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Statement of
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before the

Subcommittee on Space and Aeronautics
Committee on Science
and the
Subcommittee on Government Management, Finance and Accountability
Committee on Government Reform

House of Representatives

Mr. Chairmen and Members of the Subcommittees, I am here this morning to report on the current state of NASA's long-term plan to deploy and operate a broad range of new processes and systems collectively developed under our Integrated Enterprise Management Program (IEMP) initiative. The overall objective of this effort is to enable the Agency to operate and manage more efficiently and transparently its major programs and initiatives. In summary, we are aiming at providing the necessary tools and information to allow NASA to make better business decisions in planning and managing its investments and major undertakings. This objective goes beyond being able to record accounting information. In order to succeed, we must generate timely and reliable financial information for decision-making.

For historical context, in FY 2000, after two previously unsuccessful attempts in the previous decade, NASA initiated a long-term, Agency-wide effort aimed at operating under a single, integrated suite of financial, project, contract and human capital management tools. To reach this goal, NASA selected an Enterprise Resource Planning (ERP) suite of commercial-off-the-shelf (COTS) software applications and had to design and implement new Agency-specific processes and operating practices consistent with the selected systems and tools. For its financial accounting and reporting, the Agency licensed the Core Financial software application from SAP and its integration and deployment was performed by the IEM Program (then known as Integrated Financial Management, or IFM) throughout 2003 with primary integration support provided by Accenture. In implementing this application, NASA became one of the first agencies in the U.S. Government to deploy a single, ERP-based, Agency-wide integrated budget execution and accounting system and, as such, the Agency had to rely mostly on private sector experiences, lessons learned and best practices.

Core Financial, our new accounting system, would become the foundation upon which the rest of our new business capabilities would be subsequently built. Its successful rollout, adoption and operation would be critical to the success of all following planned improvements. It should also

be noted that, in contrast to many private sector organizations of this size and complexity, due to resource and budgetary constraints, NASA did not have the ability of running its legacy accounting systems in parallel to its new system for a few months before "cutting over." Additionally, and again, in contrast to most organizations in the private sector, a very large volume of detailed historical accounting and contractual data had to be converted at the same time to enable the generation of regulatory-compliant financial statements and related audit trails. Finally, private sector statistics for this type and magnitude of conversion currently show that approximately 7 out of 10 organizations attempting to convert to an ERP from distributed legacy systems fail in their first attempt.

When we last presented our status before the Subcommittee on Government Management, Finance and Accountability, in May 2004, the Agency had been operating for eight months using our new Core Financial module, which replaced over 10 major and 140 minor local and often incompatible accounting systems and subsystems. This conversion also required fundamentally new procedures and processes to be implemented and used. Incidentally, in addition to the rollout of the Core Financial module, NASA also migrated in parallel to full cost accounting and reporting.

We are now entering our third fiscal year of operation under this new financial accounting and reporting environment, along with using several other related human capital and business management tools which are also part of our IEMP initiative. I would like to take this opportunity to update the Subcommittees on the current status of the various facets of this far-ranging effort and report on our forthcoming next phase of upgrades, deployments and related challenges.

The deployment and subsequent initial "live" operation of our Core Financial module has allowed NASA, over the past two years, to identify additional Agency-specific system and process areas which needed further improvement in order to efficiently log and report in detail certain types of transactions and postings to our General Ledger and related reporting environments and databases. We have worked closely with both our software vendor and our integrator to develop those identified enhancements and most of them are part of our forthcoming 2006 scheduled upgrade to our existing version of the software application.

Additionally, as the quality of our historical and current financial information gradually improved over the past two years through the ability, brought by the conversion of the legacy data to our new system, to identify erroneous or incomplete historical information, we are now ready to enter the next phase of our plan which is to provide an enhanced correlation of accounting and project management financial information. This will specifically help our program and project analysts and managers in their upcoming decisions related to assessing the cost-benefit performance of individual project task elements and program components. This Project Management Information Initiative (PMII) is being deployed Agency-wide as we speak and was developed in close coordination with our Programmatic and Financial users. This added functionality is also a key component in being able to better manage the cost elements of our existing programs and develop a reliable and accurate empirical knowledge base to be used in generating more realistic and dependable cost estimates for future projects and initiatives.

