National Aeronautics and
Space Administration

Office of Inspector General
Washington, DC 20546-0001

JUN - 3 2005

TO: Administrator

FROM: Inspector General

SUBJECT: Synopsis Of Management Issues Associated with NASA's Integrated Financial Management Program

In connection with the audit of NASA's FY 2004 financial statements, the Office of Inspector General (OIG) engaged Ernst & Young LLP (E&Y) to conduct a root cause analysis of issues associated with NASA's ongoing challenges in effectively implementing its integrated financial management system. To conduct the analysis, E&Y attempted to engage the Agency in a collaborative approach. While the Agency provided access to relevant systems and individuals, the anticipated collaboration in reaching a consensus did not materialize, primarily as a result of differences over the utility of such an approach with Integrated Financial Management Program management. Subsequently, E&Y was directed by the OIG to conduct the analysis without the collaboration. Also, E&Y benchmarked NASA against other organizations that have implemented integrated financial management systems.

E&Y produced a draft report on March 15, 2005, on the results of its analysis and suggested corrective actions. After receiving extensive comments from the OIG, E&Y produced a second draft on April 6, 2005. Rather than continue generating iterations of the draft until E&Y completed a final report, the OIG modified the contract with E&Y to accept the April 6 draft as the final product expected of E&Y. The attached synopsizes the lessons identified in the E&Y draft. Because the E&Y effort was based primarily on interviews of Agency employees and contractors, we did not obtain management comments on the attached synopsis.

In my view, the attached synopsis reflects the most significant problems in financial management at NASA:

- financial management is decentralized, with Center Chief Financial Officers more responsive to Center operational needs than to enterprise solutions for the Agency, and
- Agency-wide business processes suitable for an integrated approach have not been established.

Proceeding with enterprise solutions under these circumstances is untenable.

The synopsis contains several suggestions for NASA to address ongoing challenges and to improve its future implementation of enterprise solutions. I appreciate your commitment to improving the Agency's financial management. My office is dedicated to assisting you in this regard.

If you have questions, please call me at 202-358-1220.

Sincerely,

Robert W Cobb

Robert W. Cobb
Inspector General

Attachment

cc: Deputy Administrator/Mr. Gregory
Chief Financial Officer/Ms. Sykes
Integrated Financial Management Program Executive Officer/ Mr. Ciganer

Synopsis of Management Issues Associated With NASA's Integrated Financial Management Program

At the request of the NASA Office of Inspector General (OIG), the audit firm of Ernst & Young LLP (E&Y) performed a root cause analysis of NASA's financial management issues associated with NASA's Integrated Financial Management Program (IFMP) after E&Y rendered a disclaimer of opinion on the Agency's financial statements for the fiscal year (FY) ended September 30, 2004. E&Y's work focused on exploring issues related to the challenging implementation of the NASA Core Financial module of the IFMP in an effort to gather lessons learned, identify potential root causes, and possible recommendations for consideration by NASA. This synopsis documents the results of that analysis.

Executive Summary

Based on the work performed, E&Y determined that the root causes of NASA's current IFMP system and financial problems had four major themes:

- leadership, direction, and communication;
- data integrity;
- business process reengineering;[1] and
- training and software.

E&Y identified potential next steps, or recommendations, for NASA to consider for improving its financial management.

Leadership, Direction, and Communication. NASA did not provide adequate leadership and direction to coordinate, evaluate, and monitor the myriad of activities associated with the development and implementation of the IFMP. In addition, several interviewees stated that process owners and stakeholders were insufficiently involved in the development and implementation of the Core Financial module and were discouraged from voicing concerns. The Office of the Chief Financial Officer (OCFO) also provided insufficient leadership during Core Financial module implementation activities at the Centers. NASA has taken steps to improve overall management of the Core Financial module; however, E&Y suggests that the OCFO should proactively direct and coordinate communication and cooperative efforts between IFMP process owners and stakeholders and establish one implementation team to lead all of the Centers' future implementation of IFMP modules or projects.

