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

National Security and  
International Affairs Division

B-279979

July 20, 1999

The Honorable Dick Armey  
Majority Leader  
House of Representatives

The Honorable Dan Burton  
Chairman, Committee on Government Reform  
House of Representatives

The Honorable Fred Thompson  
Chairman, Committee on Governmental Affairs  
United States Senate

Subject: Observations on the National Aeronautics and Space Administration's Fiscal Year 2000 Performance Plan

As you requested, we have reviewed and evaluated the fiscal year 2000 performance plans for the 24 Chief Financial Officers (CFO) Act agencies that were submitted to Congress as required by the Government Performance and Results Act of 1993 (Results Act). Enclosure I to this letter provides our observations on the fiscal year 2000 performance plan for the National Aeronautics and Space Administration (NASA). Enclosure II lists management challenges we and NASA's Inspector General identified that face the agency and the applicable goals and measures in the fiscal year 2000 annual performance plan. Enclosure III is NASA's comments.

Our objectives were to (1) assess the usefulness of the agency's plan for decisionmaking and (2) identify the degree of improvement the agency's fiscal year 2000 performance plan represents over the fiscal year 1999 plan. Our observations were generally based on the requirements of the Results Act, guidance to agencies from the Office of Management and Budget (OMB) for developing the plan (OMB Circular A-11, Part 2), our previous reports and knowledge of NASA's operations and programs, and our observations on NASA's fiscal year

B-279979

1999 performance plan. Our summary report on the CFO Act agencies' fiscal year 2000 plans contains a complete discussion of our objectives, scope, and methodology.<sup>1</sup>

As agreed, unless you announce the contents of this letter earlier, we plan no further distribution until 30 days from the date of the letter. The major contributors to this report are listed in enclosure IV. Please call me on (202) 512-4841 if you or your staff have any questions.

A handwritten signature in black ink that reads "Allen Li". The signature is written in a cursive style with a large initial "A" and a distinct "Li" at the end.

Allen Li  
Associate Director, Defense  
Acquisitions Issues

Enclosures - 4

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<sup>1</sup> Managing for Results: Opportunities for Continued Improvements in Agencies' Performance Plans (GAO/GGD/AIMD-99-215, July 20, 1999).

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# Observations on the National Aeronautics and Space Administration's Performance Plan for Fiscal Year 2000

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The National Aeronautics and Space Administration's (NASA) fiscal year 2000 annual performance plan should be useful to decisionmakers. It provides a limited picture of intended performance across the agency, a general discussion of strategies and resources the agency will use to achieve its goals, and limited confidence that performance information will be credible. An example of a positive change regarding the plan's presentation of strategies and goals is the discussion on NASA's objective of extending the use of Earth Science research for national, state, and local application. The plan links that objective with the achievement of three performance goals, namely having at least one Regional Earth Science Application become self-sustaining; developing at least two new data products for routine decision-making by user organizations; and implementing at least 5 joint applications research projects/partnerships with state and local governments in remote sensing applications. Figure 1 highlights the plan's major strengths and key weaknesses as NASA seeks to make additional improvements to its plan.

Figure 1: Major Strengths and Key Weaknesses of Fiscal Year 2000 Annual Performance Plan

**Major Strengths**

- Shows how budgetary resources are related to performance
- Provides expanded detail on performance evaluations and identifies specific data sources

**Key Weaknesses**

- Does not provide clear rationale for how information technology related strategies and programs contribute to achievement of performance goals
- Does not include procedures for verifying and validating performance data

NASA's fiscal year 2000 plan represents a moderate improvement over the fiscal year 1999 plan in that it indicates some degree of progress in addressing the weaknesses identified in our assessment of the fiscal year 1999 plan. In reviewing the fiscal year 1999 plan, we observed that the plan could have provided a clearer picture of intended performance across the agency, did not fully portray how strategies and resources would help achieve performance goals, and partially provided confidence that performance information would be credible. Among improvements in the fiscal year 2000 plan is the inclusion of (1) performance objectives or targets that fully or partially address 5 of 10 management challenges identified by NASA's Office of the Inspector General or us, (2) a crosswalk to relate budget categories with performance objectives and targets, and (3) expanded detail on internal and external evaluations of performance.

