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**Report to the Honorable John W. Warner,
U.S. Senate**

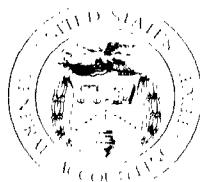
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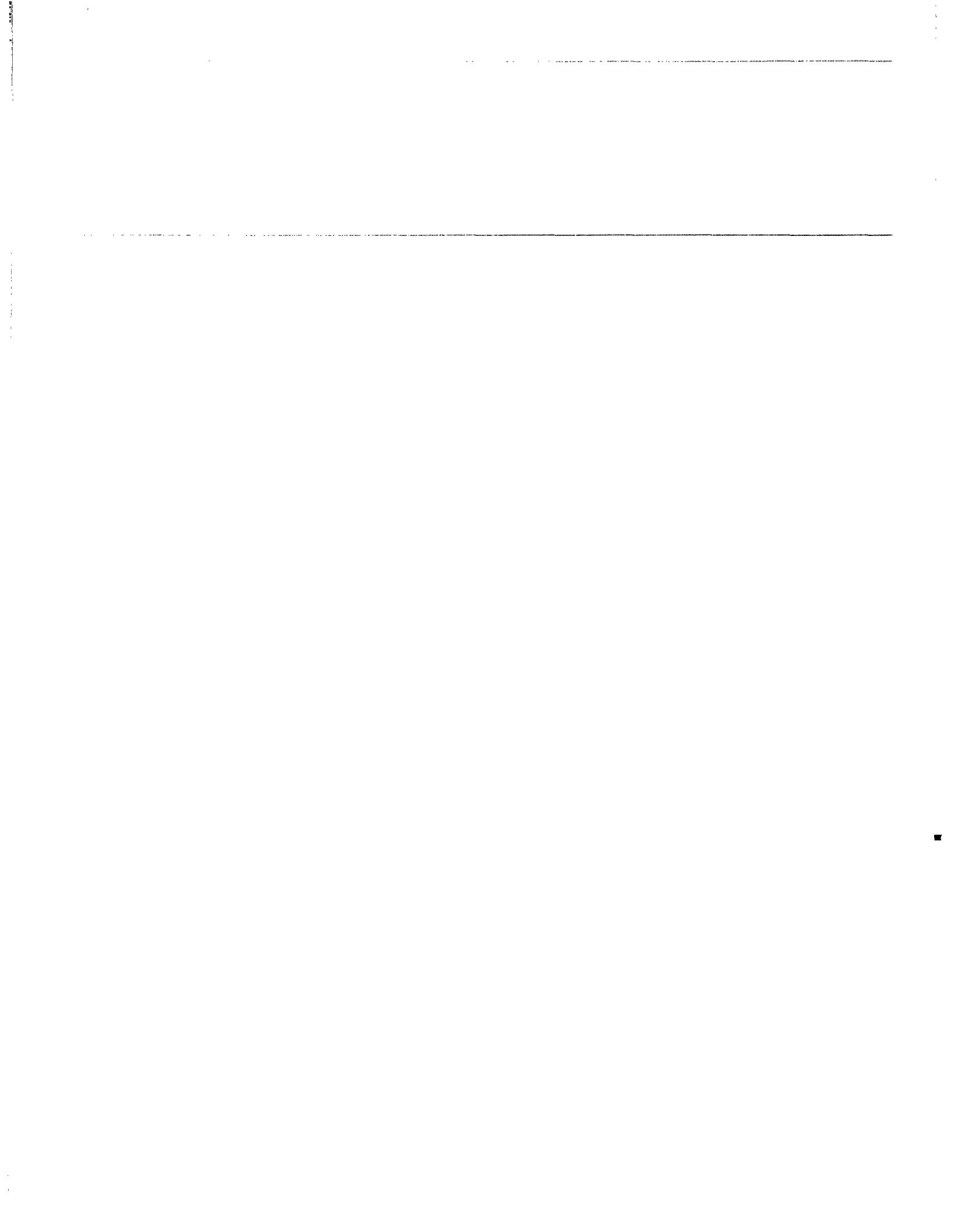
NASA PROCUREMENT

Improving Oversight of Construction Projects at the Langley Research Center



147038





**National Security and
International Affairs Division**

B-248821

July 9, 1992

The Honorable John W. Warner
United States Senate

Dear Senator Warner:

This report responds to your request that we review construction contracting practices between the National Aeronautics and Space Administration's (NASA) Langley Research Center and EG&G Florida, Inc. Specifically, you requested that we review concerns expressed to you about EG&G's

- being authorized to perform under work orders noncompetitively,
- hiring unneeded additional employees,
- inspecting and approving its own construction work,
- doing poor work and taking longer than necessary to complete it, and
- performing all construction work at Langley rather than subcontracting part of it to small businesses.

