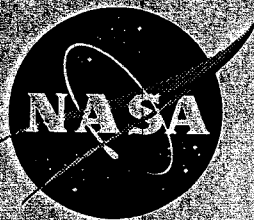


IG-97-020

**AUDIT
REPORT**

**PRIVATIZATION OF THE NASA
SOUNDING ROCKET PROGRAM**

MARCH 27, 1997



National Aeronautics and
Space Administration

OFFICE OF INSPECTOR GENERAL

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National Aeronautics and
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MAR 27 1997

Reply to Attn of W

TO: 100/Center Director, GSFC

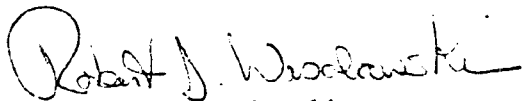
FROM: W/Acting Assistant Inspector General for Auditing

SUBJECT: Privatization of the NASA Sounding Rocket Program
Assignment No. A-GO-96-011
Report No. IG-97-020

We have completed an audit of the NASA Sounding Rocket Program's Privatization. The audit showed that a cost analysis or adequate customer input does not support the decision to privatize the Sounding Rocket Program. Further, there is no assurance that privatizing the program will achieve the agency's Zero-Base Review objectives. We recommend that NASA perform cost comparison and program impact analyses to ensure privatization is financially and programmatically advantageous.

The Center's written response, dated March 20, 1997, concurred with the intent of the report's recommendation. We have synopsised the response after the recommendation and have included it as Appendix B to this report.

In accordance with NASA Management Instruction 9910.1B, we request to be included in the concurrence cycle for closure of this recommendation. If you have questions or require any additional information, please contact Ned Echerd, Audit Director, at 205-544-0068, or me at 202-358-1232.


Robert J. Wesolowski

Enclosure

cc:
JM/D. Green
201/J. Clark, GSFC
W/K. Carson, GSFC
N. Echerd, MSFC

INTRODUCTION

The NASA Office of Inspector General has completed an audit of Privatization of the NASA Sounding Rocket Program. The Goddard Space Flight Center's (GSFC) Suborbital Projects and Operations Directorate manages NASA's Sounding Rocket Program at the Wallops Flight Facility (WFF). Sounding rockets perform low altitude measurements between balloon and spacecraft altitude and measure vertical variations of many atmospheric parameters. Sounding rockets are solid fuel rocket motors used individually or stacked up to four stages. They carry scientific instruments averaging 700 to 800 pounds to altitudes between 30 and 1,050 miles. The rockets range in length from 6 to 60 feet and fly near vertical trajectories.

The Sounding Rocket Program serves a scientific community consisting primarily of university and government research groups. The program yields many important scientific findings and research papers. In addition, the program trains and develops emerging new scientists.

The Sounding Rocket Program conducts about 30 launches each year from the WFF, White Sands Missile Range in New Mexico, Poker Flats Research Range in Alaska, and various foreign countries. The annual cost of the program is approximately \$30 million. This cost excludes the \$8 million per year cost of science performed under program grants.

In 1995, NASA convened a Zero-Base Review to devise proposals to enable the agency to meet reduced funding targets for the fiscal year (FY) 1996 budget. The Zero-Base Review proposed changes that would reduce overlap and consolidate administrative and program functions across the agency. The review results, announced in May 1995, also included center-specific proposals. For the WFF and, in particular, the Sounding Rocket Program, the Zero-Base Review recommended that:

- (1) Management of the suborbital program should be consolidated.
- (2) The cost of Wallops Flight Facility operations should be reduced.

- (3) Additional cost-sharing opportunities should be investigated.

The NASA Suborbital Program Restructuring Study Committee was formed in response to the recommendations of the Zero-Base Review. The committee, comprising NASA, Department of Defense, and National Oceanographic and Atmospheric Administration personnel, conducted its work during November 1995 through February 1996. The committee was responsible for determining (1) whether there was a need for the sounding rocket and balloon programs and (2) what was the best way to implement the programs.