[1]Business process reengineering is the redesign of business processes to improve their speed, productivity, and cost efficiency, and to minimize the likelihood of significant errors occurring in the process.

Data Integrity. NASA continues to be challenged with data integrity (completeness and accuracy) issues. Contributing factors to data integrity challenges include an aggressive IFMP implementation schedule, data errors carried forward from legacy systems, lack of automated and manual controls, and inadequate testing of the data after conversion. Although NASA has enhanced its ability to manage changes and test new applications, E&Y suggests that the OCFO should take additional actions, such as resolving data integrity issues from the implementation of the Core Financial module before focusing on new IFMP modules and projects; holding Centers accountable for maintaining accurate and complete data; and initiating robust reconciliation reviews to ensure data are accurately, timely, and consistently reported throughout the Agency.

Business Process Reengineering. NASA did not initiate comprehensive end-to-end business process reengineering to take advantage of system processing efficiencies before implementing the Core Financial module. Instead, Centers continued to use multiple manual "workaround" procedures to address perceived and actual functionality gaps in the Core Financial module, which increased the potential for creating additional data errors. E&Y suggests that the OCFO should coordinate with the Integrated Financial Management (IFM) Program Office and business process owners to evaluate, streamline, and standardize all major business processes and to document those processes and the controls that are responsive to identified risks associated with those processes.

Training and Software. NASA's IFMP training was not fully effective in focusing on user needs and NASA incorrectly assumed that IFMP software would support functions for which it was not designed. E&Y suggests that the IFM Program Office should establish frequent training for IFMP users and ensure that the training meets the needs of users.

Enclosure 1 contains a listing of General Accountability Office (GAO) and OIG reports related to IFMP. Enclosure 2 contains a comparative analysis that E&Y performed of NASA's SAP[2] implementation to other entities' integrated financial management systems.

[2]Systems, Applications and Products, referred to as SAP, is the company that produced the foundational software for the Core Financial module and other IFMP modules and projects. SAP may also be used to refer to the system itself.

Background

The IFMP is an Agencywide transformation initiative to improve NASA's financial, physical, and human resources management systems and processes. IFMP is an integrated financial management system composed of a Core Financial module and other business process[3] modules and projects intended to provide timely, consistent, and reliable financial management information for decision makers; improve accountability and enable full-cost management; improve business processes used in supporting mission program requirements; and provide tools and operational environments that enhance NASA's ability to attract and retain highly qualified personnel.

In FY 2003, NASA implemented the Core Financial module, the financial backbone for business processing and the largest completed module of the IFMP.[4] However, since the module's FY 2003 implementation, NASA has been unable to produce accurate, complete, and reliable financial management information despite substantial investment[5] to develop and implement the module. Two independent public accounting firms (PricewaterhouseCoopers and E&Y) issued disclaiming opinions on NASA's FY 2003 and FY 2004 financial statements, respectively. For FY 2004, E&Y issued the disclaimer because of NASA's inability to provide auditable financial statements and cited material weaknesses[6] in controls related to

- financial systems;
- analyses and oversight used to prepare the financial statements;
- reconciliation of differences in the Fund Balance With Treasury;
- assurance that property, plant, and equipment and materials were presented fairly in the financial statements; and
- security of the computing environment that supported the IFMP.

As of April 2005, seven functional modules had been completed and work had been stopped on the Budget Formulation module. Several IFMP modules and projects remain to be completed. Work on six functional modules and other projects are expected to be completed by FY 2009.[7]

Scope and Methodology

E&Y performed a root cause analysis of IFMP issues with an emphasis on identifying actions that could minimize the potential for future problems in the development and

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[3]A business process is a collection of related, structured activities, or chain of events, that produces a specific service or product for a particular customer or customers.