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## NASA's Performance Plan Provides a Limited Picture of Intended Performance Across the Agency

The plan provides a limited picture of intended performance across the agency. The plan includes performance goals and objectives that are results oriented, including the provision of performance objectives and measures that address important dimensions of program performance and balance competing priorities. Although the plan includes some performance objectives and targets that address mission-critical management problems, the plan does not address all major management challenges identified by NASA's Office of Inspector General and us. It attempts to address issues of broad national concern but needs more specific information on how achieving the agency's goals will contribute to addressing these issues.

The plan includes performance goals and objectives that are results oriented. Some of these goals and measures address important dimensions of program performance and balance competing priorities. For example, NASA's objective of providing safe and affordable access to space is measured by safety and mission-related performance targets, namely achieving seven or fewer anomalies per Space Shuttle mission while attaining 85 percent on-time, successful launches.

While the plan includes some performance objectives and targets that address mission-critical management problems, it does not address all 10 of the major management challenges that NASA's Inspector General and we identified. The plan includes performance objectives or targets that fully or partially address 5 of the 10 management challenges. Table 1 (in the section on management challenges) shows our analysis of major management challenges and performance objectives in the plan. As an example, we reported that contract management is a continuing area of high risk and that until NASA's financial management system is operational, performance assessments relying on cost data may be incomplete. NASA's plan addresses this issue by establishing a performance target to implement new financial systems and business procedures, including the installation of its Integrated Financial Management System.

The plan attempts to address crosscutting issues of broad national concern, but at a very high level. For example, the plan states that the outcomes of its activities contribute significantly to the achievement of America's goals in key areas. The key area of economic growth and security is then linked with NASA's aeronautics and space research and development of technology. NASA's stated desired outcome is to keep America capable and competitive. The addition of more detailed information on how NASA's efforts toward achieving this goal will contribute to economic growth, such as referring to the collaborative work on engine development by NASA and private industry, would enhance the understanding of linkages.

The fiscal year 2000 performance plan indicates some degree of progress in addressing the weaknesses that we identified in our assessment of the fiscal year 1999 performance plan as

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it relates to providing a clear picture of intended performance across the agency. Specifically, in analyzing the fiscal year 1999 plan, we said that the plan could be improved by (1) acknowledging major management challenges and associated corrective actions and, (2) identifying activities that had been undertaken to address issues of broad national concern and the contribution of the agency's goals toward addressing such crosscutting activities. NASA's final fiscal year 1999 performance plan (which was issued after our assessment of the version provided to Congress) and NASA's fiscal year 2000 performance plan address some of the weaknesses we cited previously.<sup>1</sup> Specifically, the final fiscal year 1999 performance plan added performance targets to address two of the three major management challenges that we identified, and one of those two appears in the fiscal year 2000 performance plan. NASA officials indicated that the remaining management challenge did not appear in the fiscal year 2000 plan because remedial action on it would be completed in fiscal year 1999. A third management challenge that we identified—cooperation between the Department of Defense and NASA on using aerospace testing facilities—does not appear in either plan. Although NASA officials said that they did not specifically attempt to address the major management challenges identified by NASA's Office of Inspector General, the fiscal year 2000 plan does include performance objectives or targets that relate to some of these management challenges. For example, the Office of Inspector General reported that ensuring the availability of launch vehicles presented challenges. These challenges included (1) ensuring the availability of small expendable launch vehicles so that milestones can be met and NASA missions are cost-effective and (2) evaluating whether NASA's providing the majority of development funds and assigning technology rights to its industry partners in the development of the new reusable launch vehicles is in the best interest of the government. The plan includes an objective related to this challenge that NASA's plan characterizes as revolutionizing space launch capabilities. Specifically, it provides a performance target to begin and complete flight testing of the X-33 in fiscal year 2000 to demonstrate technologies required for future reusable launch vehicles. NASA officials also noted that while there was no conscious effort not to acknowledge the management challenges, NASA was still struggling with how to package that issue in its performance plan.

## NASA's Performance Plan Provides a General Discussion of the Strategies and Resources It Will Use to Achieve Its Goals

The plan provides a general discussion of strategies and resources the agency will use to achieve performance goals. The plan provides a crosswalk that relates enterprises, performance objectives and targets to the program activities in the President's budget request

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<sup>1</sup>NASA issued its final fiscal year 1999 performance plan in February 1999. NASA officials said that the plan was updated to reflect fiscal year 1999 appropriations and programmatic changes and changes made to respond to concerns expressed by outside reviewers.

