

**AUDIT
REPORT**

**CONSOLIDATED SPACE OPERATIONS
CONTRACT: EVALUATING AND
REPORTING COST SAVINGS**

August 31, 2001



National Aeronautics and
Space Administration

OFFICE OF INSPECTOR GENERAL

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Acronyms

CSLA	Contract Service Level Agreement
CSOC	Consolidated Space Operations Contract
FY	Fiscal Year
OMB	Office of Management and Budget
PSLA	Project Service Level Agreement
SOMO	Space Operations Management Office

W

August 31, 2001

TO: A/Administrator

FROM: W/Inspector General

SUBJECT: INFORMATION: Consolidated Space Operations Contract:
Evaluating and Reporting Cost Savings
Report Number IG-01-029

The NASA Office of Inspector General conducted an audit of the Consolidated Space Operations Contract (CSOC). NASA estimated that by consolidating existing space operations¹ contracts under this one contract, savings of \$1.4 billion dollars over 10 years would be achieved. We found that NASA cannot substantiate the \$62 million of cost savings reported to the Congress for the first 2 years of the CSOC. As a result, the Congress and NASA cannot evaluate current cost savings for the CSOC or whether it will achieve the anticipated \$1.4 billion cost savings through fiscal year (FY) 2008. Because NASA has reduced future operating budgets in anticipation of projected savings, it is imperative that the Agency determines whether current and anticipated cost savings are being achieved under the CSOC.

Background

The Space Operations Management Office (SOMO) at Johnson Space Center (Johnson) awarded the cost-plus award fee CSOC to Lockheed Martin Space Operations Company (Lockheed) on September 25, 1998. The CSOC reflects a consolidation of most existing NASA-wide space operations contracts. Lockheed has a supporting team consisting of Allied Signal, Booz-Allen Hamilton, Computer Sciences Corporation, GTE Government Systems Corporation, and about 36 subcontractors. The total contract is valued at more than \$3.6 billion and includes a 5-year base period and a 5-year option period.

The Senate Appropriations Committee recognized in Report 105-216 the critical nature of continuing efforts to consolidate and increase the efficiencies of NASA's space communications activities. The Senate report directed NASA to report semiannually to the Congress the expected savings under CSOC, beginning April 30, 1999, and continuing through December 31, 2005. NASA has provided three reports as directed. In

¹Space operations are those activities that provide products and services to enable the utilization and exploration of space.

its third report, dated October 21, 2000, NASA stated that the budget for CSOC already accounts for \$62 million in savings through FY 2000 and that the CSOC remains on track to achieve the projected savings of \$1.4 billion through FY 2008.

The Office of Management and Budget (OMB) defines cost savings as a reduction in actual expenditures below the projected level of costs to achieve a specific objective.² NASA did not perform an analysis to compare actual expenditures with projected costs of the CSOC but relied on budget reductions for evaluating and reporting cost savings to the Congress.

Recommendations

We recommended that NASA evaluate and report cost savings based on the accumulation of actual costs for work performed under the contract. This action helps ensure that NASA and the Congress will have valid information upon which to evaluate whether CSOC will achieve its anticipated savings. We also recommended that NASA revise, in future reports to the Congress, cost savings previously reported to reflect savings based on actual costs.

Management's Response and OIG Evaluation

NASA nonconcurred with the recommendations. NASA stated that the anticipated savings from CSOC of \$1.4 billion were based on a mission model³ that is no longer valid. NASA has now aligned its mission operations services with current mission models and is tracking costs differently. The Agency stated that it does not plan to report cost savings in the future because any report based on the original model would reflect an inaccurate picture of costs and savings.

During a meeting to discuss the response, an Office of Space Flight official informed us that the NASA Office of Legislative Affairs is drafting a letter to the Congress that will seek a waiver from the requirement to report cost savings. While a waiver, if granted, would relieve NASA of the congressional reporting requirement, the Agency must develop a method to evaluate the success of the consolidating space operations contracts. The waiver request should contain a full disclosure of why cost savings reports cannot be provided and should outline how the Agency is currently tracking costs. We asked that management provide a copy of the letter and congressional response for our review. At this time, however, NASA is still obligated to report cost savings as directed.

² OMB Circular A-131, "Value Engineering" dated May 21, 1993, contains the definition of cost savings.

³ Addendum A to the CSOC contains a mission set. This set, or model, lists the missions for which the contractor will provide space operation services during the life of the contract. The model identifies the mission phase, the mission launch date, mission potential stop date, and mission committed stop date.

Accordingly, we are restating our recommendations pending the congressional decision about NASA's request.

Details on the status of the recommendations are in the recommendations section of the report.