[4]The completed modules are Core Financial, Travel Manager, ERASMUS, Resume Management, Position Description Management, E-payroll, and Recruitment One-Stop-Phase I.

[5]NASA estimates that approximately $746.4 million has been budgeted for IFMP development.

[6]E&Y defined material weaknesses as reportable conditions in which the design or operation of one or more of the internal control components do not reduce to a relatively low level the risk that misstatements in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions.

[7]The six incomplete modules are E-Travel, Recruitment One-Stop-Phase II, Labor Distribution, Project Management Improvement Initiative, Integrated Asset Management, and Contract Management.

implementation process. In designing its approach to perform the analysis, E&Y determined that NASA had already identified the vast majority of IFMP issues, or conditions. E&Y cataloged the IFMP conditions by conducting a series of interviews and small group discussions and reviewing supporting documentation. Cataloging such conditions was an initial and necessary step in identifying potential root causes and possible recommendations.

To perform its analysis, E&Y interviewed 93 NASA and contractor personnel in the IFM Program Office, the Office of the Chief Information Officer (OCIO), the OCFO, and the user community; cataloged issues related to IFMP; conducted discussions with other entities that had implemented similar systems; reviewed relevant studies (see Enclosure 1); and developed proposed solutions to ongoing and potential problems. The majority of E&Y work performed was based on interviews and discussions with NASA employees. E&Y also performed a comparative analysis of NASA's SAP implementation to other entities' integrated financial management systems (see Enclosure 2).

E&Y performed this analysis from November 2004 through April 2005. E&Y's work was an audit-related task that was associated with their audit of NASA's financial statements for the fiscal year ended September 30, 2004. In addition, this analysis aided E&Y in planning the audit for the fiscal year ending September 30, 2005. This synopsis was not prepared in accordance with auditing standards issued by the Comptroller General of the United States.

I. Leadership, Direction, and Communication

NASA did not provide adequate leadership and direction to coordinate, evaluate, and monitor the myriad of activities associated with the development and implementation of the IFMP. In addition, several interviewees stated that process owners and stakeholders were insufficiently involved in the development and implementation of the Core Financial module and were discouraged from voicing concerns. The OCFO also provided insufficient leadership during Core Financial module implementation activities at the Centers.

Process Owner and Stakeholder Involvement. According to E&Y, many of those interviewed stated that the OCFO did not effectively establish itself as an owner of the various accounting processes and the primary user of the Core Financial module. In addition, the OCFO did not provide the level of direction and accountability needed to ensure a coordinated and cooperative approach between other process owners and stakeholders, to include NASA program managers. Interviewees also commented that stakeholders from other key functional areas and Center users were not adequately represented or involved in the development process. GAO expressed similar concerns in its April 2003 report, "Business Modernization: Improvements Needed in Management of NASA's Integrated Financial Management Program," GAO-03-507.

NASA's organizational structure was a contributing factor to the insufficient involvement of process owners and stakeholders. Financial personnel reported to their Centers' management and maintained their own accounting systems and subsystems (In July 2004, Center CFOs began reporting at least organizationally to the NASA CFO). Although representatives from each Center were on the implementation team, E&Y reported that the perception among those interviewed was that the breadth of stakeholder involvement in the development and implementation of the Core Financial module was inadequate. In addition, those interviewed did not believe that NASA Headquarters and Center executives held personnel accountable for resolving issues.

Stakeholders Voicing Concerns. E&Y reported that some stakeholders from the OCFO, the resource management community, Center Core Financial module implementation teams, and external contractors spoke of negative reactions by IFM Program Office management in response to their concerns about system limitations. For example, several stakeholders said IFM Program Office management downplayed or ignored their concerns, and in some cases subsequently dismissed or excluded stakeholders from IFMP-related meetings. One Center Deputy CFO for Finance stated that the IFMP Competency Center[8] did not listen to concerns regarding incorrect system configuration problems. Additionally, interviewees commented that stakeholders from key functional areas and Center users were not adequately represented or involved in the development process and became disenfranchised from the conversion process upon learning that the implementation timeline and design of the system were not subject to debate.