Background

Langley competitively awarded a cost-plus-award-fee contract to EG&G for a 1-year performance period—June 1, 1989, through May 31, 1990—and four 1-year options. The contract requires EG&G to provide maintenance, construction, and construction inspection services. Under the contract, EG&G (1) receives work orders specifying the tasks to be performed, (2) furnishes all personnel and equipment necessary to perform them, (3) decides whether it will directly perform or subcontract construction tasks, and (4) awards a percentage of its subcontracts to small businesses. EG&G is reimbursed for all appropriate costs to perform work orders. Through April 1992, Langley had reimbursed EG&G \$47 million.

EG&G is also eligible to be awarded a fee based on Langley's evaluation of its overall performance. Langley's award fee evaluation plan requires Langley personnel to monitor, evaluate, and report EG&G's performance to Langley's Award Fee Board. The Board uses these reports as the basis for recommending an award fee amount to the fee determination official, who decides EG&G's award fee amounts. Through November 1991, EG&G received \$2.1 million, or 91 percent, of the \$2.3 million in available award fees.

Results in Brief

Under the contract, EG&G has the right to do the work orders on an noncompetitive basis and may hire the employees it needs to do so. NASA officials told us that the agency's other field centers had similar arrangements with contractors.

However, we identified weaknesses in how EG&G's performance was being monitored, evaluated, and documented. Specifically, we found the following:

- In certain circumstances, EG&G inspected its own construction work. Langley officials have recognized the potential conflict of interest in this and plan to transfer the inspection function to another contractor. They also plan to improve the contractor's procedures for documenting inspection results.
- Langley personnel were not following the Center's requirements for documenting their evaluations of EG&G's construction and inspection activities. Therefore, we were not able to determine whether (1) Langley accepted substandard work or (2) EG&G took longer than necessary to perform work. Langley officials have said they will implement procedures to ensure that this is done in the future.
- Langley had not implemented procedures to evaluate whether EG&G was meeting its goal of awarding 74 percent of subcontracts to small businesses, although Langley officials told us they would do so in the future. We could not verify EG&G's reports that it met its subcontracting goals because the contractor did not have all the required supporting documentation.

Correcting these problems will enable Langley to improve its contractor oversight and provide a better basis for supporting Langley's award fee determinations.

EG&G Can Perform Work Orders

Langley awarded a competitive facilities and equipment support service contract to EG&G specifying the use of work orders. Therefore, Langley can issue noncompetitive task orders to EG&G. The use of work orders to assign tasks to a contractor is sometimes called a "task order" contract.

According to NASA officials, the agency's field centers commonly use this type of contract for obtaining facilities and equipment support services. This type of contract is typically used when the work required cannot be precisely identified. After competitively awarding the contract, the agency issues task orders to the contractor.

Eight offerors submitted bids in response to the solicitation for this contract. The construction part of the solicitation required them to show how they would complete each assigned task using (1) company employees, (2) subcontractors, and (3) a combination of company employees and subcontractors. The solicitation also stated that Langley did not know the precise number and type of construction projects to be performed under the contract.

EG&G May Hire Employees As Needed

Under the contract, EG&G has unilateral authority to hire employees to perform the work. Langley reimburses EG&G based on the hours expended to perform tasks rather than the number of employees used to perform them. EG&G is required to submit for Langley's approval the estimated hours needed to complete a project. According to Langley officials, EG&G would not be reimbursed for work performed without prior approval. Also, each month EG&G reports to Langley the number and type of employees on its payroll. Langley officials said that if they noted an increase in the number of employees without a corresponding work load increase, they would consider it a questionable management decision that could result in a reduction of the contractor's award fee.

Langley Plans to Improve Inspection Function

The contract requires EG&G to inspect its own construction work, maintain log books for each construction inspection task, and certify that the work was performed in accordance with specifications or drawings. According to EG&G's inspection supervisor, inspectors visit construction sites to observe construction work, determine whether it complies with applicable standards, and record safety violations and deviations from standards in log books. They certify that the construction work complies with applicable standards on the final inspection form. We reviewed selected inspection log books and final inspection forms but could not determine what construction tasks were inspected or the extent to which they complied with specifications or drawings.

