

GAO

Report to the Committee on Commerce,
Science, and Transportation, United
States Senate, and the Committee on
Science, House of Representatives

November 2003

BUSINESS MODERNIZATION

NASA's Integrated Financial Management Program Does Not Fully Address Agency's External Reporting Issues



G A O

Accountability * Integrity * Reliability



Highlights of [GAO-04-151](#), a report to the Committee on Commerce, Science, and Transportation, U.S. Senate, and the Committee on Science, House of Representatives

Why GAO Did This Study

In April 2000, the National Aeronautics and Space Administration (NASA) began its Integrated Financial Management program (IFMP), its third attempt at modernizing its financial management processes and systems. In April 2003, GAO reported that NASA's acquisition strategy has increased the risk that the agency will implement a system that will cost more and do less than planned. This report is one of a series of reviews of NASA's acquisition and implementation of IFMP, and focuses on the core financial module's ability to provide the information necessary for external financial reporting.

What GAO Recommends

GAO is recommending that NASA (1) identify all areas that are not compliant with the Federal Financial Management Improvement Act (FFMIA) of 1996 and (2) develop an implementation plan for addressing those areas and incorporating them into IFMP, including the need for reengineering some processes, such as the cost and other information that it requires from contractors. This plan should include time frames and details on how any changes will be monitored, tested, and documented. NASA disagreed with GAO's recommendations, saying that the report did not reflect IFMP's most recent progress. GAO considered recent IFMP progress and reaffirmed its position.

www.gao.gov [GAO-04-151](#)

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gregory D. Kutz at (202) 512-9095 or kutzg@gao.gov.

BUSINESS MODERNIZATION

NASA's Integrated Financial Management Program Does Not Fully Address Agency's External Reporting Issues

What GAO Found

The core financial module of IFMP provides NASA its first agencywide accounting system—a significant improvement over the 10 disparate systems previously used. However, to meet IFMP's aggressive implementation schedule, NASA deferred testing and implementation of many key requirements of the core financial module. Consequently, when NASA announced, in June 2003, that this module was fully operational at each of its 10 centers, about two-thirds of the financial events or transaction types needed to carry out day-to-day operations and produce external financial reports had not been implemented in the module. NASA officials acknowledged that, as part of their implementation strategy, they had not yet converted the module to support full-cost accounting. In addition, we found that NASA also deferred implementation of other key core financial module capabilities. Because NASA did not use disciplined processes for defining, managing, and testing key system requirements, or substantially reengineer its business processes prior to implementation, the core financial module, as implemented in June 2003, does not address several long-standing external reporting issues and has created some new problems.

- **Long-standing external financial reporting issues have not been addressed.** NASA has not used its implementation of the core financial module as an opportunity to drive needed changes in its management practices and business processes. Therefore, the system does little to address NASA's ability to properly account for \$37 billion of reported property or certain aspects of the agency's \$15 billion annual budget.
- **New financial reporting problems have emerged.** NASA went forward with its aggressive implementation plans even though agency managers knew of problems with the module's ability to properly process and record certain transactions. As a result, the module does not appropriately capture critical information on the cost of NASA's operations, such as certain accrued costs, accounts payable, and obligation transactions.

In April 2003, GAO reported that the core financial module did not address key internal management information requirements. Now, GAO has found that the module cannot reliably provide key financial data needed for external financial reporting. Although NASA intends to address many of these issues, its implementation approach raises concerns over its ability to do so. These deferred external reporting capabilities, combined with the findings from our April 2003 report, indicate that NASA's June 2003 core financial module and related systems do not substantially comply with the requirements of FFMIA. FFMIA addresses the need for agencies' financial systems to provide value to those who use financial data. NASA must address these issues if the core financial module and IFMP are to achieve the objective of providing reliable, timely financial information for both internal management decision-making and external reporting purposes.

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Abbreviations

FASAB	Federal Accounting Standards Advisory Board
FFMA	Federal Financial Management Improvement Act
FFMSR	Federal Financial Management System Requirements
IFMP	Integrated Financial Management Program
JFMIP	Joint Financial Management Improvement Program
NASA	National Aeronautics and Space Administration
OMB	Office of Management and Budget
PP&E	Property, Plant, and Equipment
SFFAC	Statement of Federal Financial Accounting Concepts
SFFAS	Statement of Federal Financial Accounting Standards
SGL	<i>U.S. Government Standard General Ledger</i>

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United States General Accounting Office
Washington, D.C. 20548

November 21, 2003

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

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

For years, the National Aeronautics and Space Administration (NASA) has cited deficiencies with its financial management systems as a primary reason for not having the necessary data required to oversee its contractors, accurately account for the full cost of its operations, and efficiently produce accurate and reliable information needed for both management decision-making and external reporting purposes. Recognizing the importance of successfully implementing an integrated financial management system, in April 2000, NASA began an effort known as the Integrated Financial Management Program (IFMP). When completed, IFMP is planned to consist of nine modules¹ that will support a range of financial, administrative, and functional areas. On June 23, 2003, NASA announced that the core financial module—considered the backbone of IFMP—was fully operational at each of NASA's 10 centers. The core financial module is intended to provide NASA's financial and program managers with timely, consistent, and reliable cost and performance information for management decisions and external financial reporting.

NASA has made two efforts in the recent past to improve its financial management processes and systems but both of these efforts were

¹The nine modules will consist of core financial, resume management, travel management, position description management, human resources, Erasmus, budget formulation, contract administration, and asset management.

eventually abandoned after spending a total of 12 years and a reported \$180 million. Given the importance of NASA's current effort, you asked us to assess the program. In April 2003, we issued our first report on IFMP to alert you to concerns we had, based on our work to date. In that report, we provided you with, among other things, our assessment of the core financial module's ability to satisfy NASA's internal management decision-making needs.

As agreed, we continued our review of IFMP in three areas to assess: (1) whether NASA has been acquiring and implementing IFMP in the context of an enterprise architecture, (2) the extent to which the core financial module will address NASA's external reporting requirements, and (3) NASA's life-cycle cost estimate and schedule for IFMP. We are responding to the first and third issues in separate reports,² and we have summarized our findings on all three issues in a summary report.³ This report addresses the second issue—the extent to which the core financial module, as completed in June 2003, will satisfy NASA's key external reporting requirements. Specifically, we assessed whether the core financial module, as of June 2003, provides the functionality needed to (1) accurately account for property, plant, and equipment (PP&E) and material, (2) properly account for the full cost of NASA's projects and programs, (3) capture and report certain key budgetary information, (4) accurately record accounts payable, and (5) comply substantially with the requirements of the Federal Financial Management Improvement Act (FFMIA) of 1996.⁴ FFMIA emphasizes the need for agencies to be able to provide financial management information, including cost information, for measuring the results of program performance on an ongoing basis. FFMIA also requires that an agency's independent auditor report on the ability of agency financial management systems to comply substantially with these requirements.

²See U.S. General Accounting Office, *Business Modernization: Disciplined Processes Needed to Better Manage NASA's Integrated Financial Management Program*, GAO-04-118 (Washington, D.C.: Nov. 21, 2003). Also, see U.S. General Accounting Office, *Information Technology: Architecture Needed to Guide NASA's Financial Management Modernization*, GAO-04-43 (Washington, D.C.: Nov. 21, 2003).

³See U.S. General Accounting Office, *Business Modernization: NASA Challenges in Managing Its Integrated Financial Management Program*, GAO-04-255 (Washington, D.C.: Nov. 21, 2003).

⁴31 U.S.C. 3512 note (2000) (Federal Financial Management Improvement).

We performed our work from April 2003 through September 2003 in accordance with generally accepted government auditing standards. Details on our objective, scope, and methodology are in appendix I.

Results in Brief

Although NASA has met its core financial module's implementation schedule, the system, as implemented in June 2003, does not provide many key external financial reporting capabilities. In fact, when NASA announced, in June 2003, that the core financial module was fully operational at each of its 10 centers, about two-thirds of the financial events or transaction types needed to carry out day-to-day financial operations and produce external financial reports had not been implemented. At that time, NASA officials acknowledged that, as part of their implementation strategy, they had not yet converted the system to support full-cost accounting. However, because NASA did not use disciplined processes for defining, managing, and testing system requirements or substantially reengineer its business processes prior to implementation, we found that NASA also deferred implementation of other key core financial module capabilities. Key core financial module capabilities deferred for these reasons include (1) capturing, recording, and accounting for PP&E and material and (2) making adjustments to prior year obligations. In addition, NASA's implementation approach has created new problems in recording certain accrued costs, accounts payable, and obligation transactions. These deferred external reporting capabilities and new problems, combined with the findings from our April 2003 report, indicate that NASA's June 2003 core financial module and related systems do not substantially comply with the requirements of FFMIA.