The committee concluded that sounding rocket and balloon activities should be maintained because they are an essential component of access to space opportunities, and that flight rates should not be allowed to fall below minimum viable levels. The committee further determined that the Sounding Rocket Program should be restructured using a Government-Owned/Contractor-Operated (GOCO) implementation approach. The committee recommended the GOCO approach because it would (1) be consistent with Zero-Base Review recommended budget and staffing levels, (2) establish an appropriate role for the government, and (3) ultimately result in reduced WFF infrastructure costs. As a result of the committee's recommendations, the NASA Administrator announced a plan on May 16, 1996 to privatize the Sounding Rocket Program at the WFF.

OBJECTIVES, SCOPE, AND METHODOLOGY

OBJECTIVES

The audit objectives were to:

- (1) Evaluate NASA's decision-making process that led to the decision to privatize the Sounding Rocket Program.
- (2) Determine if the plan to privatize is supported by a cost analysis.
- (3) Determine if the Zero-Base Review objectives will be accomplished.

SCOPE AND METHODOLOGY

The scope of the audit was limited to reviewing documentary and testimonial support for the decision to privatize the NASA Sounding Rocket Program at the WFF. The audit was performed in accordance with generally accepted government auditing standards, and included such examinations and tests of applicable records and documents as were considered necessary in the circumstances. As part of the audit, we interviewed GSFC, WFF, and NASA Headquarters personnel. We also interviewed various users of the sounding rocket program.

MANAGEMENT CONTROLS REVIEWED

A recently completed audit of the NASA Sounding Rocket Program addressed, in detail, the program's management controls (Report No. GO-96-003, "Wallops Flight Facility Sounding Rocket Program," dated July 17, 1996). Based on the results of this recently completed audit and the limited scope of the current audit, we did not evaluate or test management controls.

AUDIT FIELD WORK

We conducted audit field work from August through November 1996 at the WFF, GSFC, and NASA Headquarters.

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OBSERVATIONS AND RECOMMENDATIONS

OVERALL EVALUATION

The decision to privatize the Sounding Rocket Program using a GOCO implementation approach is not supported by cost comparison or program impact analyses. Further, there is no assurance that this decision will achieve the agency's Zero-Base Review objectives. NASA management should conduct appropriate analyses to determine if the proposed privatization is financially and programmatically advantageous to the government and its customers.

RELEVANT POLICIES

The relevant policies on performing cost analyses and setting customer service standards are presented in Appendix A.

NO COST COMPARISON ANALYSIS PERFORMED

NASA did not perform a cost comparison analysis to determine if the proposed privatization was financially advantageous to the government. According to the Study Committee chairperson, the committee did not conduct a formal cost comparison analysis. In fact, the committee arrived at the conclusion that a "business as usual" approach was not viable in light of the programmatic environment. Specifically, the committee believed that maintaining the program in its current format would (1) limit WFF infrastructure reduction opportunities, (2) not address proposed "Zero-Base Review" actions, and (3) result in NASA continuing to perform functions that industry could accomplish. The committee reached this conclusion even though applicable policies such as OMB Circular A-76, the National Performance Review, and the Federal Workforce Restructuring Act (see Appendix A) require that a cost analysis showing a financial advantage to the government, must support any decision to convert an operation to contractor operated.

Per its charter, the committee reviewed only that infrastructure at the WFF which supports the Balloon and Sounding Rocket Programs. We determined the majority of sounding rocket launches takes place at locations other than the WFF, and that the majority of the WFF's infrastructure supports mostly other NASA and government programs. Consequently, privatizing the Sounding Rocket Program, although it may afford some opportunities for infrastructure reduction, will not significantly reduce the overall infrastructure at the WFF.

***NO PROGRAM IMPACT
ANALYSIS
PERFORMED***

NASA did not perform an analysis to determine the effect the privatization would have on the program or its customers. As noted below, the program is successful and its customers are extremely satisfied with the current program's flexibility and responsiveness. Current government policy (see Appendix A) requires that agencies evaluate customer needs and program impact when considering contracting out opportunities.

