

W

September 16, 1999

TO: M/Associate Administrator for Space Flight  
JSC/AA/Director, Lyndon B. Johnson Space Center

FROM: W/Assistant Inspector General for Auditing

SUBJECT: Final Report on the Audit of Allied-Signal Subcontract Management  
Assignment Number A-HA-98-039  
Report Number IG-99-042

The subject final report is provided for your use and comment. Please refer to the Executive Summary for the overall audit results. Our evaluation of your response is incorporated into the body of the report. Because management does not have complete control over the timing of the corrective actions planned for Recommendations 2 and 3, management did not specify estimated completion dates for the recommended corrective actions. Recommendations 1, 2, and 3 will remain open for reporting purposes until corrective actions are completed. Please notify us when actions have been completed on the recommendations, including the extent of testing performed to ensure corrective actions are effective.

If you have questions concerning the report, please contact Mr. Lorne A. Dear, Program Director for Procurement Audits, at (818) 354-3360; Ms. Nora Thompson, Audit Program Manager, at (757) 864-3268; or Mr. Douglas Orton, Auditor-in-Charge, at (281) 244-1159. We appreciate the courtesies extended to the audit staff. See Appendix C for the final report distribution.

**[original signed by]**  
Russell A. Rau

Enclosure

cc:

AO/Chief Information Officer

B/Chief Financial Officer

B/Comptroller

BF/Director, Financial Management Division

G/General Counsel

H/Associate Administrator for Procurement

JM/Director, Management Assessment Division

bcc:

JPL/W/Director, Procurement Audits

JSC/BD5/Audit Liaison Representative

JSC/W/Auditor-in-Charge

LaRC/W/Program Manager, Procurement

SSC/W/Staff Auditor

**IG-99-042**

**AUDIT  
REPORT**

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**ALLIED-SIGNAL SUBCONTRACT MANAGEMENT**

**September 16, 1999**

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National Aeronautics and  
Space Administration

**OFFICE OF INSPECTOR GENERAL**

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## **Acronyms**

DCMC      Defense Contract Management Command  
FAR        Federal Acquisition Regulation

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# NASA Office of Inspector General

IG-99-042  
AHA-98-039

September 16, 1999

## Allied-Signal Subcontract Management

### Executive Summary

**Background.** Under NASA contract NAS9-95682, Allied-Signal Technical Services Corporation (Allied-Signal) provides testing, evaluation, and maintenance services to the Johnson Space Center's White Sands Test Facility in Las Cruces, New Mexico. The cost-plus-award-fee contract began on February 1, 1994, and ran through April 30, 1999. Negotiated costs total about \$200.1 million.<sup>1</sup> NASA also awarded Allied-Signal the follow-on contract (May 1, 1999, through April 30, 2001) with estimated base costs of about \$45 million. Options could extend the follow-on contract through April 2006.

Allied-Signal has a Government-approved purchasing system and the authority to award subcontracts. The contract requires Allied-Signal to subcontract on a competitive basis to the maximum practical extent. The total value of subcontracts awarded under the contract as of April 30, 1999, was about \$36 million, or about 18 percent of total negotiated costs. For subcontracts valued at more than \$25,000, Allied-Signal must obtain written consent to subcontract from the NASA contracting office before issuing the subcontract.

**Objectives.** The overall audit objective was to determine whether Allied-Signal appropriately awarded and managed subcontracting activities on NASA's contract with Allied-Signal. Additional details on the objectives, scope, and methodology are in Appendix A.

**Results of Audit.** Overall, Allied-Signal officials appropriately awarded and managed subcontracting activities on NASA contract NAS9-95682. NASA officials incorporated required contract clauses into the prime contract, and Allied-Signal officials incorporated the clauses into subcontracts. Also, Allied-Signal officials appropriately obtained consents-to-subcontract for subcontracts valued at more than \$25,000 as required by the contract. However, Allied-Signal did not maintain supporting documentation for three out of the four justifications for noncompetitive procurements that we reviewed. As a result, NASA has reduced assurance that the contractor maximized the competition of its subcontracts.