According to NASA officials, NASA plans to address most of these problems between now and 2006 when it expects IFMP to be fully implemented. For example, after the core financial module's implementation in June 2003, NASA began designing the agency's new cost allocation structure and expected that by October 1, 2003, the core financial module would have the ability to capture the full cost of NASA's programs and projects needed for external financial reporting purposes. In addition, although past software upgrades, or "patch" releases, have proven to be unsuccessful, NASA expected a new patch release to resolve the system problems associated with budgetary accounting by October 1, 2003.

However, even if the agency's cost allocation structure is in place and the patch release is successful, NASA has not addressed its most challenging

external reporting issues—accurately capturing, recording, and accounting for PP&E and materials and ensuring that its system meets the broader objectives of federal managerial cost accounting standards. Specifically, NASA has not reengineered the agency’s processes for capturing contract costs associated with PP&E and material and therefore continues to update the core financial module using periodic summary-level manual entries. Although NASA plans to implement an integrated asset management module in 2005, this alone will not ensure that NASA uses transaction-level detail to update the core financial module and thereby provide independent control over its property.

Further, as we reported in April 2003, the core financial module does not provide agency managers or the Congress with useful cost and related information with which to make informed decisions, manage daily operations, and ensure accountability on an ongoing basis. Consequently, the system does not meet the broader objectives of federal managerial cost accounting standards, which address the need to provide relevant and reliable information to both managers and the Congress.

We are making recommendations that NASA develop and implement a corrective action plan to ensure that the agency’s financial management systems comply substantially with the requirements of FFMIA. The plan should provide a means for ensuring that all user requirements are met, including the need to reengineer key business processes where necessary.

In written comments, which are reprinted in appendix II, NASA disagreed with all of our conclusions and recommendations in part because we reviewed the status of the core financial module as of June 23, 2003 instead of September 30, 2003—the date used for FFMIA reporting. We conducted our audit as of June 2003 because NASA represented that the core financial module was fully operational at all of its centers at that time, acknowledging only that they had not yet converted the system to support full-cost accounting, but not disclosing many other deferred capabilities.

Moreover, NASA’s comments assert that for PP&E and budgetary reporting, the manual processes or workarounds it has developed to produce year-end balances for the agency’s annual financial statements also satisfy the requirements of FFMIA. We disagree with this assertion. The development of significant manual workarounds in these areas masks the fact that NASA’s core financial module is not designed to and cannot produce timely and reliable PP&E and budgetary data with traceability to transaction-based support. The ability to produce reliable numbers once a year for

financial reporting purposes does not by itself constitute FFMIA compliance. In its written comments, NASA indicated that it has made changes to the module since June and that the core financial module as implemented in October 2003 has many of the capabilities that were lacking in the June 2003 module. However, with the possible exception of full-cost accounting, which was planned for October 1, 2003, NASA acknowledges that the cited changes involve manual workarounds for producing year-end numbers. FFMIA goes well beyond producing auditable financial statements once a year; it requires financial systems that ensure accountability and accurate data for managerial and reporting purposes on an ongoing basis throughout the year.

Background

From 1996 through 2000, NASA was one of the few agencies to be judged by its independent auditor at that time, Arthur Andersen, as meeting all of the federal financial reporting requirements. That is, NASA was one of the few agencies to receive an unqualified, or “clean,” opinion on its financial statements, with no material internal control weaknesses noted, and no indications that its financial management systems were not in substantial compliance with the requirements of FFMIA.⁵ FFMIA reflects the need for agencies to have systems that produce reliable, timely, and accurate financial information needed for day-to-day decision making by requiring agencies to implement and maintain financial management systems that substantially comply with (1) federal financial management systems requirements,⁶ (2) the *U.S. Government Standard General Ledger* (SGL) at the transaction level,⁷ and (3) applicable federal accounting

⁵FFMIA requires auditors to report whether agencies’ financial management systems comply with federal financial management systems requirements, applicable federal accounting standards (U.S. generally accepted accounting principles), and the U.S. Standard General Ledger at the transaction level.

⁶Policies and standards prescribed for executive agencies to follow in developing, operating, evaluating, and reporting on financial management systems are defined in the Office of Management and Budget (OMB) Circular A-127, Financial Management Systems. These system requirements provide the framework for establishing integrated financial management systems to support the partnership between program and financial managers, and ensure the integrity of information for decision making and measuring performance.

⁷The SGL was established by an interagency task force under the direction of OMB and mandated for use by agencies in OMB and Treasury regulations in 1986. The SGL promotes consistency in financial transaction processing and reporting by providing a uniform chart of accounts and pro forma transactions used to standardize federal agencies’ financial information accumulation and processing throughout the year.

standards.⁸ Thus, the auditor's report implied that NASA could not only generate reliable information once a year for external financial reporting purposes but also could provide the kind of information needed for day-to-day management decision making.

However, as we and others have reported, the independent auditor's reports did not provide an accurate picture of NASA's financial management systems and, instead, failed to disclose pervasive financial management problems that existed at NASA. For example, we have identified NASA's contract management function as an area of high risk since 1990 because of NASA's inability to (1) oversee its contractors and their financial and program performance, and (2) implement a modern, integrated financial management system, which is integral to producing accurate and reliable financial information needed to support contract management.⁹ Also, in February 2002, NASA's new independent auditor, PricewaterhouseCoopers, further confirmed NASA's financial management difficulties and disclaimed an opinion on the agency's fiscal year 2001 financial statements. The audit report also identified a number of material internal control weaknesses—primarily regarding PP&E and materials—and stated that, contrary to previous financial audit reports, NASA's financial management systems did not substantially comply with FFMIA.

While NASA received an unqualified opinion for its fiscal year 2002 financial statements, these results were achieved only through heroic efforts on the part of NASA and its auditor and again, the audit report identified a number of material internal control weaknesses and stated that NASA's financial management systems did not substantially comply with FFMIA. To its credit, in April 2000, NASA began an effort known as IFMP. The schedule for implementing IFMP was originally planned for fiscal year

⁸In October 1990, the Secretary of the Treasury, the Director of OMB, and the Comptroller General established the Federal Accounting Standards Advisory Board (FASAB) to develop a set of generally accepted accounting standards for the federal government. FASAB promulgates federal accounting standards that agency Chief Financial Officers use in developing financial management systems and preparing financial statements.

⁹At that time, we began a special effort to review and report on the federal program areas that our work had identified as high risk because of vulnerabilities to waste, fraud, abuse, and mismanagement. We first issued our *High-Risk Series* in December 1992 and have continued to include NASA's contract management as an area of high risk since. See U.S. General Accounting Office, *High-Risk Series: NASA Contract Management*, GAO/HR-93-11 (Washington, D.C.: December 1992) and *Major Management Challenges and Program Risks: National Aeronautics and Space Administration*, GAO-03-114 (Washington, D.C.: January 2003).

2008, but after NASA's new Administrator came on board in fiscal year 2002, the timeline was accelerated to fiscal year 2006, with the core financial module to be completed in fiscal year 2003. NASA's IFMP includes nine module projects supporting a range of financial, administrative, and functional areas. According to NASA officials, of the nine module projects, five are in operation, one is currently in implementation, and three are future modules. The five modules in operation are resume management, position description management, travel management, executive financial management information (called Erasmus), and core financial; the one project in implementation is budget formulation; and the three future module projects are human resources, asset management, and contract administration.

The core financial module, which utilizes the SAP R/3 system,¹⁰ is considered the backbone of IFMP and has become NASA's standard, integrated accounting system used agencywide. The other IFMP module projects will be integrated/interfaced with the core financial module, where applicable. The Joint Financial Management Improvement Program (JFMIP)¹¹ defines a core financial system (or module) as the backbone of an agency's integrated financial management system: It should provide common processing routines, support common data for critical financial management functions affecting the entire agency, and maintain the required financial data integrity control over financial transactions, resource balances, and other financial systems. A core financial system should support an agency's general ledger, funds management, payment, receivable, and cost management functions. Also, the system should receive data from other financial-related systems, such as inventory and property systems, and from direct user input, and it should provide data for financial statement preparation and for financial performance measurement and analysis.

The scope of NASA's core financial module includes the general ledger, budget execution, purchasing, accounts receivable, accounts payable, and

¹⁰SAP R/3 is an integrated software solution produced by software vendor SAP, Inc.