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and to the budget categories used in the congressional budget justification; more completely discusses resources, with the addition of civil service staffing levels for each enterprise; and provides a limited discussion of external factors that could influence the successful achievement of performance results. However, the plan still does not adequately describe how the agency's strategies and resources will help it achieve performance goals, including a clear rationale for how information technology-related strategies and programs will contribute to the achievement of performance goals.

NASA's plan explicitly states that the plan is intended to be used in conjunction with the congressional budget justification, and the plan does relate performance objectives and targets to budget categories. The plan adds a crosswalk that links strategic objectives and performance targets to the budget categories used in NASA's congressional budget justification. This crosswalk indicates that NASA's performance targets cover the program activities in its budget justification. For example, in discussing NASA's objective of extending the use of Earth Science research for national, state, and local applications, the plan relates this objective and associated resources (identified in the budget justification) to its strategic goal of enabling the productive use of Earth Science and technology in the public and private sectors. The plan links the objective with the achievement of three performance goals, namely having at least one Regional Earth Science Application become self-sustaining; developing at least two new data products for routine decision-making by user organizations; and implementing at least 5 joint applications research projects/partnerships with state and local governments in remote sensing applications.

Although this linkage is a step in the right direction, the absence of funding information for the budget categories makes it difficult to easily relate requested funding needs to the performance objectives and targets. Including these funding needs in the performance plan would permit decisionmakers to more readily compare planned levels of accomplishment with budget resources. Also, the plan would be more useful if NASA had provided the meaning and significance of the primary and secondary contribution notations in the crosswalk and an explanation of acronyms used in the crosswalk to identify other objectives addressed by the performance targets. NASA recognizes that its performance plan and budget justification need to be integrated to better relate the performance goals, objectives, and measures. According to agency officials, NASA was studying the benefits of merging these documents.

The plan's use of performance target descriptions and numbers, the crosswalk, and the narrative were found to be consistent in all of the enterprise sections except in the Space Science Enterprise section. However, to minimize repetition, the plan could be streamlined by referencing key targets in the narrative and leaving detailed information in the crosswalk.

The plan provides a more complete discussion of resources with the addition of civil service staffing levels for each enterprise. However, there is no further description of NASA's human

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capital needs beyond this discussion. For example, skills and training needed to meet performance goals are not addressed. In addition, the plan still does not adequately describe how the agency's strategies and resources will help it achieve performance goals. Generally, implementation strategies have not changed from the fiscal year 1999 plan and still lack specific information on how NASA will accomplish its enterprise goals. In several instances, these descriptions outline philosophies rather than describe enabling actions. For instance, the plan still does not clearly explain application of the "faster, better, cheaper" approach to spacecraft development in the Space Science and Earth Science implementation strategy sections. At a minimum, it would have been helpful if the plan had been updated to include an explicit discussion of what is involved in applying the "faster, better, cheaper" approach and how the establishment of "prudent risk" is part of it.

NASA officials responded that the performance plan is intended to be used in conjunction with the NASA fiscal year 2000 congressional budget justification and noted that each of the entries in the budget justification identifies resources, goals, and the strategies being pursued in the implementation of those goals. While the scope of our analysis did not include a full analysis of NASA's fiscal year 2000 budget justification, we found the information provided in that document not to be useful in further explaining implementation strategies referenced in the performance plan. As indicated earlier, NASA officials said that the agency is studying the benefits of merging the performance plan and the congressional budget justification in part to address the strategies and resources issue.

Relative to information technology (IT), the plan generally does not provide a clear rationale for how IT-related strategies and programs will contribute to the achievement of its performance goals, nor does it show the allocation of IT-related dollars and personnel to performance goals. The plan states that costs for mission-unique IT support are incorporated in program and project budgets. Therefore, they are not identified as separate items. Furthermore, we believe that the plan is unrealistic in its discussion of how the Earth Observing System Data and Information System (EOSDIS), an IT-related resource, will contribute to the achievement of NASA's performance goal of increasing the number of products delivered from its archive and make the data available to users more rapidly in fiscal year 2000. NASA has already testified before Congress that repairing the problems with EOSDIS that resulted in the delay of the launch of the AM-1 satellite and staying within budget will require scaling back some of the system's capabilities.