**Summary of Recommendations.** Management should direct Allied-Signal to maintain adequate documentation to support justifications for noncompetitive procurements.

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<sup>1</sup> The amount consists of \$192.2 million in estimated costs and \$7.9 million in award fees.

Additionally, management should ask the NASA Contracting Officer and the Defense Contract Management Command (DCMC) to include reviews for supporting documentation in their next purchasing system reviews.

**Management's Response.** Management concurred with each recommendation. The complete text of the response is in Appendix B. We consider management's comments responsive.



## **Introduction**

Contract NAS9-95682 gives Allied-Signal authority to subcontract for supplies and services and establishes requirements for that authority.

NASA ensures oversight of contractor management of subcontracts in three ways. First, the DCMC conducts a periodic review of the contractor's purchasing system. A review of the contractor's purchasing system evaluates the efficiency and effectiveness with which the contractor spends Government funds and complies with Government subcontracting policy. The review provides the administrative contracting officer a basis for granting, withholding, or withdrawing approval of the contractor's purchasing system. Second, the administrative contracting officer maintains surveillance of the purchasing program. The administrative contracting officer for Allied-Signal is a DCMC official, located in Towson, Maryland. Based on an April 1998 purchasing system review, the administrative contracting officer approved Allied-Signal's procurement system on August 21, 1998. Third, the NASA contracting officer must maintain surveillance sufficient to ensure that contractor purchasing efforts, in support of NASA contracts, are accomplished appropriately and protect Agency interests. The NASA contracting officer conducts surveillance by performing subcontract consent reviews and periodic reviews of contractor purchasing records and by annually reporting results to the administrative contracting officer. The annual report must designate the types and quantities of deficiencies the contracting officer identified in the reviews, the need for special reviews, and the recommended areas of emphasis for future DCMC purchasing system reviews.

## **Finding and Recommendations**

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### **Supporting Documentation for Noncompetitive Procurements**

For three out of the four noncompetitive procurements we examined, Allied-Signal purchasing department buyers did not maintain documentation to support justifications for noncompetitive procurements. This condition occurred because Allied-Signal purchasing policy does not require Allied-Signal personnel to keep supporting documentation. Additionally, Government oversight reviews of the contractor's procurement system did not include examinations of supporting documentation for noncompetitive procurements. As a result, NASA has reduced assurance that the contractor maximized the competition of its subcontracts.

### **Federal Acquisition Regulation, NASA, and Allied-Signal Requirements**

Federal Acquisition Regulation (FAR), Part 10, "Market Research," requires Government agencies to document the results of market research in a manner appropriate to the size and complexity of the acquisition. To be an effective management control, the documentation should be available and easily accessible for examination.

NASA FAR Supplement, Section 1844, requires the NASA contracting officer to maintain a sufficient level of surveillance to ensure that contractor purchasing efforts in support of NASA contracts are accomplished in an appropriate manner. The surveillance is to be accomplished primarily through performance of subcontract consent reviews,<sup>2</sup> but may include other methods, including periodic reviews of contractor purchasing records. The NASA FAR Supplement does not delineate specific procedures the contracting officer should perform as part of the surveillance review.

To ensure maximum practical competition in subcontract awards, Allied-Signal implemented purchasing policy 202.1W, "Noncompetitive Procurement." The policy requires Allied-Signal personnel, when recommending a noncompetitive procurement to a particular vendor, to prepare a written justification demonstrating the vendor's unique capability. The justification is to describe the steps taken that lead to the conclusion that only a particular source or product can meet the requirement.