Langley officials acknowledged that they did not have records showing that all required inspections were performed. They plan to require Langley's Chief Inspector to document required inspections, and they have directed EG&G's inspectors to document observed construction performance and the extent the contractor complies with specifications and drawings. Langley officials also said that they recognize the potential conflict of interest because EG&G inspects its own work, and they plan to move the inspection function to a separate contract.

Inadequate Documentation for Construction and Inspection Evaluations

Most of Langley's evaluation reports on EG&G cite examples of substandard work, but documentation is inadequate to determine whether Langley accepted any substandard work. The documentation is lacking because Langley's monitors did not systematically record their evaluations of construction performance and inspections, as required by Center guidelines. As a result, Langley cannot adequately support its evaluation reports and the ratings it uses to determine award fees.

According to Langley officials, their construction and inspection monitors are not documenting site visits because they perform numerous other duties. However, they plan to (1) improve the guidelines and require monitors to complete daily checklists for each visit to a construction site and (2) verify that the monitors are preparing and maintaining this documentation.

Evaluations of Contractor Efficiency Can Be Improved

Documentation was not available to determine whether EG&G was using more hours than necessary to complete construction work. Langley officials noted that, among other things, they evaluate EG&G's performance for efficiency and timeliness. However, their efficiency evaluations consider only whether the contractor's employees have the proper skills and equipment to perform tasks and whether the actual construction cost exceeded the estimated cost. Also, their timeliness evaluations judge only whether tasks are completed on or before the projected completion date. Neither of these evaluations determines whether EG&G uses more hours than necessary to perform the tasks.

According to a Langley official, Center personnel approve EG&G's estimates to complete tasks but do not evaluate EG&G's performance against those estimates. However, Langley officials now recognize this responsibility and will require their monitors to evaluate this aspect of EG&G's performance.

Contractor's Compliance With Subcontracting Goals Has Not Been Evaluated

As a recipient of a large federal contract, EG&G is required to submit for Langley's approval a subcontracting plan with an overall percentage goal for awarding subcontracts to small businesses. Because awarding subcontracts to small businesses is in the national interest and has both social and economic benefits, EG&G is subject to paying liquidated damages to Langley when it does not show a "good faith" effort to meet its subcontracting goal.

According to Langley officials, they have not implemented the Center's requirements to verify EG&G's reports that it is meeting its goal of awarding 74 percent of subcontracts to small businesses because they believed (1) there was little financial risk to Langley if the subcontracts were not awarded to small businesses, (2) they received accurate subcontracting data from EG&G, and (3) there was no reason to question EG&G's subcontracting data based on Langley's reviews of proposed subcontracts exceeding \$25,000 and EG&G's procedures for controlling personnel and procurement costs. Nevertheless, Langley officials plan to start evaluating EG&G's reports.

Regulations allow EG&G to rely on subcontractors' written representations that they are small businesses. However, EG&G did not have written representations for all subcontracts awarded to small businesses. Therefore, we could not determine whether EG&G met its subcontracting goal. We did statistically sample construction contracts awarded between June 1989 and September 1991 and found that all of the contractors had identified themselves as small businesses.

Recommendations

Langley is planning to implement procedures to correct all of the weaknesses discussed in this report. If properly implemented, such procedures can help improve the monitoring, evaluating, and documenting of contractor performance. Therefore, we recommend that the NASA Administrator ensure that Langley officials implement the planned corrective actions discussed in this report.

While our review covered only the Langley center, all NASA field centers use the same contracting method and we believe it would be prudent for NASA to determine whether the problems we found are more widespread. Therefore, we recommend that the NASA Administrator require the other field centers to review their procedures for monitoring, evaluating, and documenting contractors' construction activities under similar contracts and, if found deficient, take corrective actions.

Scope and Methodology

We discussed the concerns expressed to Senator Warner with NASA and EG&G officials at NASA's Langley Research Center, Hampton, Virginia. We also reviewed regulations, evaluation procedures, rating forms, inspection log books, and contracts related to those concerns.

We conducted our review between July 1991 and June 1992 in accordance with generally accepted government auditing standards. We did not obtain NASA's comments on this report; however, we discussed the results of our work with NASA officials and incorporated their comments where appropriate.

We are sending copies of this report to the NASA Administrator and other interested parties. We will also make copies available to others on request.

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

Sincerely yours,



Mark E. Gebicke
Director, NASA Issues

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