[original signed by]

Roberta L. Gross

Enclosure

Final Report on Audit of the Consolidated Space Operations Contract: Evaluating and Reporting Cost Savings

**CONSOLIDATED SPACE OPERATIONS CONTRACT:
EVALUATING AND REPORTING COST SAVINGS**

W

August 31, 2001

TO: M/Associate Administrator for Space Flight

FROM: W/Acting Assistant Inspector General for Audits

SUBJECT: Final Report on Audit of the Consolidated Space Operations Contract: Evaluating and Reporting Cost Savings
Assignment Number A-00-004-01
Report Number IG-01-029

The subject final report is provided for your use and comment. Please refer to the Results in Brief section for the overall audit results. Our evaluation of your response is incorporated into the body of the report. With respect to management's nonconurrence with the recommendations, we request that management submit additional comments by October 30, 2001, as discussed in our meeting with Office of Space Flight officials regarding the draft report. Specifically, please provide a copy of the letter requesting a waiver from the requirement to report cost savings contained in Senate Report 105-216 and the congressional response to the request. The recommendations will remain open for reporting purposes.

If you have questions concerning the report, please contact Mr. Daniel Samoviski, Program Director, Program/Project Management Audits, at (301) 286-6890; Ms. Esther Judd, Program Manager, at (301) 286-3359; or Ms. Clara L. Seger, Auditor-in-Charge, at (321) 867-4715. We appreciate the courtesies extended to the audit staff. The final report distribution is in Appendix E.

[original signed by]

Alan J. Lamoreaux

Enclosure

cc:

B/Acting Chief Financial Officer

B/Comptroller

BF/Director, Financial Management Division

G/General Counsel

JM/Director, Management Assessment Division

L/Acting Associate Administrator for Legislative Affairs

JSC/AA/Acting Director, Lyndon B. Johnson Space Center

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NASA Office of Inspector General

IG-01-029
A-00-004-01

August 31, 2001

Consolidated Space Operations Contract: Evaluating and Reporting Cost Savings

Introduction

In response to the challenge of the National Performance Review to provide higher quality service at lower cost, NASA and other Government agencies began to restructure their individual roles and responsibilities. As part of the NASA restructuring, the NASA Administrator designated Johnson as the Lead Center for Space Operations. The SOMO at Johnson is responsible for the CSOC.

The current basic CSOC value is about \$1.9 billion. Additional services may be transitioned to the contract and it may be extended through the exercise of options that could increase the value by about \$1.7 billion.

The stated goals of the contract award were excellent services at significantly reduced cost; a shift of responsibility and accountability to industry; an Integrated Operations Architecture (IOA)⁴ that reduced unnecessary duplication and life-cycle cost; streamlined processes and minimized intermediaries; and the adoption of commercial practices and services. NASA anticipated that attaining these goals should substantially reduce costs. NASA projected savings of \$1.4 billion over 10 years from the award of CSOC to Lockheed.

Our audit objective was to determine whether the projected benefits of contract consolidation have been realized. This report identifies a condition regarding NASA's inability to substantiate whether cost savings have been achieved under the CSOC. Details on the objectives, scope, and methodology are in Appendix A.

Results in Brief

NASA cannot substantiate the \$62 million of cost savings reported to the Congress for the first 2 years of the CSOC. NASA based the reported cost savings on budget reductions rather than on an analysis of actual costs for work performed under the contract. As a result, the Congress and NASA cannot evaluate current cost savings for the CSOC or whether it will achieve the anticipated \$1.4 billion cost savings through FY 2008.

⁴ The IOA consists of an operations concept, a plan for developing the hardware and facilities, and the blueprints for the plan to provide space operations services under the CSOC.

Background

The CSOC consolidates the management of all of NASA's data collection, telemetry,⁵ and communications operations supporting Earth-orbiting satellites, planetary exploration, and human space flight activities under one contract. NASA's expectation is that the CSOC contractor will leverage aerospace industry experience with commercial expertise, processes, and services to develop innovative and cost-effective solutions for providing effective mission and data services.

CSOC services are performed in accordance with service-level agreements between the contractor and NASA. There are two types of agreements: contract service-level agreement (CSLA) and project service-level agreement (PSLA). The CSLA obligates the contractor to provide the services described in the contract statement of work for the total contract period. The PSLA is a commitment between the SOMO and its customers that may include a subset of CSOC-related activities such as processing and storage of data. The terms and conditions of each PSLA detail the scope of work for that project, the required levels of service in service units,⁶ and other project-unique requirements with performance expectations.

Our prior report⁷ on CSOC focused on whether NASA had performed sufficient analysis before completing the consolidation of future contracts and in preparation for exercising future CSOC contract options. Our current report addresses the Agency's support for CSOC cost savings reported to the Congress.

