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Report of Independent Accountants on Internal Control

To the Inspector General of the
National Aeronautics and Space Administration:

We were engaged to audit the financial statements of the National Aeronautics and Space Administration (NASA) as of and for the year ended September 30, 2001, and have issued our report thereon dated February 22, 2002, in which we disclaimed an opinion on those financial statements.

In planning and performing our work, we considered NASA's internal control over financial reporting by obtaining an understanding of NASA's internal control, determined whether internal controls had been placed in operation, assessed control risk, and performed tests of controls. We limited our internal control testing to those controls necessary to achieve the objectives described in Office of Management and Budget (OMB) Bulletin No. 01-02. We did not test all internal controls relevant to operating objectives as broadly defined by the Federal Managers' Financial Integrity Act of 1982, such as those controls relevant to ensuring efficient operations. The objective of our work was not to provide assurance on internal control. Consequently, we do not provide an opinion on internal control.

Our consideration of the internal control over financial reporting would not necessarily disclose all matters in the internal control over financial reporting that might be reportable conditions. Under standards issued by the American Institute of Certified Public Accountants (AICPA), reportable conditions are matters coming to our attention relating to significant deficiencies in the design or operation of the internal control that, in our judgment, could adversely affect the agency's ability to record, process, summarize, and report financial data consistent with the assertions by management in the financial statements. Material weaknesses are reportable conditions in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. Because of inherent limitations in internal controls, misstatements, losses, or noncompliance may nevertheless occur and not be detected. However, we noted certain matters discussed in the following paragraphs involving the internal control and its operation that we consider to be a material weakness and reportable conditions under standards established by the AICPA and OMB Bulletin No. 01-02.

Material Weakness:

NASA Lacks Adequate Controls to Reasonably Assure that Property, Plant, and Equipment and Materials are Presented Fairly in the Financial Statements

NASA's property, plant, and equipment is comprised of several broad categories, including land, buildings and structures, assets-in-space, work-in-progress, and equipment. The most significant categories of assets include NASA-held assets-in-space and NASA-held work-in-progress and contractor-held work-in-progress. Combined, these three categories comprise $24.8 billion, or 83%, of NASA's net property, plant, and equipment at September 30, 2001.

As of September 30, 2001, NASA had capitalized approximately $8.9 billion related to the International Space Station (ISS). During our audit, we noted weaknesses in NASA's controls to ensure the validity and completeness of the amounts capitalized to the ISS during fiscal year 2001.

- NASA does not have a cost allocation policy to guide its financial and program managers in determining and documenting allocations of costs to the ISS.

- NASA was unable to provide us with a comprehensive listing of ISS costs that had been classified as capitalized assets versus amounts that had been classified as operating expenses. Thus, we were unable to determine whether all significant capital costs had been correctly included in the costs capitalized to the ISS as of September 30, 2001.

- NASA capitalized space shuttle launch costs of approximately $3.0 billion for the transportation of ISS hardware to orbit during fiscal year 2001. On a sample basis, NASA provided Contractor Financial Management Reports and vendor invoices in support of the $3.0 billion. We noted that whole or partial amounts from the Contractor Financial Management Reports and vendor invoices were allocated to the space shuttle launch costs capitalized. However, NASA did not provide sufficient documentary evidence to assess the reasonableness of the allocations.

  Related to this issue, during fiscal year 2001, NASA recorded in its consolidated statement of changes in net position a prior period adjustment, increasing the amount of costs capitalized to the ISS for space shuttle launches during fiscal year 2000 by $636 million. NASA did not provide sufficient documentary evidence in support of this adjustment to determine if the additional amounts capitalized fairly present shuttle launch costs attributable to the ISS.

- We noted that other cost allocations regarding ground processing costs, multiple element integration testing, and space launch support made to the ISS during the fiscal

year approximated $746 million. The documentation NASA provided for the sample transactions tested was not sufficient to assess the reasonableness of these allocations.

Recommendations:

- NASA should develop cost allocation policies to guide its financial and program managers in determining and documenting allocations of costs to the ISS.

- NASA should complete a review of significant ISS contracts to provide reasonable assurance that costs are being appropriately capitalized or expensed, and that an appropriate audit trail evidencing the basis for capitalization decisions is maintained.

- NASA should develop and implement an approach for determining the actual launch costs associated with each space shuttle flight so that the appropriate cost of transporting ISS components to space are capitalized, and that an appropriate audit trail evidencing the basis for capitalization decisions is maintained.

- We recommend that, as NASA addresses these recommendations related to the ISS, NASA apply these same considerations to other significant assets currently held in work-in-progress pending the beginning of their missions.