### **Justifications for Noncompetitive Procurements**

For three out of the four noncompetitive procurements we reviewed, purchasing department files did not contain documentation that described the marketing survey or that supported statements in the justifications for noncompetitive procurements. For two of the four procurements, the justifications stated that the use of another vendor's product would result in

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<sup>2</sup> The contracting officer must review and consent to Allied-Signal subcontracts costing more than \$25,000.

additional costs of \$15,000 and \$10,000.<sup>3</sup> However, purchasing department files did not document how Allied-Signal personnel determined the additional costs. Allied-Signal officials could not provide supporting documentation to the audit team. For the third noncompetitive procurement, Allied-Signal personnel requesting the purchase stated that they performed a market survey and obtained quotes from six manufacturers for a machining center.<sup>4</sup> The purchasing department file contained copies of some requests for quotes, written quotes from the six vendors, and an analysis that concluded machining centers proposed by five of the vendors did not meet the required specifications. However, the purchasing department file did not contain documentation on the methods Allied-Signal personnel used to develop specifications for the machining center or the date Allied-Signal personnel developed the specifications.

### **Allied-Signal Policy**

Allied-Signal purchasing policy 202.1W does not specifically require Allied-Signal personnel to maintain documentation supporting the justifications for noncompetitive procurements. In addition, the policy does not describe the types of documentation and information that Allied-Signal personnel requesting purchases should develop to support the justifications.

### **Reviews by DCMC and the NASA Contracting Officer**

Prior DCMC and NASA contracting officer reviews of Allied-Signal's purchasing system were not designed for detailed examinations of the contractor's supporting documentation for justifications. In April 1998, DCMC reviewed the Allied-Signal purchasing system and found that Allied-Signal awarded only 12 percent of the total dollar value of sampled subcontracts on a competitive basis. DCMC's report on the review states that Allied-Signal had prepared adequate written justifications for 95 percent of sampled noncompetitive procurements, but DCMC did not examine documentation supporting the justifications.

In September 1998, the contracting officer completed the most recent surveillance review. The review included 10 purchase orders each valued at less than \$25,000 and 13 purchase orders each valued at more than \$25,000. The contracting officer determined the reviewed purchase orders had been adequately completed. As part of the surveillance review, the NASA contracting officer examined documentation in the purchasing department files for the selected purchase orders. However, the surveillance review did not examine documentation supporting the justifications because the documentation is not included in the purchasing department files.

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<sup>3</sup> Justification for Purchase Order 774689 states, "If another machine was purchased, the Government would have to spend approximately \$15,000 in tooling cost for the changeover." Justification for Purchase Order 791029 states, "The MC-70 is not a water-based product and can only be applied during warm months and would also cost approximately \$10,000 more."

<sup>4</sup> Justification for Purchase Order 784609 states, "Six manufacturers provided the specifications for seven different machines."

## **Effect on Competition and Oversight Reviews**

Supporting documentation for justifications of noncompetitive procurements is needed to provide NASA assurance of adequate competition in subcontract awards and to facilitate oversight reviews. Supporting documentation shows evidence of market survey steps and vendor responses. With adequate supporting documentation, NASA has enhanced assurance that Allied-Signal awarded subcontracts to the best available source, despite the absence of competition. Also, Government personnel performing oversight reviews can better assess the justification of a noncompetitive procurement. DCMC and NASA contracting officer oversight reviews should selectively test documentation supporting the written justifications for noncompetitive procurements.

## **Recommendations for Corrective Action**

**The Director, Johnson Space Center, should require the NASA contracting officer to:**

- 1. Direct Allied-Signal to maintain adequate documentation in support of justifications for noncompetitive procurements, including clear and complete descriptions of the methodologies used in the performance of market surveys.**
- 2. Include a review of documentation supporting justifications for noncompetitive procurements in the next contracting officer surveillance review.**
- 3. Request DCMC to include an evaluation of documentation supporting noncompetitive procurement justifications in the next review of Allied-Signal's purchasing system at White Sands Test Facility.**

## **Management's Response**

Management concurred with the findings and recommendations. The contracting officer orally instructed Allied-Signal to reevaluate and modify its policy of not requiring personnel to maintain supporting documentation. Additionally, the contracting officer will include a review of the supporting documentation prior to granting subcontracting consent on all purchase orders costing more than \$25,000, and also coordinate with the cognizant DCMC representative to ensure that the next purchasing system review includes an audit of supporting documentation.