Center IFMP Implementation. Each Center led its own implementation activities, which resulted in inconsistent implementation. Because of the aggressive implementation schedule and the "wave"[9] approach to project implementation, each Center established its own implementation team rather than having one team implement the Core Financial module at each of the Centers. Having the same team participate in each Center's implementation could have potentially detected and quickly resolved implementation issues and ensured consistent implementation activities.

Corrective Actions Taken and Suggested Actions. NASA has taken steps to improve overall management of the Core Financial module. For example, the OCFO established a direct reporting relationship with Center CFO organizations; initiated weekly teleconferencing and communications with lead business process personnel at the Centers; increased training and workshops; and improved online aids for processing transactions and for problem resolution. In addition to steps already taken, E&Y suggests that the OCFO should take the following actions:

1. Proactively direct and coordinate communication and cooperative efforts between IFMP process owners and stakeholders to ensure that Centers consistently apply

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[8]The IFMP Competency Center provides services to include hardware acquisition and maintenance, software configuration, data correction and monitoring performance of the systems, and a help desk.
[9]Groups of Centers implemented IFMP components according to a specified timetable. Each group was considered a wave.

relevant best practices and are routinely informed of all significant changes made to the functionality of the current and future SAP versions.

2. Establish one implementation team to lead all of the Centers' future implementation of IFMP modules or projects.

II. Data Integrity

NASA continues to be challenged with data integrity (completeness and accuracy) issues. Contributing factors to data integrity challenges include an aggressive IFMP implementation schedule, data errors carried forward from legacy systems, lack of automated and manual controls, and inadequate testing of the data after conversion.

IFMP Implementation Schedule. NASA's efforts to meet an aggressive IFMP implementation schedule were contributing factors to the data integrity issues of the Core Financial module. For example, during the Core Financial pilot program at the Marshall Space Flight Center (Marshall), the implementation team did not fully complete the system conversion process or resolve initial errors before activating the Core Financial module in a production environment at other Centers. Fully completing the Marshall conversion from its legacy system to the Core Financial module and resolving any errors before beginning implementation at the other Centers could have prevented many of the problems addressed in this memorandum.

Legacy System Data. Data integrity was an issue before Core Financial module implementation and continues to be a problem according to OCFO and IFM Program Office personnel. Before implementation of the Core Financial module, the 10 Centers maintained 10 different legacy systems. Some of those legacy systems contained inaccurate data that were not corrected before being converted to the Core Financial module. In addition, some interviewees indicated that converting the legacy data to the Core Financial module was hampered by the module's lack of sufficient reconciliation and reporting tools. Other personnel interviewed stated that some Centers continue to process procurement, accounts payable, and grants transactions using legacy systems or spreadsheets because those personnel were not proficient in entering data into the new system.

NASA has taken several actions to address its data conversion issues. For example, NASA has:

- required each Center to identify issues resulting from conversion and to develop corresponding corrective action plans and milestones;
- established a data integrity team to assist in identifying, researching, and resolving critical financial data issues at each Center; and
- started developing standard reporting requirements throughout the Agency.

Although such actions move in the right direction, the OCFO should identify sufficient resources and realistic timeframes and ensure effective coordination of efforts to address the data conversion issues.

Application Controls. NASA did not identify the need for additional application controls, both automated and manual, to prevent and detect errors. Interviewees indicated that the lack of automated controls allowed Centers to spend other Centers' funds. In addition, some Centers required an additional level of funds control to ensure that users did not spend beyond their allocated funds.[10] After implementing the Core Financial module, NASA introduced additional user edits and validation checks to help prevent transaction errors. Although those controls helped to reduce errors, the Agency has not conducted comprehensive business process reengineering nor identified risks associated with each business and financial process. Reengineering and risk identification are prerequisites to ensuring that sufficient application and manual controls are in place to mitigate those risks. Additional controls could increase the potential for finding transaction or data errors and could have prevented Centers from spending other Centers' funds and from spending more than their allocated funds.

