

GAO

Report to the Chair, Subcommittee on  
VA, HUD, and Independent Agencies,  
Committee on Appropriations,  
U.S. Senate

January 1993

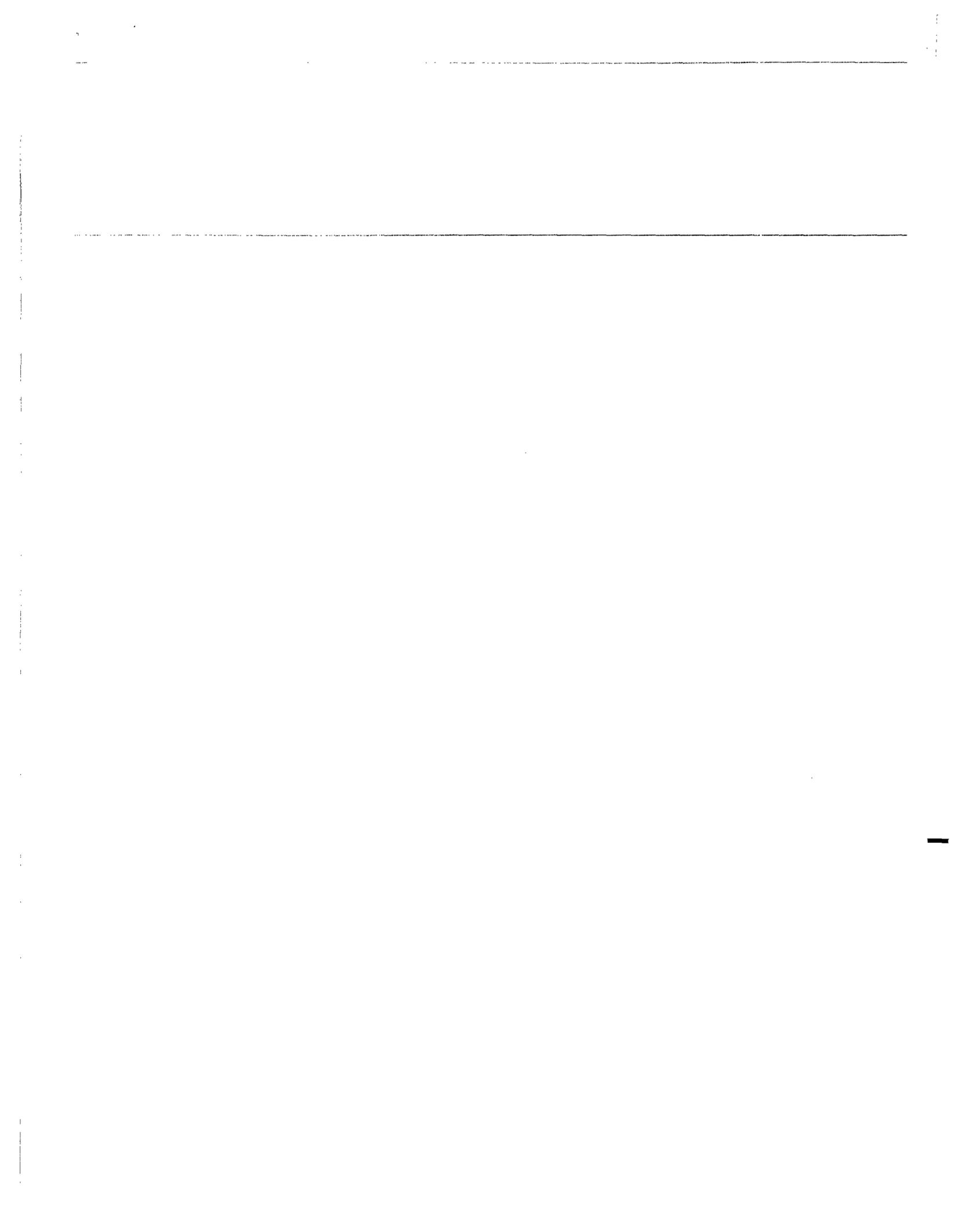
# GODDARD SPACE FLIGHT CENTER

## Decision to Contract for Plant Operations and Maintenance



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United States  
General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

B-251323

January 12, 1993

The Honorable Barbara Mikulski  
Chair, Subcommittee on VA, HUD,  
and Independent Agencies  
Committee on Appropriations  
United States Senate

Dear Madam Chair:

As you requested, we reviewed certain impacts of Goddard Space Flight Center's decision to contract out the operations and maintenance of its plant facilities. Specifically, we compared the cost of the current mixed work force of civil service and contractor employees who perform these functions with the cost of (1) an all civil service work force and (2) an all contractor work force. We also reviewed the benefits realized, and the problems encountered, by Goddard as a result of the contracting decision and the transitioning of some of the functions from a civil service staff to a contractor staff. In addition, we obtained information from Langley Research Center, which has a similar mix of contractor and civil service staff performing operations and maintenance functions, to see if any lessons could be learned that might apply to Goddard.