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

The actions planned by management are responsive to the recommendations. After we received management's comments, JSC management stated that within a month of issuance of the final audit report, the contracting officer would issue a written instruction for Allied-

Signal to maintain supporting documentation. Management also stated that DCMC's next purchasing system review on Allied-Signal is tentatively planned for calendar year 2001. Because the review will not be conducted for another 2 years, the contracting officer will wait until then to request that the review include an evaluation of supporting documentation. The recommendations are resolved but will remain undispositioned and open until agreed-to corrective actions are completed.

## Appendix A. Objectives, Scope, and Methodology

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### Objectives

The overall audit objective was to determine whether subcontracting activities on selected NASA prime contracts were appropriately awarded and managed. Specific objectives were to determine whether:

- NASA officials incorporated required contract clauses into the prime contract and whether contractor officials, in turn, incorporated the clauses into subcontracts.
- Contractor officials properly obtained and required consents to subcontract.
- Allied-Signal officials ensured that subcontracts were competed to the maximum extent possible.

### Scope

The audit scope considered subcontract awards for the period January 1996 through May 1998. During the period, Allied-Signal had 200 total subcontract awards valued at \$6.9 million. We selected a random sample of 31 subcontracts valued at \$3 million. The random sample included 13 competitively awarded subcontracts totaling \$1.4 million and 18 sole-source subcontracts totaling \$1.6 million.

### Methodology

For our first objective, we judgmentally selected required clauses and reviewed prime contract documents for those clauses. For the second objective, we compared consent-to-subcontract documents with subcontract dates. The comparison included documents for the period February 1996 through May 1998. For the third objective, we reviewed sample subcontract file documentation, interviewed Allied-Signal contractor and subcontractor personnel, and compared solicitation due dates to actual receipt dates.

### Management Controls Reviewed

The audit tested management controls in the solicitation and award of subcontracts. We considered management controls to be adequate except for documentation to support the justification of noncompetitive procurements as discussed in the finding.



## **Appendix A**

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### **Computer-Processed Data**

We obtained computer-processed data on subcontract awards and tested the data by (1) comparing data to source documents for the sampled subcontracts and (2) reconciling computer totals with other records and documents. The tests showed that the computer-processed data were sufficiently reliable to be used in meeting the audit objectives.

### **Audit Field Work**

We conducted audit field work from July 1998 through May 1999 at Johnson Space Center and the White Sands Test Facility and at Allied-Signal subcontractor locations in Texas, New Mexico, and Arizona. We performed the audit in accordance with generally accepted government auditing standards.



## Appendix B. Management's Response

National Aeronautics and  
Space Administration  
**Lyndon B. Johnson Space Center**  
2101 NASA Road 1  
Houston, Texas 77058-3696



Reply to Attn of: BD5

SEP 9 1998

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

FROM: AA/Director

SUBJECT: Management Response to OIG's Draft Audit Report on Allied-Signal  
Subcontract Management, Assignment No. A-HA-98-039

We have reviewed the subject draft report and appreciate the opportunity to provide comments. We are pleased that your findings confirm that Allied-Signal officials are appropriately awarding and managing subcontract activities and that required clauses are being incorporated into the prime and subcontracts.

We acknowledge changes made to the draft report following our earlier review and discussions of audit findings, which now allow us to concur with the audit recommendations. We welcome any findings which help to improve our contract management oversight and provide overall better service. Detailed information regarding on-going actions in response to the audit findings and recommendations is found in the enclosure. If you have any questions regarding this response, please contact Ms. Pat Ritterhouse, Audit Liaison Representative, at 281-483-4220.

A handwritten signature in cursive script that reads "George W. S. Abbey".

George W. S. Abbey

Enclosure

cc:  
RE/V. Brown  
W-JSC/D. Orton  
HQ/H/J. Horvath  
HQ/JM/J. D. Werner  
HQ/MX/G.A. Gabourel  
JPL/W/L. A. Dear

Management Response to OIG's Draft Audit Report on Allied-Signal  
Subcontract Management, Assignment No. A-HA-98-039

**Auditor's Findings**

"Overall, Allied-Signal officials appropriately awarded and managed subcontracting activities on NASA contract NAS9-95682. NASA officials incorporated required contract clauses into the prime contract, and Allied-Signal officials incorporated the clauses into subcontracts. Also, Allied-Signal officials appropriately obtained consent-to-subcontract for subcontracts valued at more than \$25,000, as required by the contract. However, Allied-Signal did not maintain supporting documentation for three out of the four justifications for noncompetitive procurements that we reviewed. As a result, NASA has reduced assurance that the contractor maximized the competition of its subcontracts."