Adequacy of Testing. NASA did not conduct adequate testing of converted data of the Core Financial module before its implementation. Specifically, NASA did not timely identify all converted data at the time of testing and, therefore, tested only a portion of the converted data. Less than full testing of converted data potentially limited NASA's ability to quickly uncover many data conversion issues. In addition, the testing did not adequately address possible error correction processes and user errors—testing that may have promptly surfaced more conversion issues and reconciliation problems. NASA could have more promptly identified and resolved conversion issues by ensuring that adequate testing was performed before implementation of the Core Financial module. Following the implementation of the Core Financial module, NASA created a new change management process, which included an industry standard software solution for managing changes and included additional system and regression testing.

Corrective Actions Taken and Suggested Actions. Although the new change management process should enhance NASA's ability to manage changes and test new applications, additional actions should be taken. E&Y suggests that the OCFO should take the following actions:

3. Resolve data integrity issues from the implementation of the Core Financial module before focusing on new IFMP modules and projects.
4. Ensure that user data input does not introduce additional errors by actively monitoring and reviewing data integrity at each Center and holding Centers accountable for maintaining accurate and complete data.
5. Initiate robust reconciliation reviews to ensure data are accurately, timely, and consistently reported throughout the Agency.

[10]Funds were identified at the Center level rather than by project level. This created a situation where users could spend more dollars for their projects than was available.

III. Business Process Reengineering

NASA did not initiate comprehensive end-to-end business process reengineering to take advantage of system processing efficiencies before implementing the Core Financial module. Instead, Centers continued to use multiple manual "workaround" procedures to address perceived and actual functionality gaps in the Core Financial module, which increased the potential for creating additional data errors.

Business Processes Reengineering to Meet Software Design. NASA did not reengineer most Center business processes to take advantage of processing efficiencies offered by SAP, according to several interviewees. For example, one Center tracked its funds at a "lower level" than other Centers. Since NASA did not redesign its business processes to comport with SAP functionality, the Centers developed workaround procedures. One procedure, which involved the downloading of required data using a Web-based application, enabled Center project managers and other financial and budget personnel at the Center to track funds at the desired level. Interviewees indicated that Centers used other manual systems to manage their grants-related data, advances, and contract cost reporting.

When reengineering of existing business processes is not a significant focus of the system design phase, organizations tend not to take advantage of system efficiencies and controls. Also, when organizations adapt commercial off-the-shelf (COTS) systems, such as SAP, to existing processes, they add more complexity and potential for increased errors than when adapting existing processes to COTS systems. NASA had an opportunity to reevaluate its business processes at the Centers, reduce system complexity, and eliminate manual workarounds prior to the planned IFMP upgrade to SAP.

Suggested Actions. E&Y suggests that the OCFO, in coordination with the IFM Program Office and business process owners should take the following actions:

6. Document end-to-end business processes and the controls that are responsive to risks associated with those processes.
7. Evaluate and streamline all major business processes, taking into consideration SAP functionality, to reduce complexity and then standardize the processes across all Centers.
8. Address the need for business process reengineering before implementing a new IFMP module or project, to include performing an end-to-end process evaluation (to understand current business processes and system functionality), an optimization review (to identify ways to reduce complexity by taking advantage of system functionality and controls), and an organizational alignment assessment (to determine the best alignment of organization roles with the new process definitions).

IV. Training and Software

NASA's IFMP training was not fully effective in focusing on user needs. In addition, NASA incorrectly assumed that SAP would support functions for which it was not designed. Each of these matters may have contributed to data integrity problems discussed elsewhere in this memorandum.

