

IG-97-031

**AUDIT  
REPORT**

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**CONSOLIDATED NETWORK AND MISSION  
OPERATIONS SUPPORT (CNMOS)  
CONTRACT**

**JULY 18, 1997**

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National Aeronautics and  
Space Administration

**OFFICE OF INSPECTOR GENERAL**

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Reply to Attn of:

W

July 18, 1997

**TO:** Goddard Space Flight Center  
Attn: 100/Center Director

**FROM:** W/Acting Assistant Inspector General for Auditing

**SUBJECT:** Consolidated Network and Mission Operations Support (CNMOS) Contract  
Assignment Number A-HA-97-007  
Report Number IG-97-031

Enclosed is a final report on our audit of the CNMOS Contract. The audit showed that NASA experienced several problems with implementing Performance Based Contracting (PBC) on the CNMOS contract, and that the resulting "lessons learned" were not provided to the Office of Space Operations at Lyndon B. Johnson Space Center (JSC). We recommend that the GSFC Mission Operations and Data Systems Directorate take actions to keep the Office of Space Operations informed of the problems encountered with implementing PBC. This will ensure that the Office of Space Operations does not encounter similar problems on the planned Consolidated Space Operations Contract (CSOC).

We issued a draft report on June 10, 1997. The Center's official response was received on June 30, 1997. We include the Center's response after the report's recommendation and present it entirely as Appendix 1 to the report. The response indicates that management has planned corrective actions that are considered responsive to the intent of the recommendation. We, therefore, consider the recommendation closed for reporting purposes.

If you have any questions, please contact Kevin J. Carson, Acting Program Director for MTPE and Communications at Goddard Space Flight Center on (301) 286-0498, Daniel J. Samoviski, Acting Director, Audit Division-A at Headquarters, or me on (202) 358-1232.

A handwritten signature in cursive script that reads "Robert J. Wesolowski".

Robert J. Wesolowski

Enclosure

cc:  
H/D. Lee  
JM/D. Green  
JSC/TA/J. O'Neill  
GSFC/W/K. Carson  
201/J. Clark



## BACKGROUND

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On April 15, 1996, NASA, the AlliedSignal Technical Services Corporation (ATSC) and the Computer Sciences Corporation (CSC) signed a tripartite agreement. The agreement consolidated the CSC contract (NAS5-31500) for Systems, Engineering, and Analysis Support (SEAS) and the ATSC contract (NAS5-32153) for Operation and Maintenance of Radar Telecommunications at the Wallops Flight Facility, into a single contract (NAS5-31000) with ATSC for Network and Mission Operations Support (NMOS). Contract NAS5-31000 is now known as the Consolidated Network and Mission Operations Support (CNMOS) Contract. CSC is a subcontractor to ATSC under the consolidated contract. The purpose of the consolidation is to provide NASA with cost savings and performance efficiencies.

ATSC and CSC advocated a performance-based contracting approach to achieve the cost reductions needed to offset NASA budget cuts. Performance-Based Contracting (PBC) is contracting for results, not just best efforts, and structures all aspects of an acquisition around the purpose of the work to be done. A PBC contract must have performance standards, and some kind of contract performance incentive, positive or negative, explicit or implicit. This approach shifts performance responsibility and financial risk to the prime contractor. It provides the prime contractor the discretion, flexibility and incentives needed to cut operating costs and enables significant reductions in, and the reassignment of, agency personnel.

On the CNMOS contract, cost savings are targeted and incentivized using a "share cost savings clause." The contractor receives 20 percent of the costs saved, which will be split between ATSC and CSC based on the fees they received for FY 95. NASA established a cost savings goal of \$40 million from the estimate-to-complete for CNMOS (April 15, 1996 through September 30, 1997).

The CNMOS contract uses Service Level Agreements (SLAs) and General Support Agreements (GSAs) to establish performance requirements and metrics. SLAs are agreements between NASA and the contractor for providing services at a specified price and in a specified time. SLAs also contain criteria for determining contractor performance. GSAs are agreements between NASA and the contractor to provide general support to various NASA Branches and Divisions. GSAs contain criteria for determining contractor performance, but are not as detailed as the SLAs. Current plans are for CNMOS work to be performed under 16 SLAs and 11 GSAs.

