



G A O

Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548

April 10, 2002

The Honorable Ernest Hollings
Chairman
The Honorable John McCain
Ranking Minority Member
Committee on Commerce, Science,
and Transportation
United States Senate

The Honorable Sherwood L. Boehlert
Chairman
The Honorable Ralph Hall
Ranking Minority Member
Committee on Science
House of Representatives

Subject: *NASA: Compliance With Cost Limits Cannot Be Verified*

Section 202 of the National Aeronautics and Space Administration's (NASA) Authorization Act for Fiscal Year 2000 (P.L. 106-391) limits the agency's obligations, through substantial completion of the space station,¹ to \$25 billion for space station development and \$17.7 billion for shuttle launches in connection with space station assembly. The act further requires that NASA, as part of its annual budget request, (1) account for and report amounts obligated to date against the cost limits, (2) identify the amounts needed for future development and completion of the space station, and (3) arrange for GAO to verify the accounting submitted to the Congress within 60 days after submission of the budget request. This is our second letter to you reporting on the problems we have encountered in attempting to verify NASA's compliance with the general cost limits as required.

In August 2001, we reported² that NASA, as part of its fiscal year 2002 budget request, did not comply with the act's requirement to use obligations as its basis for reporting against the cost limits but instead used budget authority. We also reported that the agency was unable to provide detailed support for amounts obligated against the limits for us to evaluate and meet the 60-day reporting requirement. However, NASA

¹According to the act, the space station is considered to be substantially complete in the fiscal year that NASA's development costs compose 5 percent or less of the total international space station costs for that year. NASA estimates that this will occur in fiscal year 2004.

²U.S. General Accounting Office, *NASA: International Space Station and Shuttle Support Cost Limits*, GAO-01-1000R (Washington, D.C.: Aug. 31, 2001).

indicated that, given additional time, it could provide us with the information needed to verify its submitted accounting for budget authority and obligations. Therefore, as agreed with your offices, we continued to work with agency officials to verify the amounts NASA reported against the limits.

On February 4, 2002, NASA submitted its fiscal year 2003 budget, which in turn triggered the requirement in the act for GAO to verify NASA's accounting for the space station and shuttle support cost limits. The purpose of this letter is to respond to the legislative mandate for verifying NASA's accounting by providing you with updated information on NASA's ability to support the amounts charged against the space station and shuttle limits in its fiscal year 2003 budget.

Except for the limitations imposed by NASA's inability to provide us with detailed obligation data, which we discuss later in this letter, we conducted our work from September 2001 through March 2002 in accordance with U.S. generally accepted government auditing standards. Details on our scope and methodology are included in the enclosure.

Results in Brief

After a protracted effort, NASA has acknowledged that its systems cannot provide the data needed to support amounts obligated against the limits. As a result, we remain unable to verify the amounts NASA reported to the Congress in its fiscal year 2002 and 2003 budgets and will not be able to independently verify amounts reported in the future, either in total or for individual years. NASA's 10 centers operate with decentralized, nonintegrated systems and with policies, procedures, and practices that are unique to each center. Consequently, the systems have differing capabilities with respect to providing detailed obligation data. According to NASA officials, only 5 of its 10 centers are able to provide complete, detailed support for amounts obligated during fiscal years 1994 through 2001—the period in which NASA incurred obligations related to the limits. In fact, at one center, detailed obligation data are not available for even current year obligations, which will preclude us from verifying the accuracy of the incremental amounts NASA charges against the limits each year going forward.

NASA's inability to provide detailed data is due, in large part, to its lack of a modern, integrated financial management system. To their credit, NASA officials have acknowledged that the agency's financial systems are deficient and have told us that the agency is moving to an integrated financial management system that is intended to make access to needed data, such as detailed obligations, possible. However, this is NASA's third attempt since 1988 to integrate its financial systems. The first two attempts were abandoned after 12 years and spending a reported \$180 million. NASA expects to complete the current system effort by 2006 at a cost of \$475 million.