¹¹JFMIP is a joint undertaking of the U.S. Department of the Treasury, General Accounting Office, Office of Management and Budget, and Office of Personnel Management, working in cooperation with one another, with other agencies, and with the private sector, to improve financial management in the federal government. The program was given statutory authorization in the Budget and Accounting Procedures Act of 1950 (31 U.S.C. 3511(d)). One of JFMIP's roles has been to establish detailed requirements for agencies' financial management systems.

cost management. NASA completed implementation of the core financial module at all 10 NASA centers in June 2003. The pilot for the core financial module—conducted at Marshall Space Flight Center—was implemented in October 2002. NASA then deployed the core financial module at the other 9 NASA centers in three “waves,” the last of which was completed in June 2003.

In April 2003, we issued our first report on IFMP in response to your request.¹² At that time, we reported that NASA was not following key best practices for acquiring and implementing the system, which may affect the agency’s ability to fully benefit from the new system’s capabilities. Specifically, we reported that NASA (1) did not analyze the relationships among selected and proposed IFMP components, (2) had deferred addressing the needs of key system stakeholders,¹³ including program managers and cost estimators, and (3) did not properly manage and test its system requirements prior to implementation of the core financial module. As a result, we reported that:

- NASA has increased its risks of implementing a system that will not optimize mission performance, and will cost more and take longer to implement than necessary;
- the core financial module is not being designed to integrate the cost and schedule data that program managers need to oversee the work of NASA’s contractors; and
- costly rework will likely be required to fix requirement defects not identified prior to implementation.

¹²U.S. General Accounting Office, *Business Modernization: Improvements Needed in Management of NASA’s Integrated Financial Management Program*, GAO-03-507 (Washington, D.C.: Apr. 30, 2003).

¹³ NASA defined those in the financial accounting arena as the system’s users who, under NASA’s plan, would determine the system’s requirements, guide its implementation, and define and measure its success. Those who would benefit from the system’s new capabilities were identified as stakeholders. Under NASA’s plan, they would be the ultimate beneficiaries of the system improvements, but would not have a role in setting requirements or measuring and determining the success of the system’s implementation.

Schedule-driven Approach Limits Transaction Processing Capabilities

Although NASA has met the core financial management module's implementation schedule, the system as implemented in June 2003 has limited external financial reporting capabilities. When NASA announced in June 2003 that the core financial management module was complete, NASA officials acknowledged that additional work remained, including the need to develop and configure a cost-allocation structure within the system so that it would accumulate the full cost of NASA's programs and projects for external financial reporting purposes. However, to meet its implementation schedule, we also found that NASA (1) deferred requirements that require significant business process reengineering or extensive software configuration and (2) continues to rely on manual procedures for many transactions that should be automated in the new system. Consequently, only about one-third of the transaction types that NASA uses in its business processes are currently implemented and fully automated in the core financial module.

The Full Cost of NASA's Programs Not Yet Available

As part of its implementation strategy, NASA delayed conversion to full-cost accounting until the core financial module was implemented at all centers. After completing implementation of the module in June 2003, NASA began designing the agency's new cost-allocation structure and expected that full-cost accounting capabilities needed to provide the full cost of its programs and projects for external financial reporting purposes would be available through the core financial module by October 1, 2003. Properly designing, configuring, and testing the cost-allocation structure is key to capturing the full costs of all direct and indirect resources and allocating them to NASA's programs and activities. However, on May 30, 2003, NASA's Inspector General reported that NASA had not yet determined how to allocate space shuttle program costs to programs that benefit from space shuttle services or how to allocate civil service personnel costs to benefiting programs and projects.¹⁴ Once these issues were resolved, NASA would then have to configure the core financial module software to accommodate the new allocation structure and properly test the new configuration. Consequently, NASA's Inspector General expressed concerns about NASA's ability to meet its October 1, 2003, target date. In early October, we inquired about the status of full-cost accounting within

¹⁴NASA Office of Inspector General, *Integrated Financial Management Program Core Financial Module Conversion to Full Cost Accounting*, IG-03-015 (Washington, D.C.: May 30, 2003).

the core financial module and IFMP officials told us that this capability would be fully implemented on October 26, 2003. However, because of the timing of this report, we did not verify whether this implementation date was met.

If NASA is successful in implementing full-cost accounting, the new system should link all of NASA's direct and indirect costs to specific programs and projects, and for the first time shed light on the full cost of these programs for external financial reporting purposes. As explained later, managerial cost accounting goes beyond providing the full cost of programs and projects and producing external financial reports, and is also critical for producing the type of cost information needed to effectively manage and oversee NASA's programs.

**Deferred Requirements
Include Transactions
Critical to NASA's Business
Operations**

NASA did not adequately test key requirements or configure the core financial module software to satisfy these requirements prior to implementing the module. Adequately testing and configuring a system prior to implementation helps assure the integrity and effectiveness of transactions that will be processed through the system, thereby reducing the likelihood of rejected transactions, labor-intensive manual workarounds, and inaccurate data. However, prior to implementation, NASA tested only 120, or 53 percent, of the 225 unique financial events or transaction types identified by NASA as critical for carrying out day-to-day operations and producing external financial reports. NASA deferred implementation of the remaining 105 transaction types until after June 23, 2003, when the system would be implemented at all centers.

Ideally, all transactions should be thoroughly tested prior to implementing a system. However, to meet the agency's implementation schedule, NASA identified and deferred implementation of transactions that it determined would not have a significant or immediate impact on operations. For example, 29 of the deferred transactions were related to year-end closing procedures that would not be needed until September 30, 2003. However, other deferred transactions do have a significant and immediate impact on NASA's operations throughout the year. For example, 40 transaction types were related to upward and downward adjustments to prior year data, many of which affected NASA's ability to properly capture adjustments to obligations. Because NASA deferred implementing this capability, the agency has continued to rely on ad hoc, manual processes and "workarounds." As discussed later, these are the same cumbersome

manual processes that resulted in a \$644 million error in NASA's fiscal year 1999 financial statements.

NASA hoped to implement most of these deferred transactions by October 2003. In mid-October, NASA officials told us that 75 of the 105 deferred transaction types had been implemented, and the remaining 30 transaction types would be implemented later in fiscal year 2004. Until the remaining transaction types are implemented, however, NASA must continue to process them outside of the module using manual procedures.

Core Financial Module Relies Heavily on Manual Procedures

In addition to the 105 transaction types that NASA has deferred, NASA also uses manual accounting entries to record 43, or 36 percent, of the 120 unique transaction types NASA considers implemented. NASA considers these 43 transaction types implemented because NASA has no current plans to automate them in the core financial module. Although manual accounting entries are sometimes necessary to record unusual or infrequent events, many of NASA's manual entries are made to record routine events that should be processed electronically. For example, NASA uses summary-level manual processes to record all transactions occurring throughout the year related to its reported \$37 billion of property. Such a large proportion of manual procedures runs contrary to the purpose of an automated system and makes the agency more vulnerable to processing errors and delays. In fact, prior to implementation, NASA's consultant responsible for performing an independent compliance review of the core financial module raised concerns about the excessive number of transactions processed with manual journal voucher entries. Despite these concerns, NASA did not alter its implementation plan for the module.

Long-standing External Reporting Issues Not Addressed

The core financial module may provide some improvements to NASA's current accounting system environment by reducing the extensive amount of time and resources currently required to consolidate NASA's 10 different reporting entities and close the books each accounting period. However, NASA did not thoroughly test or implement key requirements prior to implementation and has not used the new system as an opportunity to drive needed changes in its management practices and business processes. Therefore, the core financial module, as implemented in June 2003, does not (1) properly capture, record, and account for PP&E and materials balances or (2) provide key system requirements needed to prepare the agency's Statement of Budgetary Resources.

NASA Has Not Reengineered Processes to Properly Account for PP&E and Materials

The core financial module, as implemented in June 2003, does not appropriately capture and record PP&E and material in the module's general ledger at the transaction level. According to SGL requirements and NASA's own accounting policy, recording PP&E and material in the general ledger at the transaction or item level provides independent control over these assets. However, NASA currently updates the core financial module's general ledger using periodic summary-level manual entries. Although NASA plans to implement an integrated asset management module in 2005, this alone will not ensure that transaction-level detail is used to update the core financial module.

NASA's PP&E and materials are physically located at many locations throughout the world, including NASA centers, contractor facilities, other private or government run facilities, and in space. NASA's most significant challenge, with respect to property accounting, stems from property located at contractor facilities, which accounts for almost \$11 billion, or about one-third, of NASA's reported \$37 billion of PP&E and materials and consists primarily of equipment being constructed for NASA or items built or purchased for use in the construction process. NASA has not reengineered the agency's processes for capturing contract costs associated with PP&E and material, though, and therefore, does not record these property costs in the general ledger at the transaction level. Instead, according to NASA officials, the agency plans to continue to (1) record the cost of PP&E and materials as expenses when initially incurred, (2) periodically determine which of those costs should have been capitalized, and (3) manually correct these records at a summary level.