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# **OBJECTIVE, SCOPE, AND METHODOLOGY**

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## ***OBJECTIVE***

The audit objective was to determine the successes and problems experienced, to date, on the CNMOS contract implementation to identify “lessons learned” for future NASA consolidation efforts, particularly the planned Johnson Space Center (JSC) Consolidated Space Operations Contract.

## ***SCOPE AND METHODOLOGY***

We reviewed:

- NASA guidelines, practices and procedures concerning the implementation of Performance-Based Contracting (PBC). (This included the review of SLA and GSA practices and procedures.)
- May 1996, NASA At A Glance: Procurement Initiatives-PBC.
- March 1996 NASA white paper that summarizes how the agency should implement the PBC initiative.
- February 1996 PBC awareness program questions/comments and answers document.
- The CNMOS contract files to determine if NASA evaluated the contractor’s cost reduction proposal.

The implementation of PBC, including the contractor and NASA’s efforts before and after the consolidation, were discussed with NASA and contractor personnel, and CNMOS customers.

## ***AUDIT FIELD WORK***

We conducted audit field work from October 1996 through February 1997 at the Goddard Space Flight Center (GSFC), and at ATSC, Seabrook, Maryland. We performed the audit in accordance with generally accepted government auditing standards.

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## **OBSERVATION AND RECOMMENDATION**

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### ***OVERALL EVALUATION***

NASA successfully transitioned to the CNMOS contract. However, NASA experienced problems with implementing a PBC. In addition, “lessons learned” while implementing the PBC were not formally forwarded to the Office of Space Operations, JSC. The Mission Operations and Data Systems Directorate at GSFC should take actions to keep the Office of Space Operations informed of the problems encountered with implementing the PBC and the resulting “lessons learned.” This will ensure that the Office of Space Operations does not encounter similar problems on the planned Consolidated Space Operations Contract (CSOC).

### ***NASA ADMINISTRATOR DIRECTS THAT PBC BE IMPLEMENTED IMMEDIATELY***

In a March 18, 1996 memorandum, the NASA Administrator directed implementation of PBC immediately throughout the agency. The memorandum included a “white paper” summarizing how NASA should implement the PBC initiative. The “white paper” states that existing contracts will be reformed to a PBC only if NASA can realize a significant cost savings and it does not adversely affect the ongoing mission. Further, progress in implementing PBC throughout NASA will be measured quarterly.

### ***PROBLEMS ENCOUNTERED WITH IMPLEMENTING PBC ON THE CNMOS CONTRACT***

NASA encountered problems with the transition to a PBC on the CNMOS contract. Specifically, NASA and contractor employees were not properly prepared for the reformation of the NMOS and SEAS contracts to CNMOS under a PBC. The problems encountered were with (1) communications, (2) training on PBC, (3) policies and procedures on PBC, and (4) PBC concepts such as SLAs and GSAs. We detail these problems in the following paragraphs.

- NASA personnel involved with the CNMOS contract expressed concern that insufficient communications hampered the transition process. For example, communication problems between the teams that were set up to plan the transition resulted in two of the teams (Scope of Work and Transition Teams) working on the same product. This occurred because there was no formal procedure for communicating decisions made by one team to the other.
- NASA personnel responsible for administering SLAs and GSAs also mentioned the lack of formal or timely training in PBC as a problem. Many mentioned that they were given responsibility for SLAs and GSAs and either received no formal training, or were provided informal training after they

made the transition. Personnel stated they had to “learn as they go” about their responsibilities concerning administration of SLAs and GSAs.

- Concern was expressed that formal policies and procedures for PBC were not available before the transition. Specifically, policies and procedures about the respective roles and responsibilities of the personnel administering SLAs and GSAs did not exist. As a result, there was confusion about what constituted an SLA or GSA. Further, some SLA administrators stated that they did not believe their areas should have been classified as SLAs.
- There was a misunderstanding of PBC concepts such as SLAs and GSAs because procurement personnel were not involved early in the transition process. This resulted in NASA administrators preparing technical directives that were not the proper form of directive for CNMOS. Further, because of unfamiliarity, the contractor had to develop many SLAs and GSAs. This resulted in the contractor developing the metrics by which the government would evaluate performance, although the government had final approval of these metrics.