We also noted that NASA needs to improve the controls surrounding contractor-held property and the contractor reporting process to reasonably assure the accuracy of the data reported by the contractors and that data's consistency with generally accepted accounting principles. Federal Acquisition Regulations (FAR) require contractors to maintain the detail property records for the NASA-owned, contractor-held items. Annually, contractors report to NASA aggregated property, plant, and equipment and materials information to update NASA's accounting records via NASA Form 1018, *NASA Property in the Custody of Contractors*. NASA uses the 1018 reports as the basis for reporting significant materials and property, plant, and equipment balances in its financial statements. In testing these balances, as of September 30, 2001, we found:

- As of September 30, 2001, NASA reported in its consolidated balance sheet approximately $4.7 billion of NASA-owned materials that are held by contractors. The NASA FAR Supplement defines materials as "NASA-owned property held in inventory that may become a part of an end item or be expended in performing a contract. Examples include raw and processed material, parts, assemblies, small tools and supplies. Material that is part of contract work-in-process is not included." This definition, which guides contractors in preparing the 1018 report, commingles the Federal Accounting Standards Advisory Board's (FASAB) definitions of inventory and its definition of equipment, impairing NASA's ability to report these assets in conformity with generally accepted accounting principles. Under FASAB standards, equipment and inventory should be separately classified in the financial statements. In

addition, we noted that one of NASA's larger contractors had misclassified work-in-progress items as materials. Work-in-progress should be classified as property, plant, and equipment. The information reported to NASA by the contractors did not contain sufficient documentary evidence to determine how much of the reported contractor-held materials balance should have been presented as materials and how much should have been presented as property, plant, and equipment in the consolidated balance sheet as of September 30, 2001.

- Some of NASA's contractors used estimated costs instead of actual costs to assign values to completed assets. The current 1018 reporting instructions do not provide guidance to the contractors regarding the development or use of estimates to assign final values to completed assets. Lacking guidance on the use of estimates, it is difficult to assess the reasonableness of the estimates or the impact that this has on NASA's financial statements.

Recommendations:

- NASA should revise the 1018 definitions and reporting instructions so that consumable materials are reported separately from items to be built into long-lived assets, consistent with FASAB and OMB form and content reporting requirements.

- NASA should revise the form 1018 to provide additional information that would allow NASA to conduct a more rigorous analysis of the 1018 reports and better enable it to provide reasonable assurance that property, plant, and equipment and materials balances are properly aggregated and classified by the contractors. Specifically, the 1018 should provide information from the contractors regarding additions and deletions to construction-in-progress, materials, and work-in-progress as well as transfers of assets among contractors and with NASA. NASA should also obtain detailed data supporting balances reported for materials and property, plant, and equipment in the 1018 reports and use this data to validate the contractor-submitted information. In particular, NASA should conduct an analysis of contractor data on the specific items comprising the materials balances reported by the contractors to determine the proper classification of these assets within the consolidated balance sheet.

- NASA should ensure that the 1018 reporting instructions are clarified and updated regarding the use of estimated costs by the contractors. If the use of estimated costs is not permitted, then the reporting instructions should be updated to specifically preclude the use of estimates. If NASA determines that the use of estimated costs is appropriate for assigning values to finished equipment, then NASA should implement appropriate controls to determine the reasonableness of the contractor estimation techniques.

- NASA should build on its fiscal year 2001 outreach to contractors, which it undertook in response to a fiscal year 2000 reportable condition and which surfaced a number of the issues reported here, to provide regular dialogue with and monitoring of contractors to minimize the risk of errors on the 1018 reports.

Reportable Conditions:

System Constraints Impede the Operational Effectiveness of NASA's Financial Management Processes

Each of NASA's Centers uses a different financial management system. These systems were designed and implemented before the current OMB form and content requirements and Federal accounting standards became effective. The systems used by the Centers have multiple feeder systems, and most of the systems summarize individual transactions on a daily or monthly basis. Financial information from the Centers may be summarized more than once before it is uploaded into the General Ledger Accounts System (GLAS). The successive summarization of data through the various systems impedes NASA's ability to maintain an audit trail through the summary data to the detailed transaction-level source documentation. Current OMB and GAO guidance on internal control requires agencies to maintain transaction-level documentation and to make the transaction-level documentation readily available for review. NASA was unable to provide sufficient transaction-level documentation to support certain obligation and expense transactions and certain transaction-level cost allocations that we had selected for testing.