**Recommendations for Corrective Actions**

"The Director, Johnson Space Center, should require the NASA contracting officer to:

1. Direct Allied-Signal to maintain adequate documentation in support of justifications for noncompetitive procurements, including clear and complete descriptions of the methodologies used in the performance of market surveys.
2. Include a review of documentation supporting justifications for noncompetitive procurements in the next contracting officer surveillance review.
3. Request DCMC to include an evaluation of documentation supporting noncompetitive procurement justifications in the next review of Allied-Signal's purchasing system at White Sands Test Facility."

**JSC's Comments**

We concur with your findings, and will take the appropriate actions detailed in the recommendations for corrective action. Allied-Signal has acknowledged that supporting documentation was incomplete, and actions are underway to ensure proper procedures are followed to substantiate procurement actions. The contracting officer has instructed AlliedSignal to re-evaluate and modify its policy of not requiring personnel to maintain supporting documentation. Additionally, the contracting officer will include a review of the supporting documentation prior to granting subcontracting consent on all purchase orders over \$25,000. The Federal Acquisition Regulation (FAR) currently requires that only files in excess of \$100,000 are reviewed for subcontract consent, however in light of this audit the contracting officer has elected to maintain a more rigid surveillance. The contracting officer will also coordinate with the cognizant Defense Contract Management Command (DCMC) representative to ensure that the next purchasing system review includes an audit of supporting documentation. Implementation of these actions will correct the referenced audit findings.

Enclosure

## Appendix C. Report Distribution

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### **National Aeronautics and Space Administration (NASA) Headquarters**

A/Administrator  
AI/Associate Deputy Administrator  
AO/Chief Information Officer  
B/Chief Financial Officer  
B/Comptroller  
BF/Director, Financial Management Division  
G/General Counsel  
H/Associate Administrator for Procurement  
J/Associate Administrator for Management Systems  
JM/Director, Management Assessment Division  
L/Associate Administrator for Legislative Affairs  
M/Associate Administrator for Space Flight

### **NASA Centers**

Director, Lyndon B. Johnson Space Center  
Chief Counsel, John F. Kennedy Space Center  
Director, White Sands Test Facility

### **Non-NASA Federal Organizations and Individuals**

Assistant to the President for Science and Technology Policy  
Deputy Associate Director, Energy and Science Division, Office of Management and Budget  
Branch Chief, Science and Space Programs Branch, Energy and Science Division, Office of Management and Budget  
Associate Director, National Security and International Affairs Division, Defense Acquisitions Issues, General Accounting Office  
Professional Assistant, Senate Subcommittee on Science, Technology, and Space

### **Chairman and Ranking Minority Member – Congressional Committees and Subcommittees**

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Senate Subcommittee on VA, HUD, and Independent Agencies  
Senate Committee on Commerce, Science, and Transportation  
Senate Subcommittee on Science, Technology, and Space  
Senate Committee on Governmental Affairs

**Chairman and Ranking Minority Member – Congressional Committees and Subcommittees (Cont.)**

House Committee on Appropriations

House Subcommittee on VA, HUD, and Independent Agencies

House Committee on Government Reform and Oversight

House Subcommittee on National Security, Veterans Affairs, and International Relations

House Committee on Science

House Subcommittee on Space and Aeronautics

**Congressional Member**

Honorable Pete Sessions, U.S. House of Representatives

## **Major Contributors to the Report**

Lorne A. Dear, Program Director, Procurement Audits

Nora E. Thompson, Audit Program Manager

Douglas Orton, Auditor-in-Charge

Melody C. Coston, Team Auditor

Nancy C. Cipolla, Report Process Manager

Christina Head, Program Assistant