***SIMILAR  
PROBLEMS  
IDENTIFIED IN  
RED TEAM REPORT***

On October 28, 1996, the CNMOS Red Team issued a report. The team was tasked with analyzing and evaluating the CNMOS transition, including the decision-making structure. The report highlighted many of the same problems identified above. Among the team’s conclusions were:

*“It is clear that the process created confusion and uncertainty for a large number of individuals, both civil servants and contractors. The major problems stemmed from operating without consulting customers, without the full participation of line management, and without sufficient and timely feedback. In future reengineering efforts, it is recommended that more attention be paid to communication, that all involved parties be consulted with and kept informed, and that all functions be represented in the process.”*

Although these problems and “lesson learned” would be helpful to the CSOC’s Source Evaluation Board, they were not provided to the JSC Office of Space Operations until the OIG brought it to their attention.

***AUGUST 1  
DEADLINE CAUSED  
PROBLEMS TO  
OCCUR***

The problems mentioned above occurred because the CNMOS Project Management Team set a deadline of August 1, 1996 for the establishment of the SLAs and GSAs. Because this was a short time to implement an entirely new concept such as PBC, NASA personnel responsible for administering SLAs and GSAs did not receive sufficient training or guidance, and prompt communication of issues was not always possible.

Although none of these problems prevented NASA from successfully transitioning to the CNMOS contract, efforts to learn from them will ensure easier implementation on future PBC efforts. As a result, future NASA PBC procurement efforts, specifically CSOC, could experience similar problems if lessons learned and progress experienced with implementing PBC on CNMOS is not properly communicated.

***RECOMMENDATION 1***

The Mission Operations and Data Systems Directorate at GSFC should have periodic meetings/exchanges with the Office of Space Operations at JSC to share problems encountered and “lessons learned” with the implementation of PBC on CNMOS.

***MANAGEMENT'S  
RESPONSE***

Concur. We agree with the OIG's recommendation that the Mission Operations and Data Systems Directorate at GSFC should have periodic meetings/exchanges with the Office of Space Operations (OSO) at Johnson Space Center to share problems encountered and lessons learned with the implementation of performance-based contracting on CNMOS. We had provided much information to JSC that formed the basis of the Consolidated Service Level Agreement approach used in the Consolidated Space Operations Contract (CSOC) Request for Proposal. As we continue our experiences on the CNMOS contract, we will formally brief members of the OSO and members of the CSOC Source Evaluation Board on our experiences.

***EVALUATION OF  
MANAGEMENT'S  
RESPONSE***

The actions planned are considered responsive to the intent of the recommendation.

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Management's Response

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



Reply to Attn of: 201

JUN 30 1997

**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 Audit of Consolidated Network and Mission Operations Support (CNMOS) Contract, A-HA-97-007

**REF:** Memo to GSFC/100/J. Rothenberg from HQ/W/R. Wesolowski, dtd. 6/10/97

We appreciate the opportunity to review and respond to the findings and recommendation in the OIG's draft report dated June 5, 1997, and appreciate the changes that the OIG made based on information we provided on May 23, 1997.

We agree with the OIG's recommendation that the Mission Operations and Data Systems Directorate at GSFC should have periodic meetings/exchanges with the Office of Space Operations (OSO) at Johnson Space Center (JSC) to share problems encountered and lessons learned with the implementation of performance-based contracting on CNMOS. We had provided much information to JSC that formed the basis of the Consolidated Service Level Agreement (CSLA) approach used in the Consolidated Space Operations Contract (CSOC) Request for Proposal. As we continue our experiences on the CNMOS contract, we will formally brief members of the OSO and members of the CSOC Source Evaluation Board on our experiences.

We request that this recommendation be closed for reporting purposes.

If you have any questions or need further assistance related to this audit, please call Mr. Richard Tagler, the Action Official, at 301-286-7213 or call Ms. Barbara Sally, GSFC Audit Liaison Specialist, at 301-286-8436.

  
Joseph H. Rothenberg

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JUN 30 1997  
COMMUNICATIONS SECTION

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**MAJOR CONTRIBUTORS TO THIS AUDIT**

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