

**Statement of  
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Chairman, Audit and Finance Committee  
NASA Advisory Council**

**before the**

**Subcommittee on Space and Aeronautics  
Committee on Science and Technology  
United States House of Representatives**

Chairwoman Giffords and Members of the Subcommittee, thank you for the opportunity to appear today to discuss the NASA Advisory Council's key findings and observations related to NASA's financial management activities.

NASA has well documented financial problems that have plagued the Agency for almost all of this decade. Before describing the remediation efforts and progress made over the last three and one-half years, it would be helpful to begin with a brief explanation of the situation that existed in late 2005. As background, the last year in which NASA received an unqualified Audit Opinion was 2002, but even that opinion is suspect because the opinion contained a Material Weakness which, post Sarbanes-Oxley, would preclude a favorable opinion. In 2001 and in every other year this decade, the Agency was given a Disclaimer which is a statement by the Independent Auditor that the Financial Statements are not auditable.

In 1990, the General Accountability Office (GAO) placed NASA on its High Risk List for what it cited as NASA's failure to effectively oversee its contracts, due in part to the Agency's lack of accurate and reliable information on contract spending. The GAO cited four subject areas:

- Past award Contract Administration;
- Financial Management Systems;
- Program and Project Management; and
- Cost Estimating and Analysis

In 2005, the House Science Subcommittee on Space and Aeronautics tasked the GAO to investigate the long-standing financial management challenges that threaten the Agency's ability to manage its programs. In its report to the Subcommittee, GAO cited 45 recommendations aimed at improving NASA's overall management and implementation of the Integrated Enterprise Management Plan (IEMP) and core accounting system, concluding that "ineffective system and processes and inadequately trained financial management personnel hamper the external financial reporting efforts thereby threatening the Agency's ability to manage its programs and produce auditable financial statements."

In October 2005, at the start of Subcommittee hearings, the Inspector General (IG), in its report, noted that the Agency's problems are rooted in historic culture, to wit:

- NASA Centers operated with a high degree of autonomy and mission focus;
- Across NASA, there were in use ten different accounting systems and 120 sub systems, (none of which could communicate with each other) that were consolidated into a new control system, IEMP and a new common accounting module (widely used in the U.S. and Europe) developed by a German Software vendor, SAP;
- A significant part of the recent problems are rooted in unreliable historical data;
- Not all Headquarters OCFO personnel were sufficiently trained, especially on the new core accounting system;
- At the various centers, there were weaknesses and insufficient controls to catch mistakes early in the accounting cycle.

In January 2006, the Office of the CFO prepared a Corrective Action Plan (CAP) to address the deficiencies noted in the GAO and IG reports and specifically to remediate the Material Weaknesses and Reportable Conditions noted in the 2003 and 2004 audit report of the Independent Auditors. This CAP defined NASA goals, objectives, strategies, due dates, and assigned responsibility for remediation. In the audit reports of 2003 and 2004, there were four Material Weaknesses and one Reportable Condition:

- Financial Systems, Analysis and Oversight;
- Funds Balance with Treasury;
- Property, Plant and Equipment accounting;
- Estimating environmental liabilities;
- General controls.

Other problems/issues raised by the various oversight entities include:

- Control and accounting for NASA-owned aircraft;
- Control of Travel expenses, (disbursements and reimbursements);
- Grant accounting;
- OCFO personnel shortfalls, turnover and morale.

In addition to the control deficiencies noted above, the Administrator added a few, such as:

- Unobligated Balances;
- NASA Shared Service Center.

While the two above-noted issues are not a concern of any of the oversight entities, they are reflective of the overall controls environment within the Agency and, so, are worth reviewing.

The following examines each of these issues in more detail.

### ***Financial Systems, Analysis, and Oversight***

This area was cited as a Material Weakness in each of the last seven years. Despite much progress, there continues to be problems with data entry, system configuration, documentation and compliance with the Federal Financial Management Improvement Act of

1996 (FFMIA). In 2000, NASA implemented a new IEMP and a new core accounting system. The core accounting system, installed in a phased approach from October 2002 to July 2003, proved to be complex and lacking in flexibility, particularly in reversing mistaken entries into the bookkeeping system. A major version update designed to correct some of the original problems was installed in October 2006. This new update created some new problems which were fixed with a patch implemented in February 2007. Most of the problems that have plagued the system have now been cleaned up.

### ***Funds Balance with U.S. Treasury***

This area was cited as a Material Weakness in 2003, 2004 and 2005. At 2002 year-end, the Agency was out of balance with Treasury by \$1.7 billion. By 2005, this metric had been reduced to \$46 million. In 2006, with a non material unreconciled balance of \$10.7 million the Material Weakness was removed. In 2007, this balance was further reduced to only \$2 million and NASA received a “green rating” from the Treasury.