To illustrate, NASA's contractors provide NASA with monthly contractor cost reports, which contain accrued cost information for any work performed during the month. However, these reports do not contain enough information for NASA to determine what portion of the reported cost pertains to the construction or acquisition of property and therefore, NASA initially records all costs reported by its contractors as an expense. Then, on a quarterly or annual basis,¹⁵ NASA receives a property report from its contractors that provides summary-level information on the amount of property constructed or purchased and currently in the

¹⁵NASA has typically required its contractors to report information about property in their possession on an annual basis. However, NASA began requiring quarterly reports for its 55 largest contracts as of June 30, 2003, and plans to incrementally establish quarterly reporting for all relevant contracts in the next couple of years.

contractor's possession. Based on these reports, NASA records the cost of contractor-held assets in its general ledger and reverses the expense previously recorded from the contractor cost reports. The problem with NASA's current process for capturing, recording, and accounting for property in the possession of contractors is that it provides no way for NASA to ensure that the money it spends on the construction of its property is actually recorded as discrete property items.

Although NASA plans to implement an integrated asset management module in 2005, the new system will not change the way NASA captures, records, and accounts for property in the possession of contractors. As noted above, because this problem stems from NASA's inability to link accrued costs reported by its contractors with specific equipment items being constructed, the problem will not be alleviated when physical custody of the equipment is ultimately transferred to NASA and recorded in NASA's property records.

Key Requirements Deferred for Statement of Budgetary Resources

The core financial module does not capture and report certain key budgetary information needed to prepare the agency's Statement of Budgetary Resources. Although the software that NASA purchased for the core financial module was certified by JFMIP as meeting all mandatory system requirements, NASA may have relied too heavily on the JFMIP certification. JFMIP has made it clear that its certification, by itself, does not automatically ensure compliance with the goals of FFMIA. Other important factors that affect compliance with Federal Financial Management System Requirements (FFMSR) include how well the software has been configured to work in the agency's environment and the quality of transaction data in the agency's feeder systems. When NASA later tested specific requirements related to adjustments to prior year obligations, the core financial module failed the test. Consequently, NASA deferred implementation of those requirements and opted to rely on manual compilations, system queries, or other workarounds to compensate for the system's inadequacies. These workarounds are known to have caused reporting problems in the past.

According to FFMSR, an agency's core financial module should automatically classify and record upward and downward adjustments of prior year obligations to the appropriate general ledger accounts. However, NASA's core financial module, as implemented in June 2003, does not provide this capability. For example, if an upward adjustment is required because an invoice includes costs not previously included on the

purchase order, such as shipping costs, the system erroneously posts the upward adjustment to a prior year obligation instead of a current year obligation. Because the system does not properly capture and report these adjustments, NASA must rely on manual compilations and system queries to extract the data needed to prepare the agency's Statement of Budgetary Resources—just as it did using its legacy general ledger systems. As we reported in March 2001, this cumbersome, labor-intensive effort to gather the information needed at the end of each fiscal year was the underlying cause of a \$644 million misstatement in NASA's fiscal year 1999 Statement of Budgetary Resources.¹⁶

During its initial test of system requirements but prior to implementation at Marshall Space Flight Center and Glenn Research Center in October 2002, NASA became aware of the software's limitations regarding upward and downward adjustments to prior year obligations. In order to meet its schedule, NASA IFMP officials deferred further system modifications to meet these requirements and opted to rely on a manual workaround to satisfy the federal requirement for upward and downward adjustments. NASA's consultant responsible for performing an independent compliance review of the core financial module raised concerns about this approach. Despite these concerns, NASA went forward with its plans. At the time, NASA had hoped that a "patch" release or future software upgrade would remedy the problem and then NASA could incorporate the fix into the phased agency rollout of the core financial module. However, the upgrades incorporated after the initial implementation at Marshall and Glenn did not resolve all of the issues related to upward and downward adjustments. As a result, NASA continued to face significant problems in this area. According to NASA officials, the agency continued to work with the software vendor to reconfigure the software as necessary to accommodate adjustments to prior year obligations. NASA expected a new software patch to resolve any remaining problems by October 1, 2003. However, in mid-October, NASA officials acknowledged that it might be some time before this issue would be resolved completely. Until then, NASA will continue to rely on manual workarounds.

¹⁶U.S. General Accounting Office, *Financial Management: Misstatement of NASA's Statement of Budgetary Resources*, GAO-01-438 (Washington, D.C.: Mar. 30, 2001).

NASA'S Implementation of IFMP Has Created New Reporting Problems

NASA's implementation of the core financial module has also created new reporting issues. Specifically, the core financial module does not appropriately capture accrued costs and record the corresponding liabilities as accounts payable. In addition, the core financial module records obligations to the general ledger before the obligations are legally binding. Although NASA knew about these problems prior to implementation, the agency went forward with its implementation plans.

Accrued Costs and Accounts Payable Not Appropriately Captured and Reported

The core financial module, as implemented in June 2003, does not appropriately capture and record accrued contract costs and accounts payable information in accordance with federal accounting standards and NASA's own financial management manual. Specifically, the core financial module does not capture accrued costs or record accounts payable if cumulative costs are in excess of obligations for a given contract. As of June 30, 2003, NASA had not processed approximately \$245 million in costs that exceeded obligations, nor recorded the corresponding accounts payable, even though this amount represented a legitimate liability for NASA. Instead, these transactions are held outside of the general ledger in suspense until additional funds can be obligated. Thus, any report containing information on NASA's costs or liabilities would likely be understated by the amount of costs held in suspense at the time of the report.

Federal accounting standards and NASA's own financial management manual require costs to be accrued in the period in which they are incurred and any corresponding liability recorded as an account payable, regardless of amounts obligated. Further, federal standards require that agencies must disclose unfunded accrued costs—or costs in excess of obligations. However, NASA has designed the core financial module such that it will not post costs to the general ledger if they exceed the amount obligated. According to NASA officials, this is intended to be a “red flag” or internal control that alerts agency managers to potential cost overruns.

While we agree that NASA could benefit from information that provides an early warning sign of possible cost or schedule problems, we disagree with NASA's approach. Appropriately posting costs and accounts payable to the general ledger does not preclude NASA from monitoring unfunded accrued costs. Further, as we reported in April 2003, to adequately oversee NASA's contracts, program managers need reliable contract cost data—both budgeted and actual—and the ability to integrate this data with contract

schedule information to monitor progress on the contract. However, because program managers were not involved in defining system requirements or reengineering business processes, the core financial module is not being designed to integrate cost and schedule data needed by program managers.

Core Financial Software Posts Obligations to the General Ledger Before They Are Binding

The core financial module was intended to streamline many of NASA's processes and eliminate the need for many paper documents. However, in some areas, the new system has actually increased NASA's workload. Specifically, because the core financial software allows obligations to be posted to the general ledger before a binding agreement exists, NASA must process purchase orders and contract documents outside the system until they are signed, or otherwise legally binding. At that point, NASA initiates the procurement action in the system and repeats the steps that were manually performed outside the system previously.

Federal law requires that no amount be recorded as an obligation unless it is supported by documentary evidence of, among other things, a binding agreement.¹⁷ However, the processes that are embedded in the core financial module for processing purchase orders and contract documents do not accommodate this requirement. To illustrate, authorized users create electronic purchase requests in the system and release or forward the request to the appropriate approving official for electronic signature. Once signed, the purchase request is forwarded electronically to the purchasing department where purchasing staff create an electronic purchase order, secure a vendor, and place the order. According to federal appropriations law, a purchase order constitutes an obligation when the order is placed and when all relevant parties sign the purchase order. However, if a purchase order is entered into the system before it is finalized, the module automatically records the obligation. Similarly, if a contract or contract modification is entered into the module before it is signed and legally binding, the module automatically records the obligation. According to NASA officials, they are working with the software vendor to develop a solution and expect that the new software upgrade to be released on October 1, 2004, will alleviate this problem. In the meantime, they will manually process documents outside of the system

¹⁷31 U.S.C. 1501 (a) (1) (2000).

and monitor any documents that have been recorded without signatures to ensure that obligations are not overstated at month-end.