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## Results in Brief

Performing plant operations and maintenance functions with an all contractor work force would be the least costly of the three staffing patterns we examined. Continuing the current mixed work force would be the most expensive. Although completing the transition to an all contractor work force would be the least costly, Goddard officials told us that this option would not result in immediate savings because of the center's commitment not to involuntarily separate any of the current civil service employees.

Goddard's purpose in contracting out plant operations and maintenance was to make personnel billets available for use in hiring additional scientists and engineers. However, because Goddard decided not to involuntarily separate any civil service personnel in the conversion, the billets were not immediately available for this purpose and would become available only over time as attrition occurred. According to Goddard officials, about 20 scientists and engineers to date have been hired to fill billets made available by the contracting decision.

The decision also enabled Goddard to support the government's small, disadvantaged business program by awarding the contract to a minority-owned firm. Goddard officials told us that the contracting decision should also provide added flexibility in meeting future changes in work load requirements since contractors can adjust staffing levels more readily than the civil service can. We did not make independent comparisons of the quality of work performed by civil service and contractor personnel but, according to Goddard officials, the quality of work has not deteriorated since the contracting decision.

According to Goddard officials, the center experienced reduced employee morale among civil service employees, reduced productivity, poor attendance, leave abuse, insubordination, and employee conflicts during the transitioning from civil service staffing to contract. The Langley Research Center experienced similar problems when it contracted out plant operations and maintenance functions in the 1960s, but the problems have been overcome, according to Langley officials.

In July 1992, almost 3 years after the contract was awarded, Goddard management concluded that the existing transitioning process was disruptive and that the center must begin to consider other alternatives to its plant operations and maintenance staffing. In November 1992, Goddard officials told us that, for the present, there would be no further conversions of civil service positions to contract and that the center was conducting further studies to determine the most appropriate civil service staffing levels.

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## Background

Office of Management and Budget (OMB) Circular A-76 contains federal policy regarding the performance of commercial activities—activities that are operated by a federal executive agency and that provide a product or service which could be obtained from a commercial source. The government's policy is to use commercial sources for products and services if they are available in the commercial sector and can be more economically provided by a commercial source. After identifying potential activities for contracting out, federal agencies should perform cost comparisons to determine which method of staffing is most economical. Circular A-76 also provides guidance for performing the cost comparisons. Cost comparisons are not required, however, if an agency contracts out under a preferential treatment program such as the small, disadvantaged business program.

In March 1989, the Goddard Space Flight Center Director announced his intention to contract out the center's plant operations and maintenance activities. According to the announcement, the purpose of the contracting decision was to make civil service personnel billets available to hire more scientists and engineers. The additional scientists and engineers were needed to support its new programs such as the Earth Observing System. According to Goddard officials, because OMB limited the number of additional personnel the National Aeronautics and Space Administration (NASA) could have, Goddard decided to contract out plant operations and maintenance functions to make positions available for the engineers and scientists.

Plant operations and maintenance activities included in the contracting decision were plumbing, machining, electrical, painting, sheet metal, fire alarm, carpentry, environmental climatic control, console operations, and work control. The central power plant and high-voltage electrical functions were included in Goddard's original contracting plan. However, these functions were subsequently determined to be critical to Goddard's mission and the decision was made to retain these as civil service staffed functions.

According to the director's announcement, no civil service personnel would be involuntarily separated as a result of the contracting decision unless they refused an offer of reassignment at the center. Civil service positions were to be abolished and work transferred to the contractor on a function by function basis with the timing and sequence depending on attrition and the identification of other assignments for employees occupying those positions. This plan was accepted by the union that represented the affected civil service employees. Goddard management and the employee union signed a Memorandum of Agreement generally to this effect in March 1989.