⁵ Telemetry is the technology of automatic measurement and transmission of data by wire, radio, or other means from remote sources, as from space vehicles, to a receiving station for recording and analysis.

⁶ Service units are measurements, such as quantity of data stored, that are established by the contractor in order to express service prices as unit prices.

⁷ We issued IG-00-043, "Consolidated Space Operations Contract—Cost-Benefit Analysis and Award Fee Structure," on September 20, 2000.

Substantiating the Cost Savings

Congressional Requirement to Report Cost Savings. Senate Report 105-216, accompanying the FY 1999 VA-HUD-Independent Agencies appropriations bill, directed NASA to report semiannually to the Congress the expected savings under CSOC, beginning April 30, 1999, through 2005. The Senate Appropriations Committee recognized in Report 105-216 the critical nature of continuing efforts to consolidate and increase the efficiencies of NASA's space communications activities. The Committee stated that cost savings reports submitted by NASA are intended to enable the Committee to evaluate whether CSOC will achieve its anticipated savings.

Report to the Congress. NASA has provided three reports to the House Subcommittee on VA-HUD-Independent Agencies as directed. In its first two reports, dated July 21, 1999, and May 30, 2000, NASA reported no cost savings. The reports explained that savings in the early years of the contract would be minimal because efficiencies gained by the contractor through initial contract consolidations would be offset by investments in new operations architecture. In its third report, dated October 21, 2000, NASA stated that the budget for the CSOC already accounts for \$62 million in savings through FY 2000 and that the CSOC remains on track to achieve projected savings of \$1.4 billion through FY 2008.

CSOC Cost Savings Comparison Report. In April 2000, the Office of Space Flight's Director of Resources Management for Space Communications developed a cost savings comparison (portions are in Appendix B) to support the report to the Congress. NASA based the reported \$62 million savings on the comparison. The comparison indicates that:

- Original savings anticipated were achieved by budget reductions.
- NASA projected CSOC original cost savings of \$1.4 billion by comparing the Government estimate of \$4.8 billion⁸ with the contractor's proposed amount of \$3.4 billion.
- NASA arrived at the current savings of \$62 million (\$16 million in FY 1999 and \$46 million in FY 2000) by adjusting the original savings by additional savings assumed.⁹

⁸The CSOC Source Evaluation Board, appointed by NASA to evaluate CSOC proposals, did not perform a technical analysis or comparison of the current baseline with the contractor's proposal to arrive at the Government estimate prior to award of the contract as required by Federal Acquisition Regulation (FAR) Subpart 15.305, "Proposal Evaluation," and NASA FAR Supplement 1815.305. Consequently, NASA does not have the benefit of using the results from such an analysis to determine cost savings.

⁹ The additional assumed, or expected, savings resulted from contract changes and deferrals.

The OMB defines cost savings as a reduction in actual expenditures below the projected level of costs to achieve a specific objective. NASA based its determination of cost savings on SOMO budget reductions. NASA officials stated they reduced the FY 1999 SOMO budget by \$220 million for the 5-year period FY 1999 through FY 2003 in anticipation of cost savings. Although the CSOC is operating within the reduced budget guidelines, we believe budget data is not sufficient to determine whether cost savings have occurred under the contract. Other factors such as contract changes resulting from reductions or postponement of work included in the contract may be responsible for the cost savings reported.

Further, before reporting semiannually to the Congress, NASA did not perform an analysis to compare actual expenditures with projected costs of the CSOC, but relied on budget reductions for evaluating and reporting cost savings. OMB supports performing analyses of past experience to determine whether initial estimates were valid.¹⁰ Without this type of analysis, NASA cannot substantiate current or anticipated cost savings reported to the Congress.

Indicators on Cost Savings

We identified two indicators that NASA's identified cost savings may not be factual. First, some current CSOC customers indicated that services cost more under CSOC than under previous contracts. Second, the contractor has not provided the SOMO accurate and timely cost information on which NASA can evaluate cost savings.

Customer Survey. We administered a customer satisfaction survey to 80 NASA program and project managers who currently use CSOC services. Eighteen of the customers responded to the survey. Eighty-six percent of those who responded indicated that services cost more compared to the previous service provider.¹¹ While the responses to the survey do not provide conclusive evidence that costs are higher under CSOC, they do indicate that the reported cost savings may not be valid.

Contractor's Cost Reporting. The SOMO's evaluation of the contractor's performance for the 6-month award fee period ending December 31, 2000, noted program and business management weaknesses.¹² Specifically, the contractor's failure to provide accurate and timely cost information to NASA has resulted in the SOMO's and CSOC customers' low level of confidence in relying on the CSOC pricing for services. This information is vital to the SOMO and CSOC customers because they will use it to plan future missions and

¹⁰ OMB Circular A-94, "Discount Rates to be Used in Evaluating Time-Distributed Costs and Benefits," October 29, 1992, notes the value of retrospective studies or analyses to determine whether anticipated benefits have been realized.