Core Financial Module Does Not Substantially Comply With FFMA

The system limitations discussed previously related to full-cost accounting, property accounting, budgetary accounting, accrued costs, and accounts payable—combined with the findings from our April 2003 report—indicate that NASA's new core financial module and related systems, as implemented in June 2003, do not substantially comply with the requirements of FFMA. This act provides agencies a blueprint for building fully integrated financial management systems that routinely provide decision makers with timely, reliable, and useful financial information. FFMA requires agencies to implement and maintain financial management systems that substantially comply with (1) FFMSR, (2) the SGL at the transaction level, and (3) applicable federal accounting standards. Although NASA has made progress in addressing some of its financial management system weaknesses, the agency's core financial module does not yet provide all the building blocks needed to achieve the ultimate goal of FFMA.

Noncompliance with FFMSR

The core financial module, as implemented in June 2003, does not comply substantially with FFMSR. To ensure that automated federal financial management systems comply with this standard and provide the critical information needed for decision making, JFMIP issued specific functional requirements that core financial systems must meet in order to substantially comply with FFMA. Compliance with this standard, at a minimum, means the core financial module must be configured to (1) ensure consistent and accurate processing, reporting, and tracking of program expenditures and budgetary resources, and (2) ensure that transactions are processed and recorded in accordance with laws and regulations, and federal accounting standards. However, the core financial module—although it uses software certified by JFMIP—does not perform all mandatory functions. Specifically, the module:

- does not capture and record upward and downward adjustments of obligations incurred in prior fiscal years, and
- posts obligations to the general ledger prior to approval.

Among other things, FFMSR requires federal financial management systems to produce accurate and reliable information for budgetary reports, including the Statement of Budgetary Resources¹⁸ and the Report on Budget Execution and Budgetary Resources (Standard Form 133).¹⁹ As previously discussed, the core financial module does not capture and record upward and downward adjustments of obligations incurred in prior fiscal years, which is essential for producing both the Statement of Budgetary Resources and Standard Form 133 reports. In addition, FFMSR requires federal financial management systems to process transactions in accordance with federal appropriations law, which states that no amount may be recorded as an obligation unless it has been approved and is supported by documentary evidence. As a result of system limitations we have discussed, the core financial module erroneously posts obligations to the general ledger prior to approval.

Noncompliance with SGL

The core financial module, as implemented in June 2003, does not substantially comply with the SGL at the transaction level. The SGL requirements ensure consistency in financial transaction processing and external reporting. Compliance with this standard, at a minimum, means that the core financial module must be configured such that (1) reports produced by the systems containing financial information can be traced directly to general ledger accounts, (2) transaction details supporting general ledger account balances are available and can be directly traced to specific general ledger accounts, and (3) the criteria (e.g., timing, processing rules/conditions) for recording financial events are consistent with accounting transaction definitions and processing rules defined in the SGL.

As discussed previously, the core financial module does not accumulate transaction-based support for adjustments to prior year obligations, which is essential for producing the Statement of Budgetary Resources and Standard Form 133 reports. Instead, NASA must rely on estimates, manual compilations, and system queries to extract the data needed to prepare these required budgetary reports. As a result, key budgetary information

¹⁸The Statement of Budgetary Resources provides information on the availability and use of budgetary resources, as well as the status of budgetary resources at the end of the period.

¹⁹The Standard Form 133 is prepared quarterly and is the principal source of information for Statement of Budgetary Resources. It also fulfills the requirement that the President review federal expenditures at least four times a year.

reported on the Statement of Budgetary Resources and Standard Form 133 cannot be traced directly to NASA's general ledger accounts. NASA also does not properly record PP&E and materials as assets when they are first acquired. Instead, NASA initially records these items as expenses and then later corrects these records using manual procedures. Although this manual process provides NASA a vehicle for reporting PP&E and material costs for financial statement reporting, it is not sufficient for compliance with the SGL. Finally, NASA does not maintain transaction-level detail for its contractor-held property. Instead, it relies solely on its contractors to maintain such records and to periodically report summary-level information on these assets to NASA. This situation has resulted in material weaknesses over this property, as previously reported by NASA's current independent auditor.

Noncompliance with Federal Accounting Standards

The core financial module and related systems, as implemented in June 2003, do not substantially comply with federal accounting standards. Compliance with these standards is essential to providing useful and reliable financial information to external and internal users. Federal accounting standards²⁰ are the authoritative requirements that guide agencies in developing financial management systems, as well as preparing financial statements. However, as discussed previously, the core financial module did not, as of June 2003, process and report financial information in accordance with federal accounting standards.

The major reasons for the module's noncompliance with federal accounting standards are as follows.

- The core financial module does not comply with SFFAS No. 1, Accounting for Selected Assets and Liabilities. This standard states that a liability should be recognized and recorded as an account payable when contractors construct facilities or equipment for the government. The liability should be based on an estimate of work completed. However, the core financial module does not capture accrued costs or

²⁰FASAB promulgates Federal Accounting Standards. Currently, there are 25 Statements of Federal Financial Accounting Standards (SFFAS) and 4 statements of federal financial accounting concepts (SFFAC). The accounting standards are authoritative statements of how particular types of transactions and other events should be reflected in financial statements. SFFACs explain the objectives and ideas upon which FASAB develops the standards. The concepts and standards provide the authoritative references for developing systems, financial statement reporting, and maintaining day-to-day financial records.

record accounts payable when the cumulative costs for a given contract exceed obligations. Instead, these transactions are held outside the general ledger, in suspense, until additional funds are obligated, thus understating NASA's reported program costs and liabilities.

- The core financial module does not yet provide full-cost accounting capabilities in accordance with SFFAS No. 4, Managerial Cost Accounting Standards. This standard requires agencies to report the full cost of their programs in their general-purpose financial reports. However, as previously discussed, NASA, as of June 2003, had not defined, configured, or tested the appropriate cost pools and cost allocation structure, which are critical to implementing full-cost accounting.
- The core financial module does not comply with the broader objective of SFFAS No. 4, Managerial Cost Accounting Standards. The concepts and standards included in SFFAS No. 4 are aimed at achieving three general objectives: (1) providing program managers with relevant and reliable information relating costs to program outputs, (2) providing relevant and reliable cost information to assist the Congress and executives in making decisions about allocating federal resources and evaluating program performance, and (3) ensuring consistency between costs reported in general purpose financial reports and costs reported to program managers. However, as we reported in April 2003, the core financial module does not provide program managers, cost estimators, or the Congress with managerially relevant cost information that they need to effectively manage and oversee NASA's contracts and programs. As a result, NASA's continuing inability to provide its managers with timely, relevant data on the cost, schedule, and performance of its programs is a key reason that GAO continues to report NASA's contract management as an area of high risk. Because this information is not available through the core financial module, program managers will continue to rely on hard copy reports, electronic spreadsheets, or other means to monitor contractor performance. Consequently, NASA risks operating with two sets of books—one that is used to report information in the agency's general-purpose financial reports and another that is used by program managers to run NASA's projects and programs.

Compliance with federal accounting standards goes far beyond receiving a "clean" opinion on financial statements. A key indicator that an agency's financial management systems do not substantially comply with federal accounting standards is the existence of material

weaknesses in the agency's internal controls. As noted earlier, NASA has not addressed material weaknesses in its internal controls and processes over PP&E and materials, which make up nearly 85 percent, or \$37 billion, of NASA's assets. Instead, NASA plans to rely on existing legacy systems and processes—including the extensive use of manual accounting entries—that the agency's independent auditor has found to be inadequate for property accounting. As a result, NASA faces serious challenges in complying with these standards.

Although NASA plans to implement an integrated asset management module in 2005, most of NASA's issues related to property accounting have little to do with the lack of an integrated system. Instead, NASA faces two key challenges with respect to property accounting: (1) reengineering its processes for capturing and recording transaction-level detail in the core financial module's general ledger and (2) addressing material weaknesses in its internal controls over property previously identified by NASA's independent auditors. To date, NASA has yet to define specific requirements for its asset management module or determine how it plans to overcome the previously identified material weaknesses in NASA's internal controls over PP&E and material.

Conclusion

If NASA continues on its current track, the core financial module and IFMP will fail to achieve the agency's stated objective of providing reliable, timely financial information for both internal management decision-making and external reporting purposes. Thus far, NASA has focused on deploying the system on its established schedule, rather than ensuring that it satisfies the agency's internal management and external reporting requirements. To meet its schedule, NASA has put off addressing user requirements that would necessitate significant business process reengineering or extensive software configuration. While NASA is meeting its implementation milestones, it is only able to do so because the agency has deferred critical system capabilities, such as the ability to properly capture, record, and account for its PP&E and material; process budgetary accounting entries; and provide managerially relevant cost information. Until, and unless, the agency deals with these issues, NASA risks making a substantial investment in a system that will fall far short of its stated goal of providing meaningful information for both internal management and external reporting purposes.