Goddard was not required to perform a cost comparison before proceeding with the contracting decision because the center decided to award the contract under the Small Business Administration's Minority Small Business and Capital Ownership Development Program, commonly referred to as the 8(a) program. Goddard awarded a cost-plus-award-fee contract to E.L. Hamm and Associates, Inc., that was effective September 1, 1989. The contract was for 1 year with four renewal options and covered Goddard's plant operations and maintenance functions, including the operation of the central power plant and high-voltage electrical systems.

When we did our review, Goddard had not completed its conversion of plant operations and maintenance functions to contract. For example, plumbing, electrical, and environmental climatic control work was being performed by both civil service and contractor personnel. While the responsibilities for plumbing and electrical work were clearly divided between the civil service and contractor staffs, no such differentiation of responsibilities had been established for environmental climatic control work.

## All Contract Work Force Would Be the Least Costly Staffing Method

At our request, Goddard developed information on comparable costs to perform plant operations and maintenance for a 3-year period using (1) an all contractor work force and (2) an all civil service work force.<sup>1</sup> Goddard used data from the existing contract to project costs for an all contractor work force and calculated the cost of an all civil service work force by converting an equivalent number of similar positions to civil service. We then compared the estimated cost of these two alternatives to the estimated cost of continuing to perform plant operations and maintenance functions with the existing mixed contractor and civil service work force. To the extent practical, the comparison conformed to OMB Circular A-76 guidance for cost comparisons.

The comparison showed that converting all positions to contract would be less costly than reverting to all civil service staffing or continuing the current mixed civil service and contractor staffing. The cost of performing the plant operations and maintenance functions with an all contractor staff would be approximately \$19.6 million for the 3-year period. The cost of performing these functions with the current mixed work force would be approximately \$23 million for the same period. Converting back to an all civil service work force would cost approximately \$21 million, after including the one-time conversion differential prescribed by OMB Circular A-76. The conversion differential is added to give consideration to the loss of production, the temporary decrease in efficiency and effectiveness, the cost of retained grade and pay, temporary operation of facilities at reduced capacity, and other unpredictable risks that result any time a conversion is made.

Goddard officials told us that they expect the costs of an all contractor work force to be further reduced when the contract is opened to competition in 1994. The current contract, which expires in

<sup>1</sup>The comparisons did not include operations and maintenance of the central power plant or high-voltage electrical system since Goddard has decided to continue performing these functions with civil service personnel.

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September 1994, was awarded without the benefit of competition. According to the Goddard officials, a similar contract for plant operations and maintenance services at the Wallops Flight Facility in eastern Virginia was competitively awarded and the cost of that contract is about 29 percent less than the Goddard contract on a per-staff-year basis.

Goddard officials acknowledged that the current mixed work force is disruptive and has resulted in an inefficient distribution of job skills within the total work force. In addition, they do not expect any immediate savings when they complete the transition to an all contractor work force because of the decision not to involuntarily separate civil service employees. Contracting out would increase the contractor work force without an immediate corresponding decrease in the civil service work force. Current plans are to designate specific functions as critical to Goddard's mission and commit to keeping these positions civil service. Goddard management is currently making a determination as to the appropriate staffing level for the critical functions.

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## Contracting Out Provides Advantages

According to Goddard management, contracting out provided advantages such as making personnel billets available that could be used to hire scientists and engineers. However, because Goddard decided not to involuntarily separate any civil service personnel in the conversion, the billets would become available only over time as attrition occurred.

The authorized staffing level for the plant operations and maintenance division dropped from 142 in September 1988, before the contracting decision, to 112 in September 1992. Goddard officials told us, however, that these numbers may not accurately reflect billets made available by the contracting decisions. According to these officials, some plant operations and maintenance positions were transferred to other divisions and directorates to avoid having to separate civil service personnel. They also said that the plant operations and maintenance division's work load and contract administration requirements had increased since the contract was awarded and the contract allowed the center to avoid adding personnel billets for plant operations and maintenance. Goddard's Human Resources Director estimated that about 20 scientists and engineers have been hired to fill billets made available by the contracting decision.

Contracting out plant operations and maintenance functions also allowed Goddard to support the 8(a) program, which encourages federal agencies to contract with small, disadvantaged businesses. The current contractor,

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E.L. Hamm and Associates, was a minority-owned small business. According to Goddard officials, the center actively supports the 8(a) program and in fiscal year 1992 spent approximately \$100 million on 8(a) contracts.