¹¹ SOMO officials explained that prices to the customer are higher under CSOC because they contain elements that were previously funded by SOMO but must now be funded by the customer.

¹² The CSOC includes an award fee plan. In accordance with the plan, NASA evaluates the contractor's performance after each 6-month period to determine the amount of award fee the contractor has earned.

prepare budgets. The SOMO's evaluation also stated that for the award fee period ending December 31, 2000, the contract incurred a significant cost overrun¹³ of about \$29.1 million.

Conclusion

The validity of savings reported to the Congress is questionable based on the lack of a detailed cost savings analysis by NASA combined with customers' perceptions that costs are higher and management's lack of confidence in the contractor's cost information. Further, NASA has reduced future SOMO operating budgets in anticipation of savings; therefore, it is imperative that the Agency determines whether current and anticipated cost savings are being achieved under CSOC and base reports to the Congress on actual cost savings achieved through the contract consolidation. Management should also revise amounts previously reported to the Congress to reflect cost savings based on actual costs.

Recommendations, Management's Response, and Evaluation of Response

The Associate Administrator for the Office of Space Flight should:

- 1. Evaluate and report CSOC savings based on the accumulation of actual costs for the work performed under the contract.**

Management's Response. Nonconcur. NASA accumulates actual costs under the CSOC contract. However, NASA does not plan to report cost savings in the future. NASA based anticipated savings on a mission model that is no longer valid. NASA has now aligned its mission operations services with current mission models. Therefore, any future report that is based on an outdated mission model would reflect an inaccurate picture of costs and savings. The complete text of management's response is in Appendix C.

Evaluation of Management's Response. NASA's comments are nonresponsive to the recommendation. During a follow-up discussion regarding the comments, the Deputy Associate Administrator for Space Communications, Office of Space Flight, informed us that in lieu of further cost savings reports to Congress, the NASA Office of Legislative Affairs was preparing a letter to request a waiver from the requirement to report cost savings. However, NASA would continue to report on commercialization and other efficiencies achieved under the contract. At this time, NASA is still obligated to report cost savings as directed. Accordingly, we are restating our recommendation pending the congressional decision about NASA's request.

¹³ Overrun on a contract occurs when the actual cost of work performed exceeds the budgeted cost of work performed.

2. Revise, in future reports to the Congress, cost savings amounts previously reported to reflect savings based on actual costs.

Management's Response. Nonconcur. Because NASA has aligned its mission operations services with current mission models, the Agency is tracking its costs differently and does not intend to report cost savings.

Evaluation of Management's Response. NASA's comments are nonresponsive to the recommendation. In addition to requesting a waiver from the future reporting requirement as discussed in recommendation 1, the Agency must also obtain relief from the requirement to report prior period cost savings from initial contract award to the current reporting period. The relief is necessary because NASA cannot support amounts initially reported and NASA does not have a methodology for calculating and reporting cost savings to the Congress from prior periods. The waiver request should contain a full disclosure of why NASA cannot provide cost savings reports and should outline how the Agency is currently tracking costs. Therefore, we are restating our recommendation pending the congressional decision regarding NASA's request. We ask that the NASA Office of Legislative Affairs provide us a copy of the letter to the Congress and the congressional response when it is received. At that time, we will reevaluate the status of recommendations 1 and 2, and notify management in writing of our results.

Additional OIG Comments

In its response to our prior report IG-00-043, management concurred with the recommendations to perform cost benefit analysis prior to exercising any contract options and to evaluate at least annually whether the projected benefits have been realized. The Agency cited three sources of information it uses to evaluate whether the projected benefits have been realized: (1) SOMO tracks cost savings for the Agency, and the CSOC contractor holds quarterly Cost Savings Profile Reviews with SOMO; (2) the evaluation of the contractor's performance against the cost baseline is performed quarterly during the award fee evaluation and under the look-back award fee evaluation; and, (3) as directed in Senate Report 105-216, NASA reports CSOC savings semiannually to the Congress. We have been unable to confirm cost savings from any of these sources as described below. Consequently, the recommendations in the prior report remain open.

- **Contractor's Quarterly Cost Savings Profile Reviews.** When we requested copies of the cost savings profiles for our review, the SOMO Business Manager at Johnson indicated a low level of confidence in the contractor's information. Alternatively, he suggested that it would be more meaningful to review a separate analysis that he had performed and provided to NASA Headquarters. However, his separate analysis was based on the mission model that in its response to this draft report, NASA stated was no longer valid.