***CURRENT PROGRAM
IS SUCCESSFUL***

NASA's current Suborbital Program (balloons and sounding rockets) approach has been very successful. Between 1991 and 1995, the Scientific Balloon Program, which uses a GOCO implementation approach, had an overall launch success rate of 93 percent on a total of 133 flights. During this same period, the Sounding Rocket Program had an even better launch success rate. Using a "teaming" approach of NASA civil servants and contractors, the Sounding Rocket Program had an overall launch success rate of 97 percent on a total of 140 launches.

***CUSTOMER INPUT
INDICATES PROGRAM
SATISFACTION***

The Study Committee solicited customer input in a "Dear Colleague" letter sent to the Program's primary customers. The letter solicited comments about the program and suggestions on issues such as the program's responsiveness to user needs and whether the program could be more efficiently implemented.

The committee received 64 responses from sounding rocket customers (primarily government and university scientists). Of these 64 responses, 63 were extremely positive and supportive of the program, particularly as NASA presently operated it. The letters were especially complimentary about the low cost, the WFF, and its management of the program. The following excerpts from selected responses illustrate the primary customers feelings about the program:

"If NASA is serious about having a "Faster, Better, Cheaper" philosophy, then the sounding rocket program is the model, both for the scientists and in terms of having a centralized management."

"Without a doubt, the sounding rocket program is the most responsive program within NASA with which I have had contact."

"The suborbital program is the most responsive program in NASA. Only in this program do projects proceed from conception to design, flight, and data analysis in two to three years, sometimes less."

"With its high success rate, high frequency, and low cost, it is difficult to see how anything more than incremental improvements in efficiency could possibly be made in this outstandingly efficient program."

"The success of the program should be the model for achieving the faster, better, cheaper goals of assured access to space. Indeed, in our experience many other low cost programs are convinced of the merit of the "sounding rocket approach," but few have had any success in replicating or implementing it."

***PROGRAM
SATISFACTION
HIGHLIGHTED IN
GSFC AWARD
APPLICATION***

The GSFC highlighted the Sounding Rocket Program in the "Customer Focus and Satisfaction" section of the center's application for the 1997 President's Quality Award Program. The application stated that the WFF has an impressive sounding rocket launch record and that customer survey results showed that 82 percent rated the program's support as outstanding and 18 percent rated it as excellent. The application also stated that:

"the capabilities of flexibility, rapid response, and low cost despite high risk in the Sounding Rocket Program at the WFF is not duplicated anywhere in the world."

With such a unique, successful, and customer oriented program, significant changes in the implementation approach should only be implemented after sufficient cost and programmatic alternatives have been thoroughly evaluated and assessed.

SUMMARY

The decision to privatize the Sounding Rocket Program could potentially affect the program's cost and scientific content. Without performing cost comparison and program impact analyses, NASA cannot determine whether privatizing the program will be financially and programmatically advantageous. If contracting out results in increased costs, NASA will most likely reduce the number of sounding rocket flights. Reducing sounding rocket flights would result in less scientific research being performed and dissatisfaction among the program's customers. Further, if NASA does not maintain an optimal

annual flight rate, the continued viability of the overall program is doubtful.

RECOMMENDATION 1

NASA should perform appropriate cost comparison and program impact analyses to ensure that privatization is financially and programmatically advantageous to the government.

Management's Response

Concur. We agree that NASA should perform appropriate cost comparison and program impact analyses to ensure that proceeding with a more comprehensive contractual mechanism for implementing the Sounding Rocket Program is advantageous to the Government. As discussed with OIG staff at the exit conference, our intent has been to implement this analysis as part of the overall procurement process. We believe that our approach, which includes establishment of a cost baseline incorporating NASA full-cost-accounting principles, meets the intent of Office of Management and Budget Circular No. A-76, "Performance of Commercial Activities." If, as a result of reviewing proposals received, we determine that proceeding with contract award is not in the best interests of the Government, we will not award that contract. The decision regarding the award of contract will be coordinated with the NASA Inspector General.