Recommendation:

NASA is currently in the process of implementing a new agency-wide financial management system. If implemented properly, the new financial management system, linked closely with operational procedures, should provide NASA with the ability to readily support transactions and significant events that impact the financial statements. Until the new system becomes operational, we recommend that NASA maintain documentation trails from summary level data recorded in the financial management systems to the detailed source documents.

Improve Controls Used to Estimate the Environmental Liability

NASA has reported a liability of approximately $1.3 billion for environmental cleanup costs for numerous NASA-owned environmental sites around the country. This liability was calculated using parametric models and other estimation techniques, including references to site-specific cleanup reports and bids received from NASA contractors to cleanup sites. Remediation managers located at each of NASA's Centers were responsible for completing the site-specific liability calculations. During our review of the documentation supporting this liability, we noted that the remediation project managers did not have clear or consistent guidance for estimating environmental remediation liabilities. Therefore, the process of

estimating site-specific liabilities varied significantly from one NASA Center to another. In addition, the initial documentation provided by NASA to support site-specific liability calculations did not support the liability calculations completed by the NASA remediation managers. During our audit, NASA made a concerted effort to update the liability calculations for a majority of the environmental cleanup sites around the country. However, control improvements are still warranted for this significant liability.

Recommendation:

NASA should develop liability calculation documentation and provide training to all of the remediation managers to ensure that environmental liabilities are calculated consistently across all of its sites. NASA should establish and implement control procedures to ensure the proper development of environmental liabilities and documentation requirements. NASA should also validate estimates against actual spending to determine the accuracy of estimates.

Perform a Comprehensive Disaster Recovery Test of Logical Partitions that Process Financially Significant Applications

Examination of the Disaster Recovery Test Plan that provides a testing history of all logical partitions revealed that the logical partitions at NASA's primary recovery site in New Jersey, which process the significant financial applications of the Space Centers have not been tested in a consolidated manner to provide comfort that the NASA Automated Data Processing Consolidation Center (NACC) could recover the data processing environments in the event of a disaster that affects the entire data center. In addition, documentation and/or contracts from all of the computer vendors were not available to provide assurance that the necessary hardware and software would be delivered to the secondary recovery site at the Johnson Space Center in a required period of time to support NACC operations and services.

Recommendation:

We recommend that NACC management schedule a consolidated test of the logical partitions at the primary site in the near future and ensure that contracts are in place to provide for delivery of necessary hardware and software to the secondary site.

Improve Logical Access Controls over Security of Financial Management Systems

Our testing of the LPARS that process the significant financial applications revealed a number of weaknesses in the system software and access control settings. A number of security software parameters either were incorrectly set or were not operating effectively in the mainframe and client server architecture that we tested. Below are a few examples of the control weaknesses noted:

- Emergency IDs used by authorized NACC primary and backup system programmers not suspended/revoked after resolution of emergency conditions

- Incorrect settings for the RACF and ACF2 access control software programs
- Incorrect settings for the operating system
- Weak password controls
- Inadequate monitoring of violations
- Inadequate auditing of functions supporting sensitive or critical general resources

Recommendation:

NACC staff should review the various security plans and ensure compliance with such plans. These are: 1) The NACC Security Policies and Procedures, 2) the CSC-PrISMS Security Plan, 3) the Marshall Space Flight Center (MSFC) Information Technology Security Plan, and 4) NASA's NASA Procedures and Guidelines 2810.1.1. A comprehensive review should be performed of all security parameters and these parameters should be modified accordingly to bring them in compliance with NASA's stated security program.

Access Control Weakness for the NACC Mainframe

We identified additional vulnerabilities in security over the NACC mainframe. Because of the sensitive nature of these findings, we are reporting them, together with our recommendations, in a separate limited-distribution report.

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In addition, we considered NASA's internal control over required supplementary stewardship information by obtaining an understanding of NASA's internal control, determined whether these internal controls had been placed in operation, assessed control risk, and performed tests of controls as required by OMB Bulletin No. 01-02 and not to provide assurance on these internal controls; accordingly, we do not provide an opinion on such controls.

Finally, with respect to internal control related to performance measures reported in the Strategic Enterprise and Performance Highlights, we obtained an understanding of the design of significant internal controls relating to the existence and completeness assertions, as required by OMB Bulletin No. 01-02. Our procedures were not designed to provide assurance on internal control over reported performance measures; accordingly, we do not provide an opinion on such controls.

We also noted certain other matters involving internal control that we will report to the management of NASA in a separate management letter.

This report is intended solely for the information and use of the management of NASA, OMB, and Congress, and is not intended to be and should not be used by anyone other than these specified parties.

PricewaterhouseCoopers LLP

Washington, D.C.
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