- Performance Against the Cost Baseline. In the evaluation narrative for the award fee period ending December 31, 2000, the Agency noted weaknesses in the contractor's cost reporting system and stated that the contractor has not provided to the SOMO accurate and timely cost information on which NASA can evaluate cost savings. Consequently, in our view, the Agency's ability to accurately determine cost savings under the contract from award fee evaluations is questionable.
- Agency Cost Savings Reports to Congress. The Agency cannot substantiate cost savings reported to the Congress for the first 2 years of the CSOC. This issue is the subject of this report.

The Acting Assistant Inspector General for Audits notified the Agency in a letter to the Office of Space Flight on June 27, 2001, of our decision to terminate audit work under the CSOC assignment with the issuance of this report in final form (see Appendix D). We may open a future assignment to address (1) the reorganization announced on March 5, 2001, by the CSOC prime contractor, Lockheed Martin Space Operations Company and (2) continuing contractor performance problems noted in the letter. However, our main concern is that NASA management will exercise the option in less than 3 years to extend the period of performance beyond the 5-year base period, valued at about \$1.3 billion, without a thorough evaluation of the contractor's cost and technical performance to ensure that the CSOC is still the best alternative to meeting current and future customer needs.

In summary, the Congress requested that NASA provide semi-annual reports in order to evaluate whether the CSOC will achieve its anticipated savings. A waiver, if granted, would relieve NASA of the congressional reporting requirement, but not from the need to develop a method to evaluate the anticipated and actual cost savings, if any, from the CSOC. This information is critical for determining future funding requirements and whether to exercise contract options totaling about \$1.7 billion.¹⁴ We understand the complexity of determining cost savings without a useful baseline as noted by the Agency in response to our recommendations. In developing an effective methodology to evaluate CSOC cost savings, the Agency may find it helpful to obtain assistance from the NASA Independent Program Assessment Office at Langley Research Center.

¹⁴ The options totaling about \$1.7 billion include one option to extend the period of performance beyond the 5-year base period, valued at about \$1.3 billion. In addition, various options for Kennedy Space Center and Space Station services with a combined value of about \$4 billion can be exercised during the base and extended contract periods.

Appendix A. Objectives, Scope, and Methodology

Objectives

The overall objective was to determine whether the CSOC goals were being accomplished. This report identifies conditions regarding substantiation of NASA's reported cost savings for the CSOC. The Office of Inspector General issued Report IG-00-043 September 20, 2000, on the CSOC cost-benefit analysis and award fee structure. Details of the report are discussed under "Prior Audit Coverage" in this appendix.

Scope and Methodology

The audit included a review of the methodology the Agency used to identify current and projected cost savings from the consolidation of space operations contracts. We examined documents the Agency provided to support cost savings estimates. We developed and administered a CSOC customer satisfaction survey and analyzed responses to determine whether the CSOC is meeting customer needs including providing services at significantly reduced costs. We interviewed NASA Office of Space Flight officials at Headquarters and Johnson and Earth and Space Science program and project managers at Goddard Space Flight Center. We did not rely on computer-processed data to achieve the audit objectives.

Management Controls Reviewed

We reviewed the following management controls:

- Federal Acquisition Regulation (FAR) 15.305, "Proposal Evaluation," describes a cost realism analysis that should be performed during an evaluation of cost reimbursement contract proposals.
- NASA FAR Supplement 1815.305, "Proposal Evaluation," provides details of the cost realism analysis to be performed when evaluating other than firm-fixed-price contract proposals.
- NPG 1000.2, "NASA Strategic Management Handbook," dated February 2000, enables the Agency to establish strategy, make decisions, allocate resources, and manage programs safely, effectively, and efficiently.
- NPG 7120.5A, "NASA Program and Project Management Processes and Requirements," dated April 3, 1998, governs formulation, approval, implementation, and evaluation of all NASA programs and projects.

We determined that management controls are generally effective except for the weaknesses discussed in the report.

Audit Field Work

We conducted field work for this portion of the audit from May 2000 through January 2001 at NASA Headquarters, Johnson, and Goddard Space Flight Center.