***Evaluation of
Management's Response***

The actions planned are considered responsive to the intent of the recommendation. We will however, remain in the concurrence cycle for closure of this recommendation to ensure that the actions taken with regard to the Sounding Rocket Program are in the best interests of the Government.

COST ANALYSIS AND CUSTOMER SERVICE POLICIES

***OFFICE OF
MANAGEMENT AND
BUDGET (OMB)
CIRCULAR NO. A-76,
"PERFORMANCE OF
COMMERCIAL
ACTIVITIES,"***

states that whenever commercial sector performance of a Government operated commercial activity is permissible, a comparison of the cost of contracting and the cost of in-house performance will determine who will do the work. The circular authorizes government performance of a commercial activity if a cost comparison demonstrates that the Government is operating or can operate the activity on an ongoing basis at an estimated lower cost than a qualified commercial source.

***SECTION 5 (G) OF THE
FEDERAL WORKFORCE
RESTRUCTURING ACT***

requires the President to take appropriate action to ensure that agencies do not convert the work of employees included in the 272,900 personnel reduction target or the work of employees who accept a buyout to contract performance, unless a cost comparison demonstrates that there is a financial advantage to the government. The National Performance Review (NPR) and OMB "Privatization Resource Guide and Status Report" state that in those cases where contracting out may be appropriate, agencies should comply with section 5 (g) of the Federal Workforce Restructuring Act by performing OMB Circular A-76 comparisons. In those cases where Circular A-76 does not apply, such as Research and Development activities, agencies may develop alternative cost comparison approaches that respond to the requirements of Section 5(g) or use Circular A-76 procedures.

***EXECUTIVE ORDER
12862, "SETTING
CUSTOMER SERVICE
STANDARDS,"***

states that all executive departments and agencies providing significant services directly to the public shall provide those services in a manner that seeks to meet the customer service standards established therein. Actions to be taken shall include (1) identifying customers who are, or should be, served by the agency, (2) surveying customers to determine the kind and quality of services they want and their level of satisfaction with existing services, and (3) providing customers with choices in both the sources of service and the means of delivery.

National Aeronautics and
Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771



MAR 20 1997

ly to Attn of: 201

TO: NASA Headquarters
Attn: W/Acting Assistant Inspector General for Auditing

FROM: 100/Director

SUBJECT: GSFC Response to Office of Inspector General (OIG) Draft Report on
Privatization of the NASA Sounding Rocket Program, A-GO-96-011

We appreciate the opportunity to review and respond to OIG findings and recommendations and appreciate the consideration that the OIG gave to the information we provided during the February 6, 1997, exit conference and post-exit discussions.

We agree that NASA should perform appropriate cost comparison and program impact analyses to ensure that proceeding with a more comprehensive contractual mechanism for implementing the Sounding Rocket Program is advantageous to the Government. As discussed with OIG staff at the exit conference, our intent has been to implement this analysis as part of the overall procurement process. We believe that our approach, which includes establishment of a cost baseline incorporating NASA full-cost-accounting principles, meets the intent of Office of Management and Budget (OMB) Circular No. A-76, "Performance of Commercial Activities." If, as a result of reviewing proposals received, we determine that proceeding with contract award is not in the best interests of the Government, we will not award that contract. The decision regarding the award of contract will be coordinated with the NASA Inspector General.

Key activities in the procurement and decision process are scheduled as follows: Issuance of Request for Information (RFI) completed February 25, 1997; issuance of draft Request for Proposal (RFP) May 15, 1997; issuance of RFP June 27, 1997; completion of Government cost estimate August 15, 1997; receipt of proposals August 30, 1997; completion of management evaluation and decision January 1998.

Ms. Mary Kicza, Associate GSFC Director for Space Sciences, is the action official. Please call Ms. Kicza at 301-286-8936 or call Ms. JoAnn Clark, GSFC Audit Liaison Officer, at 301-286-7977 if you have any questions or need further assistance related to this audit.

A handwritten signature in black ink, appearing to read "Joseph H. Rothenberg".
Joseph H. Rothenberg

MAJOR CONTRIBUTORS TO THIS AUDIT

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Kevin Carson Audit Field Office Manager, GSFC

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