

National Aeronautics and  
Space Administration

**Office of Inspector General**  
Washington, DC 20546-0001



May 7, 2009

**TO:** Associate Administrator, Science Mission Directorate  
Assistant Administrator, Office of Infrastructure  
Director, Ames Research Center  
Director, Dryden Flight Research Center

**FROM:** Assistant Inspector General for Auditing

**SUBJECT:** Addendum to Final Memorandum on Audit of the Stratospheric  
Observatory for Infrared Astronomy (SOFIA) Program Management  
Effectiveness (Report No. IG-09-013, March 27, 2009)

We requested additional comments from the Associate Administrator for the Science Mission Directorate on two recommendations in the subject final memorandum because management comments were not fully responsive. One recommendation involved fully implementing an Earned Value Management System and the other recommendation was to ensure that contractor cost control performance is explicitly communicated in future evaluations. Comments provided by the Associate Administrator on April 29, 2009 (see Enclosure 1) are responsive. Therefore, both recommendations are resolved and will be closed upon completion and verification of management's proposed actions. Following is a summary of management's comments on the recommendations and our evaluation of the comments.

### ***Fully Implement Earned Value Management***

In our draft memorandum, we recommended that the SOFIA Program Manager fully implement the Earned Value Management System in compliance with NASA Procedural Requirements (NPR) 7120.5D, "NASA Space Flight Program and Project Management Requirements," March 6, 2007 (Recommendation 2.b). The Associate Administrator for the Science Mission Directorate partially concurred with the recommendation, stating his belief that the program is in compliance with the NPR. We maintained that the system in place for the SOFIA Program was not in compliance with the NPR or the SOFIA Program Plan because it only monitored cost at the program's top level without integrating cost and schedule at the work package level.

The Associate Administrator's additional comments of April 29, 2009, concurred with the recommendation, stating that the program approach would be expanded to cover work packages. He stated that the SOFIA Program Plan would be updated to reflect the expanded approach by August 1, 2009; that some elements of the program would implement the expanded approach by September 1, 2009; and that full implementation would be completed by April 15, 2010.

On the basis of these comments, Recommendation 2.b is resolved and will be closed upon completion and verification of management's proposed actions.

### ***Explicitly Communicate Cost Control Performance***

In our draft memorandum, we recommended that SOFIA Program management coordinate with the SOFIA Program Contracting Officer to ensure that contractor cost control performance is explicitly communicated in future evaluations. Management's comments on the draft did not specifically address this recommendation.

Comments provided by the Associate Administrator for the Science Mission Directorate on April 29, 2009, concurred with the recommendation, stating that the contracting officer will "explicitly communicate cost control performance to program contractors in future evaluations." In addition, the program's Award Fee Determination Plans will be revised and provided to the contractor and, "[o]nce the explicit criterion is included in the plans, any positives or negatives determined during evaluations will be communicated in an Award Fee Board determination report."

On the basis of these comments, Recommendation 4.b is resolved and will be closed upon completion and verification of management's proposed actions.

In addition, the Associate Administrator provided an update to Recommendation 4.a., to review and modify (if required) all cost-plus-award-fee contracts to ensure Award Fee Determination Plans explicitly reflect cost control as an evaluation factor with an evaluation weight no less than 25 percent of the total weighted evaluation factors. He stated that the plans will be modified by June 15, 2009, to include the appropriately weighted cost control factor. We will close Recommendation 4.a after verifying completion of the proposed action.

### ***Finalize the Shuttle Carrier Aircraft Transfer Agreement***

The Office of Infrastructure issued a memorandum on April 21, 2009 (see Enclosure 2) pertaining to the transfer of the two Shuttle Carrier Aircraft that closes an additional recommendation (Recommendation 1). Specifically, we had recommended that the Office of Infrastructure and the Director, Dryden Flight Research Center, finalize the agreement to transfer the two Shuttle Carrier Aircraft after the Shuttle Program retirement to assist in addressing long-term aircraft servicing requirements. Management concurred with the intent of the recommendation, stating that the Office of Infrastructure would coordinate the request to transfer the aircraft with the other NASA stakeholders.

In the April 21 memorandum, the Assistant Administrator for Infrastructure states that the aircraft will be transferred to the SOFIA Program for use as spare parts, contingent on a final availability determination by the Space Operations Mission Directorate and the Space Shuttle Program that the two Space Shuttle Aircraft are no longer needed for Space Shuttle support.

We appreciate the courtesies extended during our audit. If you have any questions, or need additional information, please contact Mr. Raymond Tolomeo, Science and Aeronautics Research Director, Office of Audits, at 202-358-7227.

signed

Evelyn R. Klemstine

2 Enclosures

cc:

SOFIA Program Executive

SOFIA Program Manager

## Management's Additional Comments

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



APR 29 2009

Reply to Attn of: SMD/Astrophysics Division

**TO:** Assistant Inspector General for Auditing  
**FROM:** Associate Administrator for the Science Mission Directorate  
**SUBJECT:** Response to Memorandum on Audit of the Stratospheric Observatory for Infrared Astronomy (SOFIA) Program Management Effectiveness, dated March 27, 2009

On March 20, 2009, the Science Mission Directorate (SMD) provided a response to recommendations on the SOFIA program contained in the draft subject report from the Office of Inspector General (OIG). The final OIG report contained OIG's evaluation of SMD's initial response, and noted that several recommendations required further response and therefore remained open.