In its fiscal year 2003 budget, NASA again did not comply with the act's requirement to use obligations as its basis for reporting against the space station limit but instead used budget authority. We reported this same finding in our August 2001 letter to you. NASA's 2003 budget submission also did not comply with the act's requirement

to report amounts obligated and charged to date against the shuttle limit. Instead, NASA reported the total amount expected to be charged against the limit through space station completion.

In commenting on a draft of this report, NASA stated that its obligations are verifiable and that the problem lies in our audit methodology rather than the agency's inability to provide us with the data needed for testing. We disagree. The problem lies with NASA's systems, which do not provide the audit trail that is necessary to determine the reliability of its reported financial information. NASA's comments are reprinted in the enclosure and our evaluation is provided at the end of this letter.

Background

The Congress included Section 202 of the NASA fiscal year 2000 authorization act to establish general obligation limitations on the International Space Station and Space Shuttle programs and to require periodic reporting and verification of obligations charged. In NASA's fiscal year 2002 budget, its first report to the Congress under the act, NASA reported that it had received about \$15.8 billion of budget authority related to the space station limit and that it had charged \$1.5 billion against the shuttle limit through fiscal year 2000. The shuttle limit amount was calculated using four shuttle launches valued at \$380 million per launch, the maximum amount per launch that can be applied against the limit under the act.

In response to the legislative requirement for GAO to verify NASA's accounting, we reported in August 2001 that NASA did not comply with the act's requirement to use obligations as its basis for reporting against the cost limits but instead used budget authority. We also reported that NASA was unable to provide detailed support for amounts obligated against the limits for us to evaluate and meet the 60-day reporting requirement.

In response to additional information requests from your staffs, we also (1) attempted to evaluate whether NASA's costs relative to the status of space station completion were reasonable and (2) assessed the significance of amounts not reported against the limits due to exclusions set forth under the act. Based on this work, we reported in August 2001 that (1) NASA did not have support for the actual cost of completed space station elements and subsystems and (2) the act does not require NASA to include an estimated \$5.8 billion of amounts obligated through substantial completion of the space station in fiscal year 2004. This amount includes an estimated \$3.8 billion of shuttle-related obligations that are in excess of \$380 million per launch and an estimated \$2 billion of in-house labor obligations.

NASA Remains Unable to Provide Support for Amounts Charged against the Limits

In responding to the mandate for this year, it was our intention to verify NASA's accounting by testing the propriety of charges to various agency programs to ensure that all obligations charged to the space station and shuttle programs were appropriate and that no space station or shuttle obligations were wrongly charged to

other programs. However, NASA remains unable to provide the detail needed to support amounts charged against the limit and, as a result, we were unable to independently validate obligations related to the space station and shuttle launches.

During the work leading to our August 2001 report on this issue, NASA cited its long-standing problems in developing and implementing a modern, integrated financial management system as a factor only in its inability to produce obligation data within the time frames required by the act. According to NASA headquarters' officials, given additional time, their current systems were capable of producing the information required. However, after a protracted effort, NASA officials have now acknowledged that the agency's systems cannot provide the data needed for our audit. While NASA has provided us with voluminous summary and detailed obligation data since our August 2001 report, the detailed data provided were incomplete and could not be reconciled with the summary-level data that they were intended to support. When we questioned the inconsistencies in the detailed data provided, NASA officials expressed uncertainty over exactly what information each of its 10 operating locations was capable of producing. As a result, we requested that the agency perform and provide us with a thorough assessment of its ability to provide detailed obligation data for fiscal years 1994 through 2001.

Based on NASA's assessment, only 5 of its 10 centers are capable of providing detailed obligation data for fiscal years 1994 through 2001. Further, NASA has indicated that obtaining these data would take approximately 5 months to complete at an estimated cost of \$2 million. While eight of NASA's centers are able to provide detailed data for obligations that occurred in more recent fiscal years, one center maintains no detailed data at all, regardless of the time frames considered. As a result, not only are we unable to verify the accuracy of the total amount charged to the limits during fiscal years 1994 through 2001, but we also cannot test the accuracy of the incremental amounts NASA reports for each year going forward. NASA attributes its difficulty in providing detailed support for amounts obligated against the limits to the age of its systems and its supporting infrastructure.