Recommendations

Based on the findings from this review, in conjunction with our April 2003 report, we reiterate our April 2003 recommendation that NASA:

- engage stakeholders—including program managers, cost estimators, and the Congress—in developing a complete and correct set of user requirements; and
- reengineer its acquisition management processes, particularly with respect to the consistency and detail of budget and actual cost and schedule data provided by contractors.

We also recommend that the NASA Administrator direct the Program Executive Officer for IFMP to implement a corrective action plan in coordination with NASA's Chief Financial Officer that will produce financial management systems that comply substantially with the requirements of FFMIA, including capabilities to produce timely, reliable, and useful financial information related to:

- property, plant, equipment, and materials;
- budgetary information including adjustments to prior year obligations;
- accounts payable and accrued costs; and
- the full cost of programs for financial reporting purposes.

This plan should include time frames and details on how any changes will be monitored, tested, and documented.

Agency Comments and Our Evaluation

In written comments, reprinted in appendix II, NASA disagreed with all of our conclusions and recommendations in part because we reviewed the status of the core financial module as of June 23, 2003, instead of September 30, 2003—the date used for FFMIA reporting. Although NASA takes issue with the date of our review, it is important to note that we selected June 2003 because NASA represented that the core financial module was fully operational at all of its centers at that time. In making that representation, NASA officials acknowledged that, as part of their implementation strategy, they had not yet converted the system to support full-cost accounting. However, they did not disclose any other deferred capabilities.

Moreover, NASA's comments assert that for PP&E and budgetary reporting, the manual processes or workarounds it has developed to produce year-end balances for the agency's annual financial statements also satisfy the requirements of FFMIA. We disagree with this assertion. The development of significant manual workarounds in these areas masks the fact that NASA's core financial module is not designed to, and cannot, produce timely and reliable PP&E and budgetary data with traceability to transaction-based support. The ability to produce reliable numbers once a year for financial reporting purposes does not by itself constitute FFMIA compliance. In its written comments, NASA indicated that it has made changes to the module since June and that the core financial module as implemented in October 2003 has many of the capabilities that were lacking in the June 2003 module. Although we requested status updates between June and October to track NASA's progress, we did not reassess the module's capabilities as of October 2003. However, with the possible exception of full-cost accounting, which was planned for October 1, 2003, the changes NASA has cited still involve manual workarounds for producing year-end numbers. FFMIA goes beyond producing auditable financial statements once a year and requires financial systems that ensure accountability on an ongoing basis throughout the year.

Engaging Stakeholders

In its response to our April 2003 recommendation, which we have restated in this report, to engage stakeholders in developing a complete and correct set of user requirements, NASA stated that it did engage stakeholders in the design of requirements for the core financial module. We disagree with NASA's assertion. As we reported in April 2003, the program management staff we spoke with from NASA's three largest space flight programs viewed the core financial module as an "accounting system" that would be used by the accountants but was not necessarily going to change the way they managed. With this understanding, it is not surprising that the core financial module does not meet the needs of program managers. Although the IFMP implementation team made an effort to include resource management staff from program management offices in various process teams, they did not effectively utilize program staff to help drive the improvement effort. Consequently, the information requirements of program managers and cost estimators were not fully addressed. Implementing an integrated financial management system that is intended to change the way an organization does business is extremely complex and involves cultural, organizational, and process improvements. It also means making financial management an agencywide priority. Our work at leading public and private sector organizations has shown that implementing a financial management system that meets the organization's

business needs takes more than merely placing business or line management representation on the implementation team.²¹ Instead, at best practice organizations, business managers had a vested interest in the success of the project and were actively involved in leading the improvement effort.

Although NASA disagreed with our assessment of key stakeholder involvement, the agency has indicated that it is in the process of addressing, or plans to address, a number of our concerns by more actively engaging key stakeholders. For example, NASA stated that to develop standard, agencywide internal management reports, it is using an enterprise- or program-led team to define the critical “decision-support” financial information that is needed by managers. The success of this effort is critical to ensure that NASA program managers use IFMP rather than other stovepiped systems or manually developed data that may or may not reconcile to the IFMP and core financial module.

Reengineering Acquisition Management

In response to our April 2003 recommendation, which we have restated in this report, to reengineer its acquisition management processes, particularly with respect to the consistency and detail of budgeted and actual cost and schedule data provided by contractors, NASA indicated that it is in the process of addressing a number of our concerns. Specifically, NASA stated that it (1) has extended the data structure embedded in the core financial module to capture more detailed cost data, (2) is currently assessing its contractor reporting requirements, and (3) is evaluating the possibility of accommodating contract cost and schedule data in an integrated environment. While it is too early to assess the significance or impact of NASA’s current effort, we are encouraged that NASA is considering the possibility of reengineering its acquisition management processes. This would be an important first step toward ensuring that NASA’s contractors provide the appropriate level and type of cost data needed for both internal management and external reporting purposes and that the core financial module is properly configured to support the agency’s information needs. However, we continue to believe it would have been more effective and efficient if NASA had conducted its assessment of contractor reporting requirements as part of a larger reengineering effort prior to configuration of the core financial module.

²¹U.S. General Accounting Office, *Executive Guide: Creating Value Through World-class Financial Management*, GAO/AIMD-00-134 (Washington, D.C.: Apr. 1, 2000).

Further, any effort that falls short of end-to-end business process reengineering will likely not result in a system that substantially improves the data available for contract oversight or ensures consistency between costs reported in general purpose financial reports and costs reported to program managers.

In its written comments, NASA also emphasized that the core financial module alone cannot meet all of the functional requirements needed to manage a program or to prepare cost estimates and asserts that applications such as Erasmus, an executive-level program performance reporting tool, will enable NASA to meet the full depth and breadth of user requirements. We agree that the core financial module alone cannot meet all of NASA's information needs and that an executive-level reporting tool such as Erasmus may provide NASA executives with greater visibility over program performance. However, Erasmus does little to help program managers oversee contractor performance, and like the core financial module, may contain cost data that are not consistent or reconcilable with cost data used by program managers to manage contracts. The underlying problem, as we reported in April 2003, is that NASA uses one set of contractor-reported cost data to update the core financial module while program managers use a separate set of contractor-reported cost data that resides outside the system to monitor contractor performance. Consequently, the cost data maintained in the core financial module and reported in NASA's external financial reports are not consistent or reconcilable with cost data used by program managers to manage contracts.

Finally, NASA stated that the asset management module, scheduled for implementation in 2005, will make a significant contribution to its program management and cost estimating activities. This module is primarily intended to maintain detailed property records for NASA-held property. Thus, we do not believe an asset management module would have any impact on the cost, schedule, and performance data needed for program management and cost estimating.

PP&E and Materials

NASA disagreed with our recommendation related to IFMP's ability to produce timely, reliable, and useful information for PP&E and materials in accordance with FFMI requirements. NASA represented that its current processes for capturing and recording property for financial statement reporting purposes also meet the requirements of FFMI because it has begun requiring more frequent and detailed property reporting by its 55

largest contractors. We disagree with NASA's assertion. Because NASA's current contractor cost-reporting processes do not provide the information needed to distinguish between capital and non-capital expenditures, NASA currently records as expenses all contractor costs as they are incurred and then manually adjusts previous entries to record assets based on periodic summary-level contractor property reports. While this process may satisfy NASA financial statement reporting needs, the development of significant manual workarounds in this area masks the fact that NASA's core module is not designed to and cannot produce timely and reliable PP&E data with traceability to transaction-based support. The ability to produce reliable numbers once a year for financial reporting purposes does not equate to FFMA compliance.

In accordance with FFMSR, federal accounting standards, and the SGL, when an agency incurs costs for the purchase or construction of PP&E and material, those costs should be recorded in both the agency's asset management system and its core financial management systems' general ledger. The only difference for contractor-held property is that the asset management system belongs to the contractor. The asset management system, whether NASA's or its contractors', would maintain the agency's detailed logistical property records for PP&E and materials—including information related to asset location, date of purchase, useful life, quantity, cost, and condition—and the core financial module's general ledger would maintain a cumulative balance of all purchased or constructed property based on the cost incurred for individual items. The ability to reconcile detailed transactions in the asset management system with amounts recorded in the general ledger provides an efficient way to maintain independent general ledger control over these assets. As mentioned above, NASA first expenses all PP&E in the core financial module, and then later, makes adjustments to record the costs of PP&E as assets at a summary level. There is currently no traceability from the core financial module general ledger to the detailed logistical property records of PP&E and materials.