Prior Audit Coverage

The NASA Office of Inspector General issued a report relating to the CSOC. The report is summarized below. (A copy of the report is available at <http://www.hq.nasa.gov/office/oig/hq/issuedaudits.html>)

"Consolidated Space Operations Contract -- Cost Benefit Analysis and Award Fee Structure," Report Number IG 00-043, September 20, 2000. The Space Operations Management Office (SOMO) estimated that consolidating existing space operations contracts under one contract would yield a savings of \$1.2 billion dollars over the next 10 years. However, the SOMO did not perform a cost-benefit analysis as part of the decisionmaking process prior to awarding the CSOC. As a result, NASA is not assured that CSOC is the best approach for fulfilling the space operations requirements and that it will achieve the anticipated cost savings. In addition, we found that NASA did not properly structure the award fee for the CSOC to evaluate performance of the Integrated Operations Architecture. The CSOC Award Fee Plan lacks defined criteria for measuring performance, appropriate evaluation periods, and proper emphasis on cost performance. Without these provisions, NASA cannot measure contractor performance to assess the appropriate amount of award fee and provide an effective incentive for the contractor. Also, the contract does not require progress reports on the architecture baseline beyond the initial submission. As a result, NASA cannot ensure that the supporting infrastructure and capabilities are maintained to sustain product delivery activities. NASA concurred with the recommendation to require progress reports on the architecture baseline and concurred in principle with the recommendation to determine whether future contract options are cost beneficial. Management nonconcurred with all recommendation to revise the award fee provisions.

Appendix B. CSOC Cost Savings Comparison

CSOC Cost Savings Comparison (Millions of Dollars*)

Savings	EY 99	EY 00	EY 01	EY 02	EY 03	EY 04	EY 05	EY 06	EY 07	EY 08	Total
How Original Savings Were Achieved											
FY 99 Budget Reductions	50	30	50	50	40	160	175	180	180	195	220
FY 00 Budget Reductions	-45	20	0	3	22	20	20	20	25	25	110
Government Hedge ¹	5	50	50	150	175	180	195	200	205	220	1430
Original Savings											
Original Savings Summary											
Government Estimate	380	455	445	510	540	510	510	510	505	505	4870
Lockheed Proposal	375	405	395	360	365	330	315	310	300	285	3440
Original Savings	5	50	50	150	175	180	195	200	205	220	1430
Current Savings Summary											
Original Savings	5	50	50	150	175	180	195	200	205	220	1430
Additional Savings Assumed ²	11	-4	-19	22	40	18	3	-2	-12	-27	30
Current Savings	16	46	31	172	215	198	198	198	193	193	1460
Savings Reported to Congress	16	46									62

*Nominal value dollars that reflect the effects of general price inflation.

¹NASA's FY 00 Budget discounted Lockheed's proposed savings by \$110 million - a hedge (means of protection) against CSOC optimism

²Contract changes and deferrals

Source: NASA Office of Space Flight

Appendix C. Management's Response

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



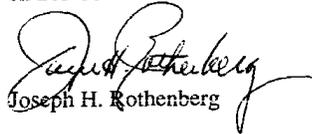
APR 6 2001

Reply to Attn of: **M-3**

TO: W/Assistant Inspector General for Auditing
FROM: M/Associate Administrator for Space Flight
SUBJECT: Draft Report on Audit of the Consolidated Space Operations
Contract: Evaluating and Reporting Cost Savings
Assignment Number A0000401

We have reviewed the subject draft audit report. The draft report recommended that (1) NASA evaluate and report Consolidated Space Operations Contract (CSOC) savings based on the accumulation of actual costs for work performed under the contract, and (2) revise, in future reports to the Congress, cost savings amounts previously reported to reflect savings based on actual costs. We do not concur with the recommendations. However, we offer the enclosed comments regarding CSOC savings and the way ahead for the CSOC and NASA budgets in this regard.

Thank you for the opportunity to provide comments before publication of this document. If you have any questions regarding these comments, please contact Mr. Robert E. Spearing on 202-358-4780.


Joseph H. Rothenberg

Enclosure

cc:
M-3/Mr. R. Spearing
MX/Ms. G. Gabourel
JM/Mr. J. Werner
Mr. H. Robbins
W/Mr. Samoviski
Ms. E. Judd
Ms. C. Seger
JSC/AA/Mr. R. Estess
BD5/Ms. P. Ritterhouse

**Management Response to OIG Draft Report on
Audit of the Consolidated Space Operations
Contract: Evaluating and Reporting Cost Savings
Assignment Number A000401**

Background

NASA awarded the CSOC to a team led by Lockheed Martin on September 25, 1998. The contract has an initial base period of 5 years and an option for an additional 5-year period. The contract began on January 1, 1999. A major objective of this contract is to place greater responsibility for space communications operations with the private sector, thereby reducing NASA's cost of space operations while continuing to deliver high-quality mission operations and data services to space flight customers. At the onset of CSOC, NASA estimated savings of \$1.4B based on the winning contractor's offer as compared with the Government estimate to conduct operations with a projected mission model for the 5-year basic contract period and the 5-year option period. The mission model used was developed based on the best information available at the time and provided a means to establish a baseline by which all offerors could propose a cost of providing the relevant services.