Integrated Financial Management System Needed

The protracted effort required to respond to the legislative requirement for verifying NASA's accounting for the space station and shuttle support cost limits was due, in large part, to NASA's lack of an integrated financial management system. This lack of data also has implications for daily decision making. NASA's systems environment consists of decentralized, nonintegrated systems with policies, procedures, and practices that are unique to each of its 10 centers. For the most part, data formats are not standardized and automated systems are not interfaced. As a result, it took nearly a year to obtain summary and detailed obligation data, determine that the data did not appear to support amounts reported by NASA, exhaust all other possibilities for obtaining sufficient data, and finally conclude that NASA is not able to provide support for amounts obligated against the limits. This lack of support is consistent with findings discussed in previous GAO reports and, most recently, in the auditor's report on NASA's fiscal year 2001 financial statements.

- In March 2001, we reported³ that NASA's lack of an integrated financial management system was the cause of a \$644 million misstatement in NASA's fiscal year 1999 Statement of Budgetary Resources (SBR). Because NASA's general ledger does not capture the data needed for certain SBR line items, NASA used an ad hoc process involving a computer spreadsheet to gather the information from each of its 10 centers. This cumbersome, time-consuming process ultimately resulted in the misstatement of NASA's SBR.
- In our August 2001 report, we stated that NASA's systems were not able to provide detailed support for the actual cost of completed space station components—either in total or by subsystems or elements. For example, NASA was not able to identify or provide support for the actual cost of individual space station components even though those components were capitalized⁴ at about \$8 billion in the agency's audited fiscal year 2000 financial statements. According to NASA officials, the capitalized amounts were based primarily on cost estimates, not actual costs. Further, in some cases, NASA's estimates were not based on the most current data. For example, NASA capitalized shuttle-related costs for the space station based on the average cost per flight of \$441 million in its audited fiscal year 2000 financial statements. However, at our request, for the purpose of accounting for the shuttle limit, NASA calculated an average cost per launch of \$759 million for fiscal year 2000. According to NASA officials, its more recent calculation of \$759 million per launch more closely reflects the actual cost. NASA officials were not sure what basis they used to calculate the amount reported in the agency's fiscal year 2000 financial statements but speculated that the calculation was likely based on data from a previous year.
- In October 2001, our report on the Federal Financial Management Improvement Act (FFMIA)⁵ raised questions about NASA's compliance with that act's requirements. FFMIA builds on previous financial management reform legislation by emphasizing the need for agencies to have systems that can generate timely, accurate, and useful information with which to make informed decisions and to ensure accountability on an ongoing basis. Based on our previous work, we questioned NASA's ability to comply with, and its auditor's determination that it had complied with, (1) the federal financial management systems requirement for

³U.S. General Accounting Office, *Financial Management: Misstatement of NASA's Statement of Budgetary Resources*, GAO-01-438 (Washington, D.C.: March 30, 2001).

⁴Expenditures that are expected to benefit more than one accounting period are considered capital expenditures and are to be reported on the statement of financial position as capital assets.

⁵FFMIA requires the 24 major departments and agencies covered by the Chief Financial Officers Act to implement and maintain financial management systems that comply substantially with (1) federal financial management systems requirements, (2) applicable federal accounting standards, and (3) the U.S. Standard General Ledger (SGL) at the transaction level. FFMIA also requires auditors to report in their financial statement audit reports whether the agencies' financial management systems comply with FFMIA's requirements.

using integrated financial management systems⁶ and (2) the Statement of Federal Financial Accounting Standards (SFFAS) No. 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*.⁷

- Most recently, on February 22, 2002, NASA's independent auditor⁸ disclaimed an opinion on the agency's fiscal year 2001 financial statements. Specifically, the audit report states that NASA was unable to provide the detailed support needed to determine the accuracy of the agency's reported obligations; expenses; property, plant, and equipment; and materials for fiscal year 2001 and cites NASA's financial management system problems as a major impediment to obtaining the needed documentation. The audit report also states that NASA's financial management systems do not substantially comply with federal financial management systems requirements and applicable federal accounting standards as required by FFMIA.