User Training. NASA based its IFMP training on procedures for recording routine transactions in the system instead of on the end-to-end business process, according to interviewees. For example, the IFMP training program did not apprise the initial procurement users (requisitioners) of the impact their processing had on the remaining steps of the purchase order process. In addition, interviewees expressed concerns that training did not adequately focus on error correction procedures; provide sufficient and effective learning before the Centers' "go-live" dates; sufficiently integrate anticipated system changes into the training methodology; or adequately emphasize procedures for extracting and using data stored in the Business Warehouse.[11] The Center training offices and the IFMP Competency Center have initiated several actions to refine the training programs and workshops. NASA should ensure that frequent training is provided that meets the needs of users.

Software Modifications. NASA made significant modifications to the Funds Management and Financial elements of the Core Financial module due in part to SAP not being fully matured. As of mid-March 2005, the Funds Management element and the Financial element still contained amounts that did not agree. NASA also did not adequately consider the required modifications to the integration of critical follow-on modules and projects, including the Integrated Asset Management and the Budget Formulation modules. In Report No. GAO-03-507, GAO expressed similar concerns. Unless integration issues are effectively resolved before the implementation of follow-on modules and projects, data integrity issues will continue.

Suggested Actions. E&Y suggests that the IFM Program Office:

9. Establish frequent training for IFMP users and ensure that the training meets the needs of users.

Ongoing Issue: Business Warehouse

E&Y noted that some of the root causes (the four major problem areas) may evolve into pervasive system and financial management issues that may increase over time. An ongoing issue identified by E&Y that needed immediate management attention was working with the Business Warehouse. The Business Warehouse is a Web-based Agencywide reporting tool that enables report extraction and analysis of data from SAP.

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[11]The Business Warehouse is discussed on the following page.

The Business Warehouse allows users to access data and customize queries based on their own parameters and filter settings from a Web browser.

Before implementing the Business Warehouse, NASA should have clearly defined and standardized the parameters for producing reports. Although users may have favorably viewed the flexibility to produce ad-hoc reports through the Business Warehouse, that flexibility has contributed to inconsistent analysis and reporting of data throughout the Agency. Interviewees indicated that if filters are not set correctly, different information can be extracted by separate users trying to access the same data. In addition, users have reported enormous difficulty in extracting consistent and complete data from the Business Warehouse because confusion exists over the proper selection of parameters used to capture full-cost data and reporting obligations. Timing differences between the recording of data in the Business Warehouse (updated every night) and the Core Financial module (real time) have also led to inconsistencies. For example, because not all end users understood the nature of the timing differences between the two systems, information was inconsistently reported. As a result, reports produced by different users may have appeared to be comparable when, in fact, they were not.

Suggested Actions. E&Y suggests that the OCFO should take the following actions:

10. Assign high priority to training system users in techniques for querying SAP and the Business Warehouse databases.
11. Establish standard reports, explanations of data retrieval parameters, and procedures for applying the parameters.
12. Evaluate, prioritize, and coordinate activities for addressing issues related to ongoing and planned IFMP modules and projects with Headquarters and the Centers.
13. Ensure that all available resources focus on resolving deficiencies in the implemented systems before implementing additional modules and projects.

Comparative Analysis of NASA's SAP Implementation

E&Y performed a comparative analysis of NASA's Enterprise Resource Planning (ERP) implementation, through SAP, with other ERP implementations. E&Y's comparative analysis is formulated on two sets of information:

- E&Y leveraged the E&Y team's experience, information, and knowledge in auditing or working with a large number of entities that had implemented ERP systems in the private and public sector and a number of GAO and other studies concerning implementation of ERP systems published in different media to define standard implementation problems.

- E&Y interviewed a number of public and private entities and questioned them on their experiences with their ERP implementation. E&Y focused on comparable ERP applications in size (as defined by number of users, overall size, and revenue/budget of the company or function) for the comparative analysis. Two of the five entities interviewed used products in competition with SAP. None of the other three entities, which implemented SAP, attempted to implement SAP in its entirety.

