agreement Manager to update the initial classification of an Agreement if it changed during the course of discussions with the partner (e.g., from “Fully reimbursable” to “Partially reimbursable” or vice versa). We also found that system restrictions that prohibited the Agreement Managers from being able to directly make changes to the agreement classification after it had been initially established contributed to this problem.

In order to enhance the accuracy of the system data, we conducted training on proper agreement classification protocols during the Space Act Agreement Community of Practice Meeting at Stennis Space Center on May 18-19, 2011. In addition, we implemented changes to the SAAM system to allow designated Center and Headquarters Agreement Managers to make changes to the classification of their Agreements as needed. Finally, we are in the process of implementing additional changes to the SAAM system to automatically “flag” such errors and eliminate the possibility of confusing or contradictory agreement classification entries.

Recommendation 3: Direct the Office of Program and Institutional Integration to provide refresher training, as part of NASA’s annual Space Act agreement community of practice, to SAAM users to explain the various agreement types, stress the importance of accurately inputting data into the SAAM database, and clarify NASA’s policy regarding competition with the private sector.

Management’s Response: Concur. MSD will conduct training on proper agreement classification protocols during the upcoming Space Act Agreement Community of Practice Meeting referenced above. As part of that training, we discussed the findings from the GAO’s audit and provided both policy and technical training regarding how to properly classify and enter SAAs in SAAM, emphasizing the importance of users accurately inputting data into the system. During the meeting, MSD and OGC also covered the legal and policy requirements relating to the “competition with the private sector” issue and the related policies and internal controls in place to prevent that.

The GAO report finding regarding “competition with the private sector” in SAAM 7492 (GRC’s SAA3-1112 w/Technical Directions Inc.), we have reviewed the circumstances surrounding that particular agreement. We agree with the facts as stated in the GAO report, and offer the following additional background information for further context.

Under the agreement, GRC performed work on a small jet engine that the company was developing for the Department of Defense (DoD) using GRC’s Propulsion Systems

Laboratory (PSL). The PSL is NASA's only ground-based test facility that can provide true flight simulation for experimental research on air-breathing propulsion systems. When the Agreement was initiated, the GRC Agreements Manager relied on the written statement in SAAM by the PSL facility manager that there were no other vendors available who could do the work. After additional inquiry, however, it appears that there may have been another vendor capable of performing the testing conducted under the agreement.

GRC indicated that, although the agreement was with a commercial entity (DTI), the work was known to be for the direct benefit of DoD. Accordingly, the testing was conducted within the context of a policy arrangement between NASA and DoD regarding aerospace research of mutual interest to both agencies. For example, GRC waived certain costs incurred under the agreement pursuant to its practice of waiving such costs for testing conducted in conjunction with the DoD. While we understand that these facts do not fully address the issue of avoiding competition with the private sector, we believe that the context of NASA and DoD's mutual commitment to conduct joint aeronautics research at reduced costs and on appropriate terms and conditions is useful in providing an understanding of the circumstances surrounding this particular agreement.

GRC is planning to conduct additional Center-level training in response to the GAO report finding. Specifically, GRC has taken the following three corrective actions: (1) Since January 2011, shortly after this issue became known, the GRC Agreement Managers make it a standard practice to more extensively question GRC staff to gain better understanding of the uniqueness of requested NASA facilities and the possible existence of other potential vendors; (2) The GRC Office of Chief Counsel and the GRC Chief Technologist convened a meeting with the Propulsion Systems Laboratory facility manager and his management on May 3, 2011, to re-emphasize and explain the NASA policy that NASA must not compete with the private sector in performing reimbursable work; and (3) The GRC Offices of Chief Counsel and Technology Partnerships and Planning have agreed to hold refresher training sessions for GRC staff on initiating and implementing Space Act Agreements.

NASA is committed to continuous improvement of our SAA internal controls and practices, as with all Agency practices, in order to explore and utilize Space in an affordable way for the benefit of the Nation. Toward this end, we look forward to continuing to work with the GAO to measure and improve our performance and management practices.

Thank you for the opportunity to comment on the two draft reports. If you have any questions or require additional information, please contact Richard McCarthy at (202) 358-2031.

Sincerely,



Michael C. Wholley
General Counsel

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