Mission Model Transition Effects Contract

In 1996, NASA's projected mission model represented larger *observatory-class missions* and assumptions about mission lifetime limits. This baseline was included in the Request for Proposal (RFP) as a reference for contractor estimating and for evaluating each proposer's implementation approach. Over the past five years, NASA has effectively transitioned from the observatory class missions to smaller, more numerous *principle investigator-managed missions*. Mission lifetimes have been re-determined. Thus, the mission operations profile has changed considerably and it is expected that it will continue to change as mission priorities and available budget is determined. NASA concluded that continued use of and reference to an outdated mission model has been counter-productive.

Savings

Upon contract award, NASA reallocated the approximately \$1.4B of projected savings from the Space Communications budget to other high priority activities. We do not anticipate additional savings at this time. With two years of experience in hand, we have developed a cost structure in the contract that allows NASA to better project future cost of operations and develop associated budgets consistent with current mission models and the reduced budget profile. NASA will continue to seek ways to streamline operations and fully expects to see results from our commercialization efforts throughout the remaining contract period.

Recommendation 1: Evaluate and report CSOC savings based on the accumulation of actual costs for work performed under the contract.

Management Response to Recommendation 1: Do not concur. NASA accumulates actual costs under the CSOC contract however, we do not plan to report cost savings in the future. This is due to NASA now having aligned its mission operations services with current mission models.

Therefore, any future report that NASA would produce would reflect an inaccurate picture of costs and savings, because it would reflect an estimate that is based on a mission model that is no longer valid. We will continue to seek and implement ways to streamline operations and we will obtain our services commercially when the marketplace provides the needed capabilities.

Recommendation 2: Revise, in future reports to the Congress, cost savings amounts previously reported to reflect savings based on actual costs.

Management Response to Recommendation 2: Do not concur. NASA will continue to report actual costs against actual budgets for CSOC as well as for other Space Communications elements. However, due to NASA having aligned its mission operations services with current mission models, we are tracking our costs differently. Consequently, we do not intend to report cost savings as such going forward.

Finally, the OSF and SOMO are very sensitive to our customer concerns and have in-place a customer service infrastructure including collection of customer satisfaction and service performance metrics. These metrics serve to initiate corrective action by SOMO as required.

Appendix D. Letter Terminating CSOC Assignment

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



JUN 27 2001

Reply to Attn of: W

TO: M/Associate Administrator for Space Flight
FROM: W/Acting Assistant Inspector General for Audits
SUBJECT: Audit of Consolidated Space Operations Contract (CSOC)
Assignment Number A0000400/A0000401

The NASA Office of Inspector General (OIG) initiated an audit of the Consolidated Space Operations Contract (CSOC) in October 1999. Our overall objective was to determine whether the CSOC goals were being accomplished. Specifically, we planned to determine whether:

- the contract was properly designed to meet mission performance,
- the transition of contracts and staff to the CSOC contract has occurred as planned,
- the projected benefits of consolidation have been realized, and
- the contract is meeting customer's needs.

We have satisfied the first three objectives and with the issuance of the second report in final form described below, we will terminate our CSOC audit work under the current assignment. However, we may open an audit at a later date to address the fourth objective, the concerns noted below, and the impact of the reorganization.

On September 20, 2000, we issued Report Number IG-00-043 "Consolidated Space Operations Contract -- Cost-Benefit Analysis and Award Fee Structure," (assignment number A0000400) to address whether the contract was properly designed. NASA did not perform a cost-benefit analysis as part of the decisionmaking process prior to awarding the CSOC to ensure that the consolidation was the best approach for fulfilling space operations requirements and that it will achieve the anticipated cost savings. In addition, NASA did not properly structure the award fee for the CSOC to evaluate performance of the Integrated Operations Architecture (IOA).*

We reviewed the transition schedule of the 18 legacy contracts and determined that contracts are being transitioned to CSOC as their period of performance expires. All the contracts that

*The IOA consists of an operations concept, a plan for developing the hardware and facilities, and the blueprints for the plan to provide space operations services under the CSOC.

were planned to be transitioned to CSOC to date have been transitioned on schedule. We plan no additional work for the second objective.

We issued a reannouncement on May 12, 2000, and continued the audit under assignment number A0000401 to address the remaining two objectives. On March 5, 2001, we issued the draft report, "Consolidated Space Operations Contract: Evaluating and Reporting Cost Savings," which discusses whether projected benefits of consolidation have been realized, the third objective. We found that NASA cannot substantiate the \$62 million of cost savings reported to the Congress for the first 2 years of the CSOC. NASA based the reported cost savings on budget reductions rather than on an analysis of actual costs for work performed under the contract. As a result, the Congress and NASA cannot evaluate current cost savings for the CSOC or whether it will achieve the anticipated \$1.4 billion cost savings through fiscal year 2008.