### ***Property, Plant, and Equipment Accounting***

This area was noted as a Material Weakness for each of the past 7 years. Furthermore, it is the last and most intractable impediment to the Agency receiving a clean audit opinion. Prior to 1998, Government agencies were not required to capitalize capital assets. Thereafter, the accounting rules changed requiring capitalization and subsequent depreciation. Recall the point made earlier about unreliable historical data. This lack of good historic data, particularly for the iconic legacy programs, such as Shuttle and the International Space Station (ISS), has left NASA with property accounts that NASA’s external, independent auditor, Ernst & Young (E&Y), says are not auditable; hence, the Material Weakness.

This problem is equally difficult for Agency-controlled assets or contractor-held assets. With the latter, the periodic reports have often been inaccurate, or not sufficiently timely. To address this problem, NASA installed a software control package called Contractor-Held Asset Tracking System (CHATS) in September 2004. A second problem had to do with the property accounting system not tying into the core accounting module. This was remedied in May of 2008 with the installation of the Integrated Asset Management (IAM) tool, a SAP furnished asset management module. These two programs should help the Agency gain control of the issue on the new programs such as Constellation (Ares and Orion) and Commercial Orbital Transportation System (COTS), but it will not solve the legacy asset problem.

The Agency is stuck on the horns of a dilemma. The cost to go back and reproduce accurate data for legacy programs is prohibitively high, such that the IG will not authorize the effort. E&Y has stated that NASA will not be able to obtain a clean opinion until the issue is resolved. Time will fix the problem as the legacy assets will be completely retired and of no significant value; the Space Shuttle is currently scheduled for retirement in 2010 and the International Space Station in 2016. At the end of 2008, these legacy assets were on the books for \$14.2 billion, of which ISS accounted for the preponderance, \$13.2 billion. However, to wait until 2016 or beyond to secure a clean audit opinion would be a bitter pill, particularly in light of the tremendous progress made by the Agency in dealing with all of the other accounting problems. There is currently an effort underway to resolve this problem. In

2006, NASA had a similar/related problem with accounting for theme satellites (that were well beyond NASA control) that the Agency was able to resolve. It did so by the CFO's office petitioning Federal Accounting Standards Advisory Board (FASAB) to permit the Agency to treat these assets as research and development (R&D) and write them off. The effort was successful. In 2007, the Agency wrote off almost \$13 billion, a move that significantly reduced the amount of assets remaining on NASA's books. There is an exposure draft (currently circulating) from FASAB that if implemented would let NASA write off these legacy assets as R&D. If accepted, this would solve the Agency's problem.

### ***Environmental Liabilities***

This was a Reportable Condition in 2004 and 2005. The responsibility for estimating Environmental Liabilities cuts across several NASA departments, including primarily accounting and environmental administration. To resolve this Reportable Condition, the Agency adopted a software package used by the U.S. Navy, the Integrated Data Evaluation and Analysis Library (IDEAL) in 2004. At 2008 year-end, NASA had an unfunded environmental liability of \$943 million — some of which will take 50 to 100 years to clean up. The individual projects have liabilities ranging from as low as \$12 thousand to \$168 million. Each year, NASA spends \$45 million on environmental clean-up. Although, in recent audits, Environmental Liabilities was dropped as a Reportable Condition, interviews with the lead audit partner of E&Y indicate that it still is a closely watched issue with them. First, they are not comfortable that the IDEAL software produces stable, auditable estimates and they want the software to undergo independent verification and validation. Second, they want the Agency to produce an estimate of environmental liability at the beginning of each new program.

A new issue has recently arisen which is compliance with SFAS-6, an accounting standard that would, beginning in 2010, require all Government agencies to produce an estimate for asbestos remediation at every one of its sites. A disagreement has arisen between E&Y and the NASA Environmental Department over an acceptable methodology to accomplish this. E&Y wants NASA to do a site-by-site survey to establish these estimates. The Environmental Department believes that it can do an Agency-wide estimate using the costs for already completed remediations at several NASA sites. The Agency was recently informed that it has some breathing room on this issue given that FASAB has proposed a two- year delay in the requirement to estimate asbestos related clean-up costs.

### ***Grant Accounting***

While not cited as a significant accounting issue in past audit reports, this issue has been noted by E&Y as an issue that is on their radar screen. NASA's Grant Portfolio consists of approximately 8000 active grants with 1000 institutions, aggregating \$6.9 billion. The concern expressed by the auditors is that there are a large number of grants that are still open even though the money has been expended. Also, there are numerous grants for which the documentation that the 'deliverable' was actually delivered is missing or inadequate. In addition, there are grants for which money has been authorized with no activity by the grantees. To address these issues, the Agency recently switched from Block Grant accounting to Grant-by Grant accounting. This switch occurred in 2008 and was

implemented by all Centers except Goddard, which is pressing to close out completed grants. Goddard expects to be compliant by 2009 year-end.