The plan provides additional context regarding anticipated performance by including a brief discussion of external factors that could influence the successful achievement of performance results. For example, the plan states that the successful execution of NASA's strategic goals and objectives is contingent on receipt of the requested appropriations, and the provision of funds, materials, or services that have been committed to the cooperative agreements or partnerships that are referenced in the plan. However, the value of the plan would be augmented if (1) external factors were explicitly discussed relative to objectives

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whose attainment is strongly tied to these external influences and (2) NASA explained how it would mitigate any negative effects.

The fiscal year 2000 performance plan indicates some degree of progress in addressing the weaknesses that we identified in our assessment of the fiscal year 1999 performance plan as it relates to providing a specific discussion of strategies and resources the agency will use to achieve performance goals. In reviewing the fiscal year 1999 plan, we observed that the plan (1) did not clearly associate performance goals and measures with program activities, including not providing a crosswalk to facilitate an understanding of the relationship between the specific program activities in the budget and the goals and measures in the performance plan; (2) partially discussed the resources the agency would use to achieve the performance goals; (3) did not fully describe how the agency would achieve its performance goals or reference other documents to show how the strategies would contribute to achieving the performance goals; (4) did not address any of the important IT management issues or include a discussion of the agency's strategy for achieving improvements in IT capability and services; and (5) could have provided additional context through a discussion of external factors and the agency's plan for mitigating or using the identified factors to achieve performance goals. The fiscal year 2000 plan shows some progress in addressing weaknesses that we identified. For example, the plan provides a crosswalk that relates enterprises, performance objectives and targets to the program activities in the President's budget request and to the budget categories in the congressional budget justification. In addition, the plan provides a more complete discussion of resources with the addition of civil service staffing levels for each enterprise.

## **The Agency's Performance Plan Provides Limited Confidence That Agency Performance Information Will Be Credible**

The plan provides limited confidence that the agency's performance information will be credible. The plan identifies internal and external organizations that will evaluate performance, provides expanded detail on such evaluations, and identifies specific internal and external sources for data. However, it does not include an explicit discussion of procedures that will be used to verify and validate performance data. Furthermore, the plan does not address possible limitations in internal and external sources of data.

The plan states that through internal and external processes NASA will evaluate performance and that these reviews will provide an opportunity to verify and validate performance data provided by implementing organizations. The plan provides expanded detail on such evaluations. In addition to naming the specific internal and external entities that will evaluate performance, such as the Board of Directors of the Office of Life and Microgravity Sciences and Applications, the plan identifies specific internal and external sources for the data. By identifying relevant data sources, decisionmakers can be informed of the agency's actions to



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measure performance. For example, the plan states that NASA's Earth Science Enterprise will use a database to track the monthly performance for each specific fiscal year 2000 performance target; this data will help the Enterprise focus on targets that need improvement. Enterprise officials told us that target achievability is rated red if the target is at risk of not achieving performance results; yellow if there are concerns and issues that need to be resolved; or green if the target is on track. Enterprise officials told us that this management tool is already being used.

However, the plan does not include an explicit discussion of procedures that will be used to verify and validate performance data, nor does it address limitations to the data from internal or external sources. NASA officials said that established processes have no known limitations and they consider the issue to be adequately addressed in that the plan explicitly states that internal management processes provide appropriate forums for reporting and reviewing of project and program performance data; the recent streamlining of agency processes provide confidence that new data collection and oversight processes need not be created for compliance with the Results Act and NASA's mission-oriented organizational structure and established management processes are well-suited for this type of performance evaluation; and a significant in-place external review process involves a peer review process as a key element to ensure that science research proposals are selected strictly on the merits of the planned research.