E&Y used both sets of information to formulate a comparative analysis of the NASA implementation against other ERP implementations. The chart below identifies the problems that E&Y determined that NASA encountered, as discussed in the body of the report, and also identifies which of the five entities interviewed encountered the same type of problem.

	Entities Interviewed					
Standard Problems Encountered	NASA	German Auto Manufacturer	Major Federal Agency	German Research Institute	State Government	Large Federal Distributor
1. Only minimum business process reengineering was completed (system development phase).	√				√	√
2. Bugs in the SAP software were encountered, which were acknowledged by SAP.	√	N/A – did not implement new modules of SAP	N/A – did not use SAP	N/A – did not implement new modules of SAP	√	N/A – did not use SAP
3. Needed reports were missing, reports existed but were unknown by user, or reports looked different than what the user was expecting.	√		√	√	√	

Standard Problems Encountered	Entities Interviewed					
	NASA	German Auto Manufacturer	Major Federal Agency	German Research Institute	State Government	Large Federal Distributor
4. Legacy data was not completely cleaned up before transferring it to the new system.	√					
5. Full functional testing was not performed by users.	√					
6. Not all scenarios were documented in test scenarios.	√				√	
7. No negative testing was performed.	√					
8. Not all testing was successfully completed before go-live.	√					√
9. User training in procurement area was not provided to the right people	√		√	√	√	
10. Training concentrated too much on system functions rather than on the new process.	√		√	√	√	
11. Data in various modules did not reconcile.	√				√	
12. Business process reengineering was only minimally performed (post-implementation phase).	√	√	√	√		√
13. Ongoing initiatives (open items) were not effectively managed, prioritized, and coordinated to ensure that the initiatives were valid, valuable, and not duplicative.	√					
14. Data entry errors occurred during post implementation phase.	√	√	√	√	√	√

Relevant IFMP Studies

NASA OIG Reports

- Report No. IG-05-008, "Audit of the Implementation of Integrated Financial Management Program (IFMP) Audit Recommendations," February 11, 2005
- Report No. IG-04-027, "NASA's Travel Module Lacks Management Control Structure and Compliance With Federal Requirements," September 24, 2004
- Report No. IG-04-017, "Integrated Financial Management Program Budget Formulation Module," March 30, 2004
- Report No. IG-04-016, "Integrated Financial Management Program Core Financial Project Information Technology Security Planning and Implementation," March 31, 2004
- Report No. IG-03-028, "Summary Report on Audit of Integrated Financial Management Program Core Financial Module," September 29, 2003
- Report No. IG-03-015, "Integrated Financial Management Program Core Financial Module Conversion to Full Cost Accounting," May 30, 2003

GAO Reports and Testimony

- Testimony No. GAO-04-754T, "National Aeronautics and Space Administration: Significant Actions Needed to Address Long-standing Financial Management Problems," May 19, 2004
- Report No. GAO-04-49, "Information Technology Management: Government-wide Strategic Planning, Performance Measurement, and Investment Management Can Be Further Improved," January 12, 2004
- Report No. GAO-04-255, "Business Modernization: NASA's Challenges in Managing Its Integrated Financial Management Program," November 21, 2003
- Report No. GAO-04-151, "Business Modernization: NASA's Integrated Financial Management Program Does Not Fully Address Agency's External Reporting Issues," November 21, 2003
- Report No. GAO-04-118, "Business Modernization: Disciplined Processes Needed to Better Manage NASA's Integrated Financial Management Program," November 21, 2003
- Report No. GAO-04-43, "Information Technology: Architecture Needed to Guide NASA's Financial Management Modernization," November 21, 2003
- Report No. GAO-03-507, "Business Modernization: Improvements Needed in Management of NASA's Integrated Financial Management Program," April 30, 2003