### ***Unobligated Balances***

Unobligated balances (money in the possession of the Agency that has not yet been invested in a specific program, project, mission or Center) have typically ranged from \$1.5 billion to over \$2.0 billion. The previous Administrator was concerned that these unobligated funds could be at risk. Accordingly, he challenged the Agency to get this metric below \$1.0 billion at year-end. In April 2008, Ron Spoehel, the new CFO, undertook the development of a Phasing, Planning and Reporting process to enable Agency resource managers to invest appropriated funds more effectively. With the aid of this new tool, year-end unfunded balances dropped from over \$2.0 billion in 2007 to \$535 million in 2008. In April 2009, the unfunded balance had been reduced to \$343 million.

### **Summary of Current Status**

In the 2008 year-end Audit Report, E&Y stated that “significant progress has been made” in resolving accounting problems. That year ended with there still being two Material Weaknesses, but the Funds Balance with Treasury weakness was no longer a deficiency and the reportable condition on estimating Environmental Liabilities had been removed. On every issue discussed above, the Agency has made progress.

No longer mentioned in audit reports are concerns about the control and accounting for the NASA aircraft fleet, control of Travel expenses, and General Controls. Grant Accounting is well on its way to a satisfactory resolution. And, while Unobligated Balances is an issue that does not directly relate to Financial Controls, the success in reducing the Unobligated Balances is noteworthy. This is also true as to the resolution of the problem of understaffing in the Headquarters accounting. The NASA Shared Services Center (NSSC) is up and running with performance metrics close to or above the goal levels. Unfortunately, NSSC is unlikely to ever achieve the \$100 million cost savings that was the original justification for its creation because of persistent low-transaction volumes.

The two remaining Material Weaknesses, Financial Systems, Analysis and Oversight (FSA&O) and Property Accounting may also be on a path to satisfactory resolution. Certainly, removal of the deficiency in FSA&O is within reach, which leaves Property accounting as the long pole in the tent. Even though E&Y has said that NASA will never receive an unqualified Audit Opinion until this issue is resolved, either by recreating an auditable data set, or by running out the clock on the International Space Station we remain optimistic that the aforementioned change in accounting permitting NASA to write off these legacy assets as R&D will be implemented. If that happens, we believe NASA may earn a clean audit opinion, if not this year then by 2010.

### **Addressing the proliferation of conflicting Earned Value Management (EVM) approaches within the Agency**

In 2008, then NAC Chairman, The Honorable Harrison Schmitt asked the NAC Audit and Finance Committee to “review and advise on how to better monitor the cost buildup on new

programs as measured against their original budgets and estimated cost to complete.” Subsequently, in 2009, Dr. Kenneth Ford, the current NAC Chairman, made cost estimation and containment a focus area for 2009. Pursuant to that request, the A&F committee requested a fact finding session on the Agency’s approach to Earned Value Management (EVM).

EVM is a management tool used to track the performance of projects and programs against the plan and captures the key elements of cost, schedule and technical performance. The tool enables management to assess the trade-offs between cost, schedule, and technical performance and to project the likely future performance of those projects and programs. EVM is a sophisticated attempt to compare the value of work accomplished during a given period with the work scheduled for that period. Its benefits far exceed the traditional two-dimensional approach of comparing planned costs to actual costs. NASA policy requires implementation of an EVM System (EVMS) on all contracted work. It is the internal development of an EVMS for the program and project work within NASA with which the Committee concerned itself.

In October 2008, the Committee was given a briefing on NASA’s use of EVM by Ms. Dorothy Tiffany from NASA’s Office of the Chief Engineer. Ms. Tiffany stated that NASA is committed to implementing an EVM System that 1) complies with its program management policies in NASA Procedural Requirement (NPR) 7120.5D and 2) that for all development efforts, its EVMS would be compliant with ANSI/EIA-748, which is the EVMS certification standard for Government contractors. While the initial thrust was developing a partnership between the Constellation program and the Agency’s EVMS Working Group, the objective was to develop an Agency-wide EVMS that was validated by DCMA. When this EVMS is fully developed and validated, NASA’s plan is to offer it to all Missions and Centers for single adoption. To gain support for the EVMS, NASA’s strategy was to be a bottom-up approach to “sell” an enterprise solution and to build EVM competency through a series of training courses. Since October 2007, 1600 participants from all NASA Centers have attended 62 tailored EVM, scheduling, and budget courses.

Based on the limited information briefed to the NAC on this topic thus far, the NAC Audit and Finance Committee believes that the Agency’s work is on the right track. However, the Committee has some concern that the adoption of the EVM System being developed was not compulsory for all projects, programs, missions and Centers, even though the stated goal of the Agency Working Group was universal adoption. Having noted in our many “fact finding” sessions that there’s a cultural tendency within NASA to “go our own way,” the Committee suggested in its report to the NAC at the October 2008 meeting that the single solution being developed by the Working Group be adopted Agency-wide. Since the Office of the Chief Engineer and the EVMS Working Group were already heading in that direction, no formal recommendation was made at that time. The NAC will continue to monitor NASA’s progress on this topic and provide recommendations, as needed.