While NASA is confident that established processes have no known data limitations, identification of possible limitations could permit it to identify actions that might compensate for events that could negatively affect achievement of performance goals. For example, evaluation of NASA's performance objective of improving effectiveness and efficiency of agency acquisitions is dependent on data from the agency's Financial Accounting and Contractual Status system. Based on the problems NASA has encountered in producing complete cost data, uncertain reliability or unavailability of data from this system needs to be considered. We previously reported that until the new Integrated Financial Management System is operational, performance assessments relying on cost data might be incomplete.<sup>2</sup> To NASA's credit, the agency has recognized the importance of this data. The fiscal year 2000 plan includes a performance target to implement new financial systems and business procedures (including a new financial classification structure and full cost budgeting and accounting procedures) through the introduction and installation of the Integrated Financial Management System. The plan states that following completion of system testing, the agency will begin to install the system at NASA headquarters and field centers. Consideration of data limitations needs to extend to external data sources as well. NASA's performance plan does

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<sup>2</sup> Major Management Challenges and Program Risks: National Aeronautics and Space Administration (GAO/OCG-99-18, January 1999).

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not specifically address data limitations of externally provided data, such as quality, validity, and timeliness. For example, NASA will rely on Federal Aviation Administration data to ascertain whether its goal of increasing operations throughput was achieved.

The fiscal year 2000 plan shows some degree of progress in addressing the weaknesses identified in our assessment of the fiscal year 1999 plan as it relates to providing full confidence that the agency's performance information will be credible. In reviewing the fiscal year 1999 plan, we observed that the plan did not (1) include a discussion of the procedures that would be used to verify and validate performance data and (2) address limitations to the data from internal or external sources. Among improvements in the fiscal year 2000 plan are (1) expanded detail on internal and external evaluations, (2) identification of specific internal and external sources for data, and (3) identification of planned action to complete testing and begin installation of the Integrated Financial Management System at NASA headquarters and field centers in fiscal year 2000.

## Other Observations

NASA is making inroads in ensuring that its strategic management system—which includes its strategic and annual performance plans and budget justification—is reflective of current conditions and agency priorities. NASA revised its 1998 strategic plan with interim adjustments released as part of the fiscal year 2000 performance plan and plans to release a fully updated strategic plan before September 2000. NASA will also issue a revised fiscal year 2000 performance plan, if required. Although we understand NASA's rationale for wanting to reflect programs for which appropriations were made and not requested, NASA's updated plans applicable to the current fiscal year will be most useful to decisionmakers if they reflect progress NASA already has made in meeting goals in its prior fiscal year plan. For example, the final version of the fiscal year 1999 plan indicates, within the "Manage Strategically" goal, a performance target to "enhance contract management through improved systems and information for monitoring and through an emphasis on training of procurement personnel, and revise metrics to assess the overall health of the procurement function." Since the target is to be achieved in fiscal year 1999, it is not included in the fiscal year 2000 plan. Using only the fiscal year 1999 plan as a basis for comparison, decisionmakers are unaware of NASA's positive action. To address this issue, future performance plans could be enhanced with the inclusion of an appendix summarizing adjustments made to the prior fiscal year plan but no longer applicable to the current fiscal year.

## Agency Comments

In commenting on a draft of our analysis, NASA's Associate Deputy Administrator stated that it would endeavor to use our observations in improving the management of the agency. NASA raised concern about three issues that we identified in our analysis. First, the agency stated

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that the report containing the OIG's management challenges was issued subsequent to NASA's formulation, selection, and submittal of its performance targets to the Office of Management and Budget (OMB). NASA contends that the OIG's management challenges were identified too late to enable inclusion in the performance plan. Our point concerning this matter is that NASA did not recognize and address longstanding major management issues that the agency knew about or should have known about. The OIG had identified similar challenges in a report to Senator McCain in 1997. These issues should have been addressed in the plan upon submittal to OMB.

Second, in response to our criticism that the plan did not include an explicit discussion of external factors that could impact attainment of the plan's performance objectives, NASA stated that OMB Circular A-11 allows agencies to choose to include external factors in their plans when these may bear directly on goal achievement for the fiscal year covered. NASA is correct in its interpretation that the OMB regulations do not require inclusion of external factors in annual performance plans, and we have been careful not to state that they are required in these plans. However, the focus of our assessment is on how the plan can be more useful to Congress and other decisionmakers. NASA provided a general discussion of external factors in its fiscal year 2000 plan that were not specific to any objective. We continue to believe that the plan would be augmented if (a) external factors were explicitly discussed relative to objectives whose attainment is strongly tied to these external influences and (b) NASA explained how it would mitigate any negative effects.