This memorandum provides SMD's response to the three open recommendations contained in the subject memorandum that are under SMD purview. One other recommendation, pertaining to the transition of Shuttle Carrier Aircraft to the SOFIA program for spare parts, is being addressed through separate correspondence to the OIG from the cognizant office within NASA Headquarters (the Office of Infrastructure).

  
Edward J. Weiler

Enclosure

See  
Enclosure 2

**OIG Recommendation 2.a:** We recommend that the SOFIA Program Manager fully implement the Earned Value Management System in compliance with NPR 7120.5D.

*SMD Response: Concur. The current program approach to earned value management reports information (milestones and cost of milestones vs. plan) at the Level 2 milestone level. This approach will be expanded to cover deeper milestones and work packages, to at least Level 3. Both in-house work (i.e., NASA-led work) as well as contractor work for the contracts that are above the NPR 7120.5D threshold for earned value management, will be covered. In particular, the work with defined deliverables and milestones in the science center management work (USRA), will be covered.*

*Implementation of this expanded earned value management will require a phased approach over time. Some elements of the program and projects will be able to implement this expanded approach in the near term (by September 1, 2009) because sufficient information is currently being received, such as monthly civil servant workforce cost reports and existing contract earned value management reports. Other elements, such as the science center management contract, will require additional time (9-12 months) to implement this expanded approach. This additional time is needed to assess the information currently being received (e.g., cost, milestone accomplishment) so as to make decisions on how to proceed with expanded earned value management. This will be done either by using the existing information flow from the science center management contractor, or requesting additional information from the contractor, which might involve contract direction. Consequently, full implementation of this expanded approach will be completed by April 15, 2010.*

*The SOFIA program plan will be updated by August 1, 2009, to reflect this approach to earned value management.*

**OIG Recommendation 4.a:** We recommend that SOFIA program management coordinate with the SOFIA program contracting officer to review and modify (if required) all cost-plus-award fee contracts to ensure Award Fee Determination Plans explicitly reflect cost control as an evaluation factor with an evaluation weight no less than 25 percent of the total weighted evaluation factors.

*SMD Response: Concur. The Award Fee Determination Plans are being modified with an evaluation factor of no less than 25 percent of the total weighted evaluation factors. Modifications will be completed by June 15, 2009.*

Should read  
"Recom-  
mendation  
2.b"

**OIG Recommendation 4.b:** We recommend that SOFIA program management coordinate with the SOFIA program contracting officer to ensure that contractor cost control performance be explicitly communicated in future evaluations.

*Response: Concur. The program contracting officer will explicitly communicate cost control performance to program contractors in future evaluations. The revised Award Fee Determination Plans will be provided to the contractor once completed. Once the explicit criterion is included in the plans, any positives or negatives determined during evaluations will be communicated in an Award Fee Board determination report which is sent to the contractors at the conclusion of each award fee board.*

## Office of Infrastructure Memorandum

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



April 21, 2009

Reply to Alt: of Aircraft Management Division

TO: Director, NASA Dryden Flight Research Center  
Director, NASA Johnson Space Center

FROM: Assistant Administrator for Infrastructure

SUBJECT: Post-Retirement Transfer of Shuttle Carrier Aircraft (SCA) to the Stratospheric Observatory for Infrared Astronomy (SOFIA) Program

Contingent upon the final availability determination by the Space Operations Mission Directorate and the Space Shuttle Program that the two SCA are no longer needed for Space Shuttle support, the post-Shuttle retirement transfer of the two SCAs, and/or parts, from Johnson Space Center to the SOFIA program for use as spare parts is authorized. Please effect the property transfer at that time. The point of contact in the Aircraft Management Division for this matter is Mr. Richard Schlatter at (202) 358-1044.

A handwritten signature in black ink, appearing to read "Olga M. Dominguez".

Olga M. Dominguez

cc:  
Associate Administrator for Space Operations Mission Directorate/Mr. Gerstenmaier  
Associate Administrator for Science Mission Directorate/Dr. Weiler  
Associate Administrator for Institutions and Management/Mr. Luedtke  
General Counsel/Gen. Wholley  
Chief Financial Officer/Mr. Spoehel  
Inspector General/Mr. Cobb  
Assistant Administrator for External Relations/Mr. O'Brien  
Assistant Administrator for Legislative and Intergovernmental Affairs/Ms. Kerwin (Acting)  
Director of Program and Institutional Integration/Mr. Keegan  
Dryden Flight Research Center/Chief of Flight Operations/Mr. Davis  
Johnson Space Center/Chief of Aircraft Operations/Mr. Clark