NASA also stated that one of the objectives of the asset management module, now in formulation, is to significantly improve reporting for contractor-held property. While it is our understanding that NASA's new asset management module, as planned, will maintain detailed property records for NASA-held property and be integrated with other IFMP modules, including the core financial module, we know of no plans to add contractor-held property to this system. In fact, the Federal Acquisition Regulation requires contractors to maintain the logistical property records

for government property in their possession and prohibits government agencies from maintaining duplicate property records. Under these circumstances, as part of an overall effort to reengineer its acquisition management process, we believe that NASA must capture the cost and other information it needs from its contractors and develop traceability to contractor logistical records to ensure accountability over its contractor-held property on an ongoing basis.

Budgetary Information

NASA disagreed with our recommendation regarding its ability to produce reliable, timely, and useful budgetary information, including adjustments to prior year obligations. NASA stated that although it identified certain transactional reporting limitations in its initial deployment of the core financial module, it developed alternative or “workaround” procedures to ensure the accurate and timely reporting of the identified transactions. However, as stated previously, we do not believe that the manual processes or workarounds NASA uses to produce year-end balances for the agency’s annual financial statements satisfy the requirements of FFMIA. While NASA’s written comments indicate that many of these deferred capabilities were largely enabled by September 30, 2003, they also indicate that more time will be required before the module can process adjustments to prior year obligations. As a result, NASA must use manual workarounds to process these transactions related to fiscal year 2003 activity. We note that these are the same manual procedures used to compensate for deficiencies in NASA’s legacy systems that resulted in the \$644 million error in NASA’s fiscal year 1999 Statement of Budgetary Resources.²²

Accrued Costs and Accounts Payable

NASA disagreed with our conclusion that its overall financial management system does not properly capture and report all accrued costs and accounts payable. However, we did not report that the information was not contained within the system; rather, we reported that it was not posted to the general ledger. We recognize that NASA records costs that exceed current obligations in the IFMP business warehouse until additional funds are obligated and in order to highlight or detect potential program cost overruns. While we encourage NASA’s effort to monitor costs in excess of obligations, we do not believe its method for doing so is appropriate. We continue to believe that these costs should be properly recorded in the

²²GAO-01-438.

general ledger in the period in which they are incurred. The risk in NASA's method is that when costs and liabilities are not properly recorded in the general ledger, these balances are likely to be understated in any financial reports produced during the year, as well as at year-end.

It is also important to note that comparing costs with obligations will not necessarily detect a cost overrun. For example, this strategy would not have alerted NASA to its largest cost overrun in recent years—the \$5 billion cost growth in the International Space Station program reported in 2001. This overrun was not the result of incurring more costs than the funds obligated. Instead, it was due to the cost growth projected to occur in the future—i.e., growth in the estimated costs to complete the program. This cost overrun went undetected for a long period of time because of NASA's deeply-rooted culture of managing programs based on current year budgets rather than total costs. As we reported in 2002,²³ for NASA to manage its program costs properly, it needs to focus on the total costs of a program rather than just annual budgets. Thus, NASA's plan to hold costs in suspense when they exceed obligations will not make such cost overruns any easier to detect or manage. Instead, as we reported in April 2003, to adequately oversee NASA's contracts, program managers need reliable contract cost data—both budgeted and actual—and the ability to integrate these data with contract schedule information to monitor progress on the contract. However, because program managers were not involved in defining system requirements or reengineering business processes, the core financial module was not designed to integrate cost and schedule data needed by program managers.

Full-Cost Accounting

NASA also disagreed with our recommendation concerning its system's ability to account for the full cost of its programs and asserted that it completed implementation of its full-cost accounting capability within IFMP as of October 1, 2003. However, IFMP management told us in early October that this capability would not become operational until October 26, 2003, after NASA completed its year-end closing procedures. Because of our reporting time frame, we did not conduct the detailed procedures that would have been necessary to determine whether or not this function had begun operating.

²³U.S. General Accounting Office, *Space Station: Actions Under-way to Manage Cost, But Significant Challenges Remain*, GAO-02-735 (Washington, D.C.: July 17, 2002).

As agreed with your offices, unless you announce its contents earlier, we will not distribute this report further until 30 days from its date. At that time, we will send copies to interested congressional committees, the NASA Administrator, and the Director of the Office of Management and Budget. We will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staffs have any questions concerning this report, please contact me at (202) 512-9505 or kutzg@gao.gov, Keith Rhodes at (202) 512-6412 or rhodesk@gao.gov, or Diane Handley at (404) 679-1986 or handleyd@gao.gov. Key contributors to this report are acknowledged in appendix III.



Gregory D. Kutz
Director
Financial Management and Assurance



Keith A. Rhodes
Chief Technologist
Applied Research and Methods

Comments From the National Aeronautics and Space Administration

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



October 31, 2003

Mr. Gregory D. Kutz
Director
Financial Management and Assurance
United States General Accounting Office
Washington, DC 20548

Dear Mr. Kutz:

Thank you for the opportunity to review and comment on the General Accounting Office (GAO) draft report, *BUSINESS MODERNIZATION: NASA's Integrated Financial Management Program Does Not Fully Address Agency's External Reporting Issues* (GAO-04-151). We appreciate the GAO's continued interest in NASA's programs and our efforts to successfully implement the full complement of all the project modules comprising the Integrated Financial Management Program (IFMP).

Overall, it is important to note that your report reviews the status of our IFM Program's Core Financials module as of June 2003. This is a key point for several reasons, as noted in our enclosed comments, but most importantly because it does not assess the status of the same Core Financials functionality and FFMIA compliance at fiscal year-end – September 30, 2003 – which is the statutory date used for FFMIA certification.

NASA is committed to implementing the full functionality of the IFM system over the next few years and, in doing so, is and will continue to take advantage of the benefits brought to us by your reviews of the IFM Program. GAO's observations and recommendations always receive careful consideration and have been used, in many instances, to help us enhance the functionality of our Program and used to mitigate development and operational risks. However, in this instance, we do respectfully disagree with your conclusions and subsequent recommendations as they apply to a past status of IFM's Core Financials Module implementation, which is by now significantly different from the current application.

Cordially,

A handwritten signature in black ink that reads "Frederick D. Gregory".

Frederick D. Gregory
Deputy Administrator

Enclosure

Enclosure

**NASA Response to Draft General Accounting Office (GAO) Report:
BUSINESS MODERNIZATION: NASA's Integrated Financial Management
Program Does Not Fully Address Agency's External Reporting Issues
(GAO-04-151)
Dated October 10, 2003**

1. **GAO Recommendation: Based on the findings from this review, in conjunction with our April report, we reiterate our April recommendation that NASA:**
 - a. **Engage stakeholders – including program managers, cost estimators, and the Congress – in developing a complete and correct set of user requirements;**

NASA Response to GAO Recommendation 1a.

NASA did actively engage stakeholders, particularly program managers and cost estimators, in the design requirements for the Core Financials system; this focus has been consistent with the historical scope of the project. The system does have the capability to meet their needs for financial information although the complexity of the environment and the realities of transition timing mean that “full benefit” realization will take several years. The system, as designed, provides significantly more capability and flexibility to capture financial information across projects than has ever been previously available. Because the system has so much data and integrates it from multiple perspectives, there is a significant learning curve to convert the data into useful information supporting better management decisions.

There are two current initiatives in this area. First, there is an internal “Enterprise” led team used to define Agencywide financial reports, which will be used to assess ongoing program and project financial performance. Over one hundred standard reports already exist in the Core system and the “Business Warehouse” analytical reporting tool enhances our capability to create new reports. Our key issue lies in defining the critical “decision-support” financial information that managers need on an ongoing basis and to ensure that this information also reflects the new full-cost data structure implemented in October 2003. This effort will complete its first phase in November 2003. In parallel, the system has now been opened using the full FY 2004 configuration which allows managers to define the level of detail they need to support their requirements. When the system initially went operational throughout FY 2003 this level of detail was often constrained by legacy systems.

Even with our current focus on benefit realization, the Core Financials module alone cannot meet all the functional needs to manage a program or to prepare a cost estimate. This is why, within the IFM Program scope, a number of parallel and complementary efforts are underway to meet the full breadth of user requirements. For example, in parallel to the Core Financials roll out, the IFM Program deployed

recently the first version of “Erasmus,” an executive-level program performance reporting capability. This is the first time that cost, schedule, and technical performance data for all of our major programs and projects is consistently and regularly reported in an Agencywide, Web-based environment. Additionally, our Budget Formulation module, scheduled for rollout in June 2004, and Asset Management module, scheduled for a 2005 deployment, will make significant contributions to our program management and cost estimating activities. In both cases, there is extensive engagement from these communities in the design and deployment phases of those forthcoming IFM modules.

b. Reengineer its acquisition management processes, particularly with respect to the consistency and detail of budget and actual cost and schedule data provided by contractors.