Third, NASA disagreed with our characterization of its plan as providing a "limited picture of intended performance across the agency." NASA stated that its plan included detailed performance targets that cover all of its program and finance accounts and most of its budget line items and programmatic elements of its strategic plan. Our assessment of the plan, as it related to providing an intended picture of performance across the agency, focused on whether the sum total of goals, objectives, and measures provided a clear understanding and complete picture of performance across the agency, not on the number of performance targets the plan provided. The incomplete discussion of longstanding management issues is illustrative of the plan's need to address longstanding priority issues, a key indicator of NASA having provided a complete picture of performance across the agency.

# Management Challenges

Table II.1 shows NASA’s major management challenges that we and NASA’s Office of the Inspector General (OIG) have identified and NASA’s annual performance plan for fiscal year 2000 addresses.

**Table II.1: Management Challenges in NASA’s Fiscal Year 2000 Performance Plan**

GAO identified management challenge	Applicable references in the fiscal year 2000 annual performance plan
<p><u>Contract management</u></p> <p>GAO has reported that NASA’s contract management is a continuing area of high risk. Implementation of the financial management system and its integration with full cost accounting has been delayed. Until the financial management system is operational, performance assessments relying on cost data may be incomplete.</p> <p>NASA’s OIG reported contract management as a GAO-identified management challenge.</p>	<p>NASA’s performance plan includes a performance target to implement new financial systems and business procedures (including a new financial classification structure and full cost budgeting and accounting procedures) through the introduction and installation of the Integrated Financial Management System (IFMS). The plan notes that following completion of system testing, the system will begin to be installed at NASA headquarters and field centers.</p> <p>The final FY 1999 performance plan also added targets to describe additional procurement actions being undertaken in FY 1999. It stated that contract management would be enhanced through improved systems and information for monitoring and through an emphasis on the training of procurement personnel. Also, metrics would be revised to assess the overall health of the procurement system. It also stated that a strategy for evaluating the efficacy of procurement operations would be implemented in FY 1999. (NASA officials noted that these specific remedial actions will be completed in FY 1999 and thus do not appear in the FY 2000 plan.)</p>
<p><u>International Space Station Program</u></p> <p>We reported that the International Space Station Program continues to face cost and schedule challenges and the effects of funding shortfalls in Russia; NASA continues to identify cost growth and limited reserves as major program concerns and is now giving added attention to problems with support from others than the prime contractor. In January 1999, we reported that the prime contractor’s latest overrun estimate at completion has increased from \$680 million to \$780 million.</p> <p>NASA’s OIG also reported that the International Space Station Program continues to experience cost overruns and scheduling delays.</p>	<p>None. However, the management of risks in building the International Space Station is identified in the President’s FY 2000 budget submission as one of the top 24 government management challenges.</p>
<p><u>Cooperation between NASA and Department of Defense on aerospace test facilities</u></p>	<p>None.</p>

**Enclosure II**  
**Management Challenges**

<b>GAO identified management challenge</b>	<b>Applicable references in the fiscal year 2000 annual performance plan</b>
<p>We reported that the promise of closer cooperation between NASA and DOD and the development of a national perspective on aerospace test facilities remain largely unfulfilled. NASA and DOD (1) have not convened most joint test facility working groups on a regular basis, (2) have competed with each other to test engines for new rockets, and (3) have not prepared a congressionally required joint plan on rocket propulsion test facilities.</p>	

<b>Inspector General's areas of concern</b>	<b>Applicable references in the fiscal year 2000 annual performance plan</b>
<p><u>Safety and mission assurance</u></p> <p>NASA's OIG has reported that safety and mission assurance has become a serious challenge to NASA. The challenges are ensuring an appropriate level of training for staff that conduct safety reviews and evaluations; maintaining adequate safety reporting systems; ensuring compliance with safety standards and regulations; ensuring product safety and reliability; and developing appropriate safety planning mechanisms.</p>	<p>NASA's performance plan includes an objective that the Space Shuttle will continue with safety and performance upgrades. Phase 1 upgrades are designed to improve safety and performance that will enable the shuttle to achieve the orbital inclination and altitude of the International Space Station. A variety of process improvements will be implemented to enhance shuttle safety and reliability and reduce costs. Performance targets include (1) having a shuttle upgrade program that ensures the availability of safe and reliable shuttle system through the International Space Station era and (2) achieving seven or fewer flight anomalies per mission.</p> <p>NASA included an objective to ensure the health, safety, and performance of humans in space. Performance targets include (1) developing medical protocols and testing the capability of crews health care system as integrated in the U.S. laboratory; (2) completing the first phase of the advanced life support system integration test bed facility, which will provide the capability to conduct a series of long duration, human in the loop, advanced technology tests over the next 6 years; and (3) providing training to the appropriate NASA supervisors with specific emphasis on actions to prevent injury and illness on the job.</p> <p>NASA included an objective to contribute to aviation safety by reducing aircraft accident rates. The performance target is to demonstrate a conceptual aircraft flight deck integrated with evolving ground-based runway incursion avoidance technologies installed at a major airport.</p> <p>The plan discusses safety in the context of</p>