NASA officials told us that the agency is moving to an integrated financial management system that will make access to the needed data possible. While we agree that an integrated system should make it much easier to obtain timely data, an integrated system alone will not ensure that the data needed to support the amounts obligated against the limits are available. NASA must also ensure that the level of detail maintained in its new system fully supports both internal and external management and oversight activities.

This is NASA's third attempt since 1988 to integrate its financial systems. The first two attempts were abandoned after 12 years and after spending about \$180 million. NASA expects to complete the current systems effort by 2006 at a cost of \$475 million. However, according to NASA officials, once the core accounting module is fully operational in June 2003, it will provide full cost accounting capabilities as well as detailed data required for audit.

⁶According to OMB Circular A-127, *Financial Management Systems*, each agency must establish and maintain a single, integrated financial management system that is a unified set of financial systems that are planned for and managed together, operated in an integrated fashion, and linked electronically in an efficient and effective manner to provide agencywide financial system support necessary to carry out an agency's mission and support its financial management needs.

⁷Statement of Federal Financial Accounting Standard (SFFAS) No. 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*. The managerial cost accounting concepts and standards contained in this statement are aimed at providing reliable and timely information on the full cost of federal programs, their activities, and outputs. The statement requires that agencies establish procedures to accumulate and report costs continually, routinely, and consistently for management information purposes.

⁸PricewaterhouseCoopers replaced Arthur Andersen LLP as NASA's independent auditor for its fiscal year 2001 financial statements. NASA received unqualified opinions on its financial statements for fiscal years 1996 through 2000 from its previous auditor.

NASA Did Not Account for or Report Amounts Obligated to Date against the Limits

NASA's Authorization Act for Fiscal Year 2000 specifically requires that NASA, as part of its annual budget request, account for and report amounts obligated to date against the cost limits. However, in its fiscal year 2003 budget request, NASA instead used budget authority as its basis for reporting and reported that it had received \$17.9 billion of budget authority related to the space station limit through fiscal year 2001. In addition, NASA did not report amounts obligated to date for the shuttle limit but instead reported that the 32 planned shuttle missions required to assemble the space station would be valued at \$12.2 billion—based on the \$380 million per flight valuation set forth in the act.

In its fiscal year 2003 budget, NASA states that it will prepare and submit a separate report to the Congress that will include the obligation information required by the act. However, according to NASA officials, this report will not be available until the end of March 2002—almost 2 months after NASA submitted its fiscal year 2003 budget.

Agency Comments and Our Evaluation

In commenting on a draft of this report, NASA stated that its obligations are verifiable and that the problem lies in our audit methodology. NASA claims that we should tailor our sampling approach to accommodate its systems, many of which do not maintain transaction-level detail. We disagree. The problem is not our methodology but rather the inability of NASA systems to provide the audit trail necessary to determine the reliability of its financial information. NASA's failure to provide transaction-level support for amounts obligated and reported to the Congress for the space station and shuttle limits is a symptom of NASA's broader financial management problems.

Our objective was to determine whether (1) all obligations charged to the space station and shuttle programs were appropriate and (2) any space station or shuttle obligations were wrongly charged to other programs. Although the act requires validation of all obligations charged against the limits since its inception, we agreed to begin by testing fiscal years 1998, 1999, and 2000. Because it was not practical to examine the hundreds of thousands of transactions charged to each program during that period, we planned to use statistical sampling, which is a standard, widely used methodology that enables auditors to draw conclusions about large populations of transactions by testing a relatively small number of those transactions. Statistical sampling would allow us to (1) ensure objectivity by avoiding bias in the selection procedure, and (2) project results from the sample to the entire population from which it was chosen. We use statistical sampling in most of our audits involving assessments of the reliability of an agency's financial data and, with few exceptions, agencies are able to provide the data needed for sampling.

In order for a statistical sample to be valid, the complete population of items of interest must be subject to selection and every transaction must have a chance to be

selected for testing. Therefore, we requested that NASA provide a complete population of its obligation transactions for fiscal years 1998 through 2000 separated into three categories—space station, shuttle, and all other activities or programs. However, after nearly a year, NASA was not able to provide us with a complete population of transactions from which to draw our sample because of limitations in its systems.