We continue to have concerns regarding the contractor's performance based on the conditions we have identified and reported and the continuing problems noted in the most recent award fee evaluation. The evaluation for the period ending December 31, 2000, noted the following areas of concern:

Cost overruns. The award fee period ending December 31, 2000, showed the contract incurred a significant cost overrun of about \$29.1 million.

Concerns with the contractor's implementation of an IOA. The Integrated Mission Operations Center and about half of the other contractor-proposed IOA initiatives were not implemented because the projected benefits did not justify the costs. Furthermore, the contractor has not baselined any viable cost savings initiatives for the Deep Space Network. These factors add risk to meeting a successful IOA during the contract period of performance.

Significant customer issues have remained unresolved. CSOC continues to be very slow in providing responses to customer issues and requirements changes. For example, the CSOC was several weeks late identifying and providing cost information for mission-unique services on Landsat-7 and other missions. In addition, the CSOC did not identify the need or additional cost for support of a commercial service for 3 months. Customers must have timely information to support planning, establish budgets, and determine the cost impact of changes in services, including additions, terminations, or delays.

Proposal data. Adequate analysis of subcontractor proposal technical and price reasonableness are lacking and thereby hinder the Government's review of proposal packages and extend the definitization process.

Property management. Management oversight is inadequate in relation to the contractor's implementation of an acceptable Government Property Control System, in accordance with the contract, the Federal Acquisition Regulation (FAR), and the

NASA FAR Supplement for the control, protection, preservation, and maintenance of all Government property in its possession.

In addition, on March 5, 2001, the CSOC prime contractor, Lockheed Martin Space Operations Company, announced plans to reorganize the CSOC contract. We plan to meet and discuss the details and impact of the reorganization on the CSOC with both the contractor and the Space Operations Management Office. Our main concern, however, is that NASA management will exercise the option to extend the period of performance beyond the 5-year base period without a thorough evaluation of the contractor's cost and technical performance to ensure that the CSOC is still the best alternative to meeting current and future customer needs.

If you have questions, or would like to discuss this matter further, please contact Mr. Daniel Samoviski, Program Director, Program/Project Management Audits, at (301) 286-6890.



Alan J. Vanoreaux

- cc:
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- B/Comptroller
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Appendix E. Report Distribution

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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
Director, Acquisition and Sourcing Management Team, General Accounting Office
Professional Staff Member, Senate Subcommittee on Science, Technology, and Space

Appendix D

Chairman and Ranking Minority Member – Congressional Committees and Subcommittees

Senate Committee on Appropriations

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

House Committee on Appropriations

House Subcommittee on VA, HUD, and Independent Agencies

House Committee on Government Reform and Oversight

House Subcommittee on Government Efficiency, Financial Management, and Intergovernmental Relations

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

House Subcommittee on Technology and Procurement Policy

House Committee on Science

House Subcommittee on Space and Aeronautics, Committee on Science

Congressional Member

Honorable Pete Sessions, U.S. House of Representatives

NASA Assistant Inspector General for Audits Reader Survey

The NASA Office of Inspector General has a continuing interest in improving the usefulness of our reports. We wish to make our reports responsive to our customers' interests, consistent with our statutory responsibility. Could you help us by completing our reader survey? For your convenience, the questionnaire can be completed electronically through our homepage at <http://www.hq.nasa.gov/office/oig/hq/audits.html> or can be mailed to the Assistant Inspector General for Audits; NASA Headquarters, Code W, Washington, DC 20546-0001.

Report Title: Final Report on Audit of the Consolidated Space Operations Contract:
Evaluating and Reporting Cost Savings

Report Number: _____ **Report Date:** _____

Circle the appropriate rating for the following statements.

	Strongly Agree	Agree	Neutra l	Disagre e	Strongl y Disagre e	N/A
1. The report was clear, readable, and logically organized.	5	4	3	2	1	N/A
2. The report was concise and to the point.	5	4	3	2	1	N/A
3. We effectively communicated the audit objectives, scope, and methodology.	5	4	3	2	1	N/A
4. The report contained sufficient information to support the finding(s) in a balanced and objective manner.	5	4	3	2	1	N/A

Overall, how would you rate the report?

- **Excellent** • **Fair**
- **Very Good** • **Poor**
- **Good**

If you have any additional comments or wish to elaborate on any of the above responses, please write them here. Use additional paper if necessary. _____

How did you use the report? _____

How could we improve our report? _____

How would you identify yourself? (Select one)

- | | |
|---------------------|--|
| Congressional Staff | Media |
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| Private Citizen | Other: _____ |
| Government: _____ | Federal: _____ State: _____ Local: _____ |

May we contact you about your comments?

Yes: _____

No: _____

Name: _____

Telephone: _____

Thank you for your cooperation in completing this survey.

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