**Enclosure II**  
**Management Challenges**

<b>Inspector General's areas of concern</b>	<b>Applicable references in the fiscal year 2000 annual performance plan</b>
<p><u>Year 2000 computer problems</u></p> <p>NASA's OIG has reported that NASA's assessment of Year 2000 Y2K computer problems has major gaps. NASA has identified the Y2K problem as a significant area of management concern in the annual Federal Managers' Financial Integrity Act Report. OIG audits found gaps in NASA's guidance on cost estimation, documentation of its Y2K efforts, and its identification of critical systems.</p> <p>Although we did not characterize the Y2K problem as a major management challenge, we raised a concern similar to the OIG's in our review of NASA's FY 1999 Performance Plan. The concern related to the failure of the information technology goal and measure to address the Y2K problem as well as any significant information security weaknesses. (GAO/NSIAD-98-181)</p>	<p>performance measurement. It notes that it is important to avoid evaluating actual output performance in research and development (R&amp;D) organizations by counting the number of planned events for the year with the number that actually occurred. The "beancount" approach, according to the plan, is more appropriate to a known manufacturing environment. In the high performance, high-risk R&amp;D environment that characterizes NASA's programs, NASA believes that it is inadvisable to incentivize on-time performance and thereby deemphasize safety, quality, high performance, and appropriate risk-taking.</p> <p>None. However, a Y2K performance target was added to the final FY 1999 performance plan. The plan states that the agency will complete remediation of mission-critical systems by March 1999, consistent with governmentwide guidelines for Year 2000. NASA officials stated that the Y2K concern would be resolved by the end of FY 1999 and thus is not discussed in the FY 2000 plan.</p>
<p><u>Information Technology Security System</u></p> <p>NASA's OIG reported that the IT security system has serious weaknesses. The OIG recommended that NASA designate IT security as a high-risk area in the annual Federal Managers' Financial Integrity Act report based on the fragmentation of the system, the lack of policies and guidance, network physical and system security weaknesses, the lack of properly trained personnel, and lack of threat analysis.</p>	<p>None. However, the plan includes an objective to ensure that information technology provides an open and secure exchange of information, is consistent with agency technical architectures and standards, demonstrates a projected return on investment, reduces risk, and directly contributes to mission success. The FY 2000 plan includes as a target the improvement of information technology infrastructure service delivery to provide increased capability and efficiency while maintaining both a customer rating of "satisfactory" and costs per resource unit at the FY 1998 baseline.</p>
<p><u>Waste and abuse as Financial Management System is integrated</u></p> <p>NASA's OIG has reported concerns with waste and abuse as NASA integrates its financial management system. NASA has identified its financial management environment, comprising of</p>	<p>The plan includes a performance target to implement new financial systems and business procedures (including a new financial classification structure and full cost budgeting and accounting procedures) through the introduction and installation of the IFMS. Following completion of testing, the system will begin to be installed at NASA headquarters and field centers.</p>