In addition, Goddard officials told us that contracting out will provide added flexibility to respond to future work load fluctuations. Contractors are not constrained by OMB-established personnel ceilings or by federal personnel regulations, and can more readily increase or decrease the size of their work force to accommodate changing work loads. Goddard officials told us that the center is currently constructing a new facility which will increase the center's plant operations and maintenance work load. According to these officials, personnel ceilings will preclude the center from hiring additional civil service personnel to perform the new work and it will probably be performed under the contract.

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### Goddard Officials Said Quality of Work Has Not Deteriorated

Goddard management told us that the quality of work had not deteriorated since the contracting decision. Contractor performance ratings were "highly successful" or "excellent" for the six evaluation periods through April 1992. The contractor earned an average of about 84 percent of the available award fee, slightly below the Goddard-wide average of 88 percent award fee earned on support service contracts. The plant operations and maintenance contract award fee percentage has varied from a low of 78 percent in the first evaluation period to 87 percent in the latest evaluation period we reviewed. In addition, Goddard management stated that they believe the quality of work is as good as, or better than, it was with an all civil service staff.

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### Problems Have Been Encountered During Transition

Prior to awarding the contract, Goddard management prepared a list of expected problems. These included lowered employee morale, loss of productivity, poor attendance, leave abuse, insubordination, and employee conflicts. According to Goddard management, all of these problems occurred to some degree, although most of them were not documented. These officials also told us that problems were made worse because the contractor and civil service employees performed the same jobs in some areas, such as environmental climatic control.

Because the Langley Research Center also performs plant operations and maintenance functions with both contractor and civil service employees, we asked officials at that center about their transition experiences. They

told us that initially they had experienced many of the same problems as Goddard but that the problems had resolved themselves over time. Langley completed its partial conversion to contract more than 20 years ago. Langley officials characterized the current working relationship between contractor and civil service staff as excellent.

However, unlike Goddard, Langley physically separates its contractor and civil service personnel. The civil service employees generally maintain buildings where research and development activities are performed while the contractor generally maintains administrative and support facilities. Although some civil service and contractor personnel have similar job descriptions, they generally do not work in the same buildings. According to Langley officials, the clear separation of responsibilities, as well as the physical separation of work locations, between contractor and civil service personnel, fosters a professional working relationship and excellent service in their respective areas.

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## Recent Management Actions

In July 1992, Goddard management concluded that the existing transitioning process was disruptive to plant operations and maintenance and that the center had reached a stage where it must begin to consider alternatives to its current staffing. According to Goddard management, the current mixed staffing had resulted in (1) ineffective distribution of job skills within the civil service work force and (2) continuing problems associated with the interface of civil service employees and contractor employees doing similar work. In November 1992, Goddard officials told us that, for the present, there would be no further conversions of civil service positions to contract and that the center was conducting further studies to determine the most appropriate civil service staffing levels.

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## Views of Agency Officials

In commenting on a draft of this report, NASA officials indicated that it was a fair and reasonable assessment of the plant operations and maintenance civil service to contractor staffing history and current situation at Goddard. Their suggestions were incorporated in the report where appropriate.

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## Scope and Methodology

We reviewed the organization and staffing history of plant operations and maintenance functions at Goddard. We reviewed Goddard's cost comparisons to ensure general compliance with OMB Circular A-76 guidance on performing cost comparisons of staffing patterns. We used

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Circular A-76 because it provides detailed guidance and steps for assessing which alternative—contracting or in-house performance—is the most economical means of satisfying the government's need for commercially available services. However, we modified some steps to simplify and, thus, reduce the time required to make the comparisons. Overall, we do not believe these modifications materially affected the results of the cost comparisons. For example, an A-76 analysis requires an agency to do the following:

- Compare contract costs to a streamlined federal work force; specifically, the “most efficient and effective” federal organization capable of accomplishing the work requirements. We did not attempt to determine whether Goddard's estimate was for the most efficient federal work force. Rather, a comparable federal work force was used that mirrored the contractor's effort and that Goddard staff believed was needed to carry out the work.
- Base the contract cost on a firm bid or proposal competitively obtained in accordance with applicable procurement regulations. Circular A-76 specifies that existing contract prices shall not be used in a cost comparison. However, because the current contract was not due to expire for 2 more years, Goddard could not solicit proposals and, therefore, used the current contract price adjusted to reflect costs for completing the transition to an all contractor work force.