In its comments, NASA suggests that we use its Financial and Contractual Status (FACS) database, which contains summary-level obligation data, as our basis for sampling obligations instead of obtaining obligation data directly from the financial systems that update FACS. However, NASA's suggested methodology would not provide us with the breakout of data that is necessary for us to select a sample and project the results to the population as a whole, which is the level of assurance called for by the authorization act. In addition, there is not a clear audit trail from the summary data in FACS to the detailed obligation transactions that must be tested. Given NASA's decentralized control and systems environment, we believe that, to meet professional auditing standards, it is necessary to examine the source documentation supporting a representative sample of all transactions charged to the spending limits and other NASA programs.

NASA's current financial statement auditor, PricewaterhouseCoopers (PwC), also experienced problems when attempting to use transaction-based statistical sampling to test amounts reported on NASA's fiscal year 2001 financial statements. The problems PwC experienced were similar to those we experienced in attempting to audit the underlying support for amounts charged to the spending limits. In its audit report, PwC noted that successive summarization of data through NASA's various financial systems impeded NASA's ability to maintain an audit trail down to the detailed transaction-level source documentation. For this and other reasons, PwC concluded that it was unable to audit NASA's financial statements. As with our attempt to audit obligations, PwC's audit highlights NASA's failure to maintain the required transaction-level documentation and to make that documentation readily available for audit.

In its written comments, NASA also disputed our statement that its 10 centers have unique practices, policies, and procedures. However, our statement is consistent with NASA's own characterization of its business environment. For example, in the program commitment agreement for the development of NASA's new integrated financial management system, NASA described its current business environment as follows: "NASA's financial, physical, and business management environment is comprised of decentralized, non-integrated systems characterized by function specific, center-unique policies, procedures, and practices."

NASA's written comments are reprinted as an enclosure to this letter.

We are sending copies of this letter to other interested congressional committees as well as to NASA's administrator and chief financial officer. The letter will also be available on GAO's home page at <http://www.gao.gov>.

If you or your staffs have any questions concerning this report, please contact me at (202) 512-9505 or by e-mail at kutzg@gao.gov or Molly Boyle, Assistant Director, at (202) 512-9524 or by e-mail at boylem@gao.gov. Major contributors to this effort were Diane Handley, Fannie Bivins, and Maria Storts.

A handwritten signature in black ink that reads "Gregory D. Kutz". The signature is written in a cursive style with a large, stylized initial 'G'.

Gregory D. Kutz
Director, Financial Management and Assurance

Enclosures

Scope and Methodology

Since our August 2001 report, we have coordinated with NASA to obtain the obligation data needed for audit. Specifically, we requested that NASA provide summary-level data for obligations incurred related to the space station for each of fiscal years 1994 through 2000 and detailed support for obligations incurred related to all programs for fiscal years 1998 through 2000. We further requested that the detailed support be identified as space station, shuttle launch support, or “other” program (i.e., not space station or shuttle) so that we could use statistical sampling techniques to test the propriety of transactions included in each group. We have reviewed and analyzed the detailed and summary obligation data provided by NASA, including the agency’s reconciliation of the detailed obligations with amounts reported in the agency’s Statement of Budgetary Resources for fiscal years 1998, 1999, and 2000. In addition, we requested that NASA provide a feasibility assessment that documents exactly what data are and are not available and the reasons why data are not available. We did not verify the information provided in NASA’s feasibility assessment of its 10 centers.

Comments from the National Aeronautics and Space Administration

National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001



March 26, 2002

Mr. Gregory D. Kutz
Director, Financial Management
And Assurance
U.S. General Accounting Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Kutz:

We appreciate the opportunity to comment on the draft report, "Financial Management: Compliance with Space Station and Shuttle Cost Limits Cannot be Verified". Specific comments of a technical nature are provided in the enclosure to this letter.