**Enclosure II**  
**Management Challenges**

<b>Inspector General's areas of concern</b>	<b>Applicable references in the fiscal year 2000 annual performance plan</b>
<p>decentralized, nonintegrated systems, as a significant area of concern in its FY 1998 FMFIA report. To remedy this situation, NASA will implement the IFMS. The OIG continues to have serious concerns about delays in delivery of this product, disputes about the scope of the deliverables, and the costs associated with running parallel systems until the IFMS is fully implemented.</p> <p>Our concern on contract management includes this issue.</p>	
<p><u>Launch vehicles</u></p> <p>NASA's OIG reported on challenges in (1) ensuring the availability of small expendable launch vehicles so that milestones can be met and NASA's missions are cost-effective and (2) evaluating whether NASA's providing the majority of development funds and assigning technology rights to its industry partners in the development of the new reusable launch vehicles is in the best interest of the government.</p>	<p>The plan includes an objective to revolutionize space launch capabilities. The X-33 program will begin and complete flight testing in FY 2000 to demonstrate technologies that are traceable to the mass fraction and operability required for future reusable launch vehicles. The target is to conduct flight-testing of the X-33 vehicle in FY 2000. The X-34 program will demonstrate technologies applicable to future, low-cost reusable launch vehicles, including high flight rates. The target is to complete vehicle assembly and begin flight testing of the second X-34.</p>
<p><u>International agreements</u></p> <p>NASA's OIG reported that international agreements are needed to ensure effective and efficient programs. Key considerations include program and project vulnerability to schedule delays and cost overruns that require diplomatic rather than contractual solutions; security controls on technology that impact national security; controls to ensure the quality and timeliness of the goods and services provided; and mechanisms to assure balance between program needs and national considerations.</p>	<p>None.</p>
<p><u>Environmental cleanup</u></p> <p>NASA's OIG reported that NASA has not addressed its many environmental cleanup issues. Years of operations and research activities have left NASA with major environmental cleanup issues.</p>	<p>None.</p>

# Comments From the National Aeronautics and Space Administration

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



APR 27 1999

Mr. Allen Li  
Associate Director Defense Acquisitions  
United States General Accounting Office  
Washington, DC 20548

Dear Mr. Li:

As always, NASA values the inputs of the General Accounting Office and endeavors to make use of its observations in improving the management of the Agency. We appreciated the acknowledgment of changes made to address concerns with our FY 1999 Performance Plan and, generally, believe that the report is balanced.

We are, however, concerned about a few specific issues that relate to questions about the standards being used to evaluate compliance with the Government Performance and Requirements Act (GPRA). Those few issues are identified in the enclosure. It is not unreasonable to think that these standards, as well as the Agency response to those standards, will evolve as we all gain experience with the process. Unfortunately, it would appear that the expectations and standards are being revised at a pace that outstrips NASA's ability to conform with those evolving expectations.

We look forward to continuing to work with you to strengthen our implementation of the GPRA. NASA staff spent approximately 40 hours supporting this audit.

Sincerely,

  
J. R. Dailey  
Associate Deputy Administrator

Enclosure

cc:  
W/Ms. Gross



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**Enclosure III**  
**Comments From the National Aeronautics and Space Administration**

Enclosure

Concern 1

Evaluation against the Inspector General's identification of the top 10 serious management challenges, issued on December 7, 1998. The report, provided at the August 5, 1998, request of the House Majority Leader, was completed after the September 1998 submission of the Performance Targets to the Office of Management and Budget. This particular set of expectations was identified too late to enable inclusion in the performance plan. The process that NASA uses to formulate and select its performance targets begins early in the calendar year and concludes with the submission of our budget to the Administration.

Concern 2

Continued criticism relative to failure to include explicit discussion of external factors which could impact attainment of the objectives. OMB Circular A-11, 220.5, "Relationship to strategic plans" states, "Key external factors are not a specified element in an annual performance plan." Agencies may choose to include information on external factors in their annual plan when these may bear directly on goal achievement for the fiscal year covered in the plan."

Concern 3

Characterization of the NASA FY 2000 Performance Plan as providing a "limited picture of intended performance across the agency." The FY 2000 performance plan provided 204 detailed performance targets, covering all of the Program & Finance Accounts and most of the Budget line items, as well as addressing all of the programmatic elements of the Strategic Plan. It is not clear how this coverage can be described as providing only a limited picture of the Agency's intended performance.

# GAO Contacts and Staff Acknowledgments

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## GAO Contact

Allen Li, (202) 512-4841

## Acknowledgments

In addition to the contact named above, Richard J. Herley, Shirley B. Johnson, Elizabeth L. Johnston, Laura E. Castro, Linda P. Garrison, Rhonda P. Rose, and William T. Woods made key contributions to this product.

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