We discussed the problems encountered in transitioning from civil service to a mixed work force with Goddard and Langley officials. To obtain some perspective on contracting out, we also discussed the possible advantages and disadvantages with officials at NASA, the Department of Defense, and the General Services Administration. We conducted our review from June to November 1992 in accordance with generally accepted government auditing standards.

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Please contact me at (202)275-5140 if you or your staff have any questions concerning this report. The major contributors to this report were

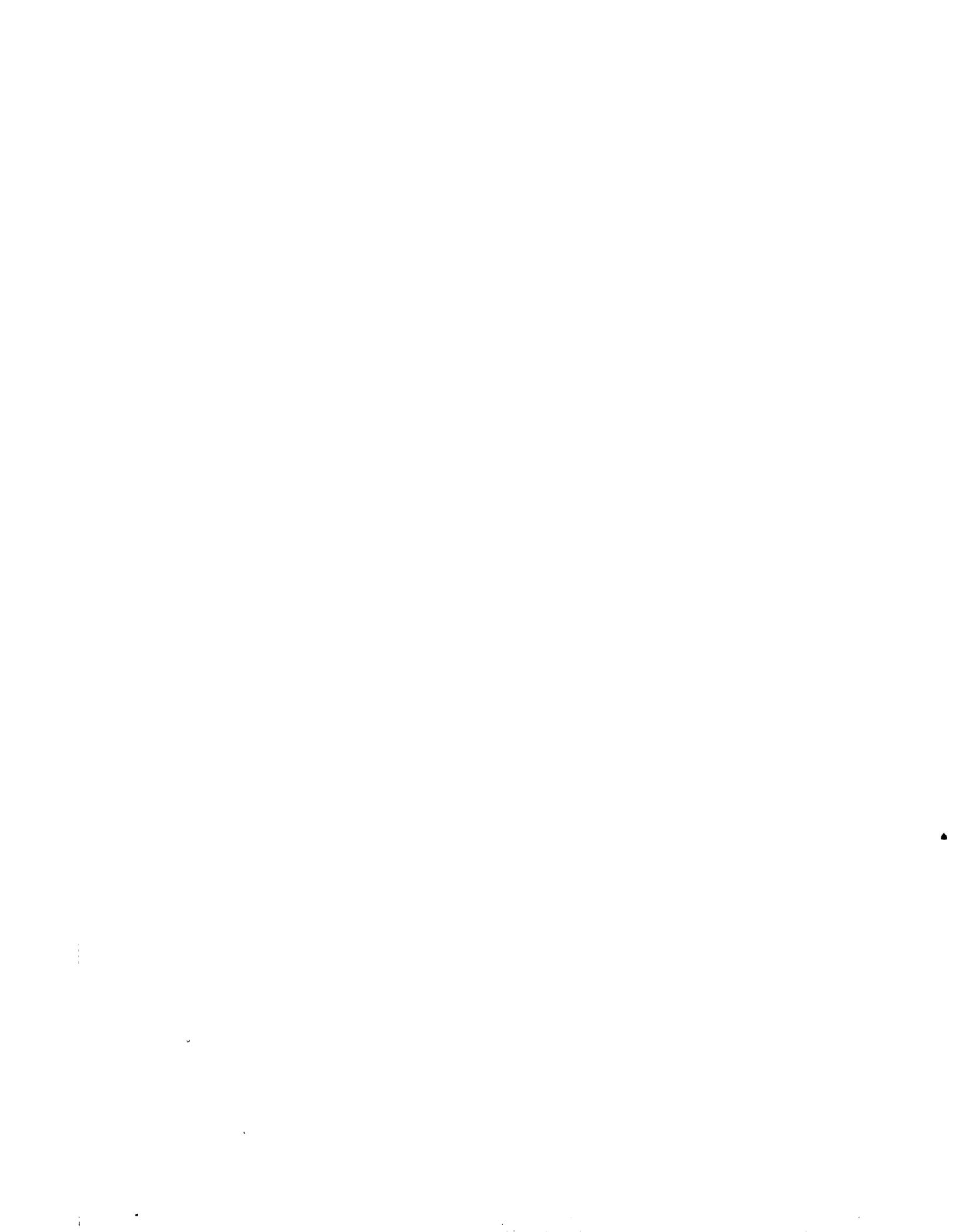
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Lee Edwards, Assignment Manager; Lawrence A. Kiser,  
Evaluator-in-Charge; and Roberta Gaston, Evaluator.

Sincerely yours,



Mark E. Gebicke  
Director, NASA Issues





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