Based on our review of the draft report and a recapitulation of our efforts over the last year to provide GAO with the obligation data it requested to develop a sample of individual obligations, we believe a fresh approach to sampling International Space Station (ISS) and Shuttle obligations is needed. While budget and performance information can be more closely linked, all the material GAO requires exists. Documents that support obligations, such as purchasing documents and contracts, are available for audit at the NASA field Centers. However, GAO has not reviewed documentation supporting obligations because of problems encountered in developing a sample of obligation transactions. Unless a satisfactory sampling approach is developed, GAO will continue to report to the Congress annually that NASA's systems cannot provide GAO with the data it needs to verify ISS and Shuttle Support obligations. The continued inability to express an opinion regarding the validity of ISS and Shuttle obligations provides no benefit to Congress, GAO, or NASA. We recognize the limitations of our multiple accounting systems and GAO acknowledges that NASA is implementing a new, integrated financial management system. Nevertheless, we strongly believe that a sampling and audit approach can be tailored to NASA's current systems circumstances so as to enable GAO to reach a conclusion regarding the validity of ISS and Shuttle obligations. If technical consulting services are needed, we will make the necessary arrangements. We are anxious to meet with you to begin this process as soon as possible.

Enclosure II

If you have any questions, or require additional information, please contact me at (202) 358-1820 or Stephen J. Varholy, Deputy Chief Financial Officer at (202) 358-0978.

Cordially,

A handwritten signature in black ink that reads "Daniel R. Mulville". The signature is written in a cursive style with a large initial "D" and "M".

Daniel R. Mulville
Associate Deputy Administrator

Enclosure

Enclosure

Comments on Draft GAO Report, "Financial Management: Compliance with Space Station and Shuttle Cost Limits Cannot be Verified"

The draft report states that NASA remains unable to provide the detail needed to support amounts charged against the ISS and Shuttle cost limits and, as a result, GAO is unable to determine that all obligations charged to the ISS and Shuttle programs were appropriate and that no ISS or Shuttle obligations were wrongly charged to the programs. The statement that NASA remains unable to provide the detail needed to support amounts charged against the ISS and Shuttle cost limits is incorrect. Purchasing documents, contracts, and similar evidence that support all obligations, not only those for the ISS and Shuttle programs, are available at the NASA Centers. GAO has reviewed none of these documents.

GAO stated that it must have a file of all NASA obligation transactions from FY 1994 through FY 2001 in order to develop an appropriate sample before it reviews any documentation at the field Centers. We advised GAO that two Centers do not maintain transaction-level files. One Center summarizes all of its transactions daily and does not maintain transaction-level data. The second Center summarizes its store stock inventory transactions monthly and does not maintain transaction-level data for inventory transactions. The remaining Centers maintain transaction-level data for two or more years. It is important to note that all Centers maintain documentary evidence, such as purchasing documents and contracts, in accordance with GAO records retention requirements.

GAO correctly noted that only five of ten Centers maintain complete transaction-level data for fiscal years 1994 through 2001. GAO adds that NASA has acknowledged that its systems cannot provide the data needed to support amounts obligated against the ISS and Shuttle cost limits. GAO fails to recognize that all Centers maintain summary obligations data that can be traced back to documentary evidence, such as purchasing documents and contracts. Further, NASA maintains an Agency-level database, known as the Financial and Contractual Status (FACS) database, which summarizes monthly financial data from all NASA field Centers. The FACS database includes data back to FY 1994. NASA has never stated that its systems cannot provide the data needed to support amounts obligated against the ISS and Shuttle cost limits. Rather, the use of FACS as a basis for sampling obligations was discussed at length with GAO but GAO refused to consider using FACS data and insisted on transaction-level data. FACS data and Centers' transactions for FYs 1998, 1999, and 2000 were provided to GAO, but GAO never provided a sample to NASA nor asked for supporting documents.

The draft report states that NASA's systems environment is comprised of decentralized, nonintegrated systems with policies, procedures, and practices that are unique to each of the 10 Centers. This statement is incorrect with regard to policies, practices, and procedures followed by the Centers. NASA has a Financial Management Manual, NASA

Enclosure II

Policy Directives, and NASA Procedures and Guidelines, which provide written policies, procedures, and practices that are followed consistently by the 10 Centers.

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