NASA Response to GAO Recommendation 1b.

The Core Financials module, for the first time, provides the capability to extract, in near real-time, financial and procurement information from the same consistent, transparent and reliable data source NASA-wide. In 2004, this capability will be expanded to encompass more data elements with the objective of further eliminating potentially outdated information available solely in paper reports. Additionally, the configuration of the SAP system provides extensive reporting and analytical capabilities beyond those made possible today using the current Agencywide coding structure. The SAP system has been configured to capture approximately 30 additional detail elements beyond those identified in the existing Agency coding structure.

Based on the enhancement brought by the IFM system, NASA is currently assessing its contractor-reporting requirements as its Program Management policy and guidelines are subsequently being updated. These decisions will drive the IFMP requirements for existing and future analytical and reporting capabilities. In addition, the Asset Management module, which is now in formulation, has a stated objective to significantly improve reporting for contractor-held property. This will build on the expanded contractor reporting requirements already implemented by the Agency during 2003. The option of implementing SAP’s Project Systems, a “Best of Suite” tool which could be used to manage diverse project and program costs and schedules under an integrated environment, is also being evaluated. Those decisions should be completed by June 2004.

2. GAO Recommendation: We also recommend that the Administrator direct the Program Executive Officer for IFMP to implement a corrective action plan in coordination with NASA’s CFO that will produce financial management systems

that comply substantially with the requirements of FFMIA, including capabilities to produce timely, reliable, and useful financial information related to:

a. Property, plant, equipment and materials

NASA Response to GAO Recommendation 2a.

NASA respectfully disagrees that its current processes do not produce timely, reliable and useful financial information nor meet Federal Financial Management Improvement Act (FFMIA) requirements for Property Plan and Equipment (PP&E.) As a result of our FY 2002 financial statement audit, NASA has already taken significant corrective action to obtain more frequent detailed property reporting from its largest 55 contracts, accounting for \$10.8 billion of the \$11 billion of contractor held property reported on the FY 2002 financial statements. These collective actions and their effectiveness were confirmed by the recommendation of the Office of the Inspector General to remove PP&E and Materials as a material weakness for FFMIA reporting for FY 2003.

This is not to suggest that NASA is fully satisfied with the status of PP&E reporting. As you know, NASA is about to begin the Integrated Asset Management Module of IFMP. GAO's observations and insights are considered valued input and will be used to help guide the process as we move forward with that design and implementation.

b. Budgetary information including adjustments to prior year obligations;

NASA Response to GAO Recommendation 2b.

NASA respectfully disagrees with the assertion that it cannot accurately capture and report budgetary information including adjustments to prior year obligations. Based on early operational performance, NASA identified certain transactional reporting limitations in the initial deployment of its Core Financials module. We subsequently developed alternative procedures to ensure the accurate and timely reporting of the identified transactions. Furthermore, many of the deferred capabilities cited by GAO as of June 2003 were largely enabled by 2003 fiscal year-end.

However, it should be noted that the realities of selecting and implementing Commercial Off-the-Shelf (COTS) software requires a "best-fit" methodology including re-engineering and some performance tradeoffs. NASA is clearly facing the "startup" issues associated with a system as complex and comprehensive as the Core Financial Module. The current limitations of the software regarding prior year obligations may take some time to be fully updated to our satisfaction. We recognize that we are using more manual "workaround" processes than we would have liked, but they will be reduced over

time as SAP provides new capabilities and becomes more familiar with NASA's specific needs. The selection of a COTS product always entails a near-term evolutionary adaptation which includes both customer process re-engineering and product enhancements. It should also be noted that manual processes, as long as they produce reliable and timely information, while not preferred, are acceptable practices under current JFMIP system requirements.

c. Accounts payable and accrued costs; and

NASA Response to GAO Recommendation 2c.

NASA respectfully disagrees with the assertion that its overall financial management system cannot properly capture and report all accounts payable and accrued costs. Again, due to timing differences, GAO may not have had the opportunity to review an integral part of the IFMP system, the Business Warehouse (BW) application that provides NASA managers the ability to track all costs associated with projects by work breakdown structure (WBS), unique project number (UPN) and individual contract. The BW application is an integral part of NASA's overall financial management system and a very powerful analytical and reporting tool.

Specifically, all costs, including cost over obligations, are reported within BW. Due to previously stated concerns on hard-to-detect program cost overruns, NASA's current budget execution and reporting environment is structured to ensure that all cost over obligations receive immediate managerial review. Consequently, additional obligations are knowingly applied to critically identified activities/tasks. Additionally, when financial statements are generated for both internal and external reporting, a standard procedure has been set in place to record within our general ledger the associated expenses and corresponding other liabilities incurred resulting from cost over obligations exceptions.

d. The full cost of programs for financial reporting purposes.

NASA Response to GAO Recommendation 2d.

NASA respectfully disagrees that the IFM system cannot properly account for the full cost of programs for financial reporting purposes. As discussed above, BW is an integral part of our overall financial management system. Furthermore, as mandated, NASA has completed the implementation of its full-cost accounting capability within IFMP as of October 1, 2003, enabling it for all FY 2004 activity.

Finally, our full-cost implementation was staged to comply with both FY 2003 and FY 2004 reporting requirements. NASA implemented the Core Financial Module in

**Appendix II
Comments From the National Aeronautics
and Space Administration**

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FY 2003 and had to accommodate the accounting and appropriation structure applicable to that year. As of October 1, 2003, our full-cost structure has been defined and is configured in IFMP to support the FY 2004 accounting and appropriation structure.

Objective, Scope, and Methodology

The objective of this report was to assess whether the National Aeronautics and Space Administration (NASA) Integrated Financial Management Program's (IFMP) core financial module, as implemented on June 2003, would satisfy NASA's external reporting requirements, such as reliable and auditable financial statements, congressional information needs, and other reporting requirements. Specifically, we assessed whether the core financial module (1) accurately accounts for Property, Plant, and Equipment (PP&E) and materials and supplies, (2) properly accounts for the full cost of NASA's projects and programs, (3) captures and reports certain key budgetary information, (4) accurately records accounts payable, and (5) complies substantially with the requirements of the Federal Financial Management Improvement Act (FFMIA) of 1996. We did not assess other aspects of the core financial module's capabilities.

We interviewed officials from NASA's financial management division and the NASA Office of Inspector General to identify various reporting requirements and weaknesses in meeting these requirements, and to determine how the core financial module will provide the data needed to meet these requirements. We evaluated fiscal year 2002 internal control weaknesses reported by PricewaterhouseCoopers, NASA's independent auditors, related to PP&E, material and supplies, and financial reporting. However, for the purposes of this report we did not review the auditors' underlying work paper support. We also reviewed NASA's process for preparing the Statement of Budgetary Resources and reporting accounts payable, and any related issues identified by auditors.

We reviewed applicable Treasury, Office of Management and Budget, and NASA guidance, and related federal accounting standards as well as federal financial management system requirements promulgated by the Joint Financial Management Improvement Program.

At two NASA centers, we observed how transactions are recorded in the general ledger within the core financial module and discussed these processes with users of the system. We reviewed nonrepresentative selections of transactions for PP&E, materials, accounts payable, and budgetary transactions. We traced selected transactions to their source documents, and also traced selected source documents to the general ledger. We assessed whether transactions were recorded consistently with the Treasury Financial Manual. We also observed and discussed how information on contractor cost reports is recorded in the core financial module.

We interviewed various officials from IFMP and its core financial project design and implementation teams, including the IFMP Deputy Program Director, the Core Financial Project Manager, and the Core Financial Deputy Project Manager to clarify our understanding of the core financial module's functions and obtain the most recent information on the status of various implementation issues as of June 2003. We also reviewed relevant audit reports from the NASA IG and the results of an independent compliance review on the core financial module performed by NASA's consultant.

We performed our work primarily at NASA headquarters in Washington, D.C. and the two NASA centers—Marshall Space Center in Huntsville, Alabama and Glenn Research Center in Cleveland, Ohio—where the core financial module was implemented first. Our work was performed from April 2003 through September 2003 in accordance with generally accepted government auditing standards.

We requested comments on a draft of this report from the NASA Administrator or his designee. Written comments from the NASA Deputy Administrator are presented and evaluated in the “Agency Comments and Our Evaluation” section of this report and are reprinted in appendix II.

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