We are more than halfway through the full implementation of the current IEM planned functionality. Forthcoming capabilities in the next three years will include standardized contract generation, monitoring and reporting, enhanced tracking and management of environmentally sensitive assets, integrated inventory controls and automated warehousing systems, Agency-wide

property and equipment management, deeper integration of contractor-held property valuation procedures and reporting methodologies and the deployment of more powerful project and program management tools including Earned Value Management applications and an Agency-wide Labor Distribution system. As you can see, those capabilities will take us beyond financial accounting and reporting into fundamentally transforming how NASA manages itself. That is our goal.

As we move forward, one of our major challenges is to effectively analyze current policies, procedures and systems related to those activities and then determine whether the best and most cost-effective solution lies in integrating, updating or replacing existing processes and systems.

For example, in the case of aircraft maintenance, one of our Centers has developed for internal use a system capable, through manageable upgrades, of meeting our Agency-wide requirements. After completing a detailed cost-benefit analysis, we decided to enhance this system for Agency-wide deployment in 2007 rather than purchasing and deploying a completely new application and retiring all existing legacy systems.

Our approach with existing legacy systems is to map them against our planned requirements and determine, on a case by case basis, what implementation strategy to adopt moving forward. One of the key elements in this decision process is weighing the training impact of migrating varied user communities to fundamentally different operating environments. Experience over the past two decades has shown that in significant business transformation efforts, the technical facet of the implementation strategy element is usually easier to manage than the training component. In summary, one can design and deploy a very powerful system meeting all of the internal and external technical and operational requirements, but if no one uses it or has great difficulty using it, in the long-term, this effort might be left wanting…

We are addressing this important issue by enhancing the collection of end-user feedback and focusing on a "Train the Trainer" approach in our methodology, where highly respected and knowledgeable subject matter experts are selected and used to lead our field training activities thereby increasing the initial acceptance in the information being presented.

We also respect and pro-actively support the dynamic nature of our Agency. Our original IEM plan and schedule was generated in 2000; since then, although we have been reasonably successful to date in keeping our program on budget and within schedule, some of our Agency priorities have changed and related requirements have evolved. We try to be flexible enough to accommodate those changes as demonstrated by the recent scheduling of our PMII and Core Financial Upgrade projects ahead of several (but not all) of the modules of our Integrated Asset Management project.

Another daunting challenge was to build and deploy systems meeting required levels of security while minimizing the operational impact on authorized users. Since the system went into full-scale deployment in October 2003, we have extensively used input and recommendations from our external auditors and oversight organizations, who analyzed our initial operations to improve both our internal controls and operational security protocols and measures. The forthcoming FY 2005 audit results should indicate how far we have gone in this effort, but this is clearly a long-term process. Successfully managing the conversion to such a broad, complex and deeply distributed universe of integrated processes, controls and systems takes time, resolve and patience.

In addition to consistently trying to enhance our project development approach with each new module through an exhaustive and inclusive internal "lessons learned" process, we have also been working closely with the Government Accountability Office (GAO) in continuously identifying areas of possible improvements for the design, development and deployment of our forthcoming modules. We fully endorse GAO recommendations in module development and are implementing all new modules using an enhanced methodology which was adopted following Industry "best practices."

For example, in late 2003, our operation facility, the IEMP Competency Center, deployed a Test Management software tool that has since provided the basis for improved requirements management and regression testing of existing and forthcoming systems. This tool was quite helpful in defining the front-end requirements and priorities of our 2006 major version upgrade to the Core Financial module. Additionally, a separate Quality Assurance team was established last year as part of the Competency Center to focus on improving requirements collection and documentation for all current and future IEMP modules. Following this deployment, in February 2004, the Quality Assurance team deployed another automated tool giving us an additional level of control over managing, correlating and prioritizing the several thousands of detailed requirements associated with the development, configuration and performance of individual modules.

Now, after two years, our operating framework is fairly stable and our aim is to steadily improve our requirements management procedures for both existing and future modules. As stated in the related GAO report on future IEM module development and deployment, NASA is addressing the remaining outstanding requirements documentation issues from the initial Core Financial module deployment analysis in time to integrate them into the design, development, and testing associated with the SAP Version Upgrade activities scheduled for FY 2006. As this will be a complex and challenging task, we plan to continue working closely with GAO on these activities and adopt their recommendations as efficiently as possible.

Specifically, a recent GAO report section titled, "Improvements Made to NASA's IEMP (IFMP) Life-Cycle Cost Estimate (LCCE) and Processes for Calculating Funding Reserves," has been a gratifying observation, but, as also noted by the GAO, NASA's LCCE was a "work in progress." Since then, the quality and detail of the information contained in our LCCE has steadily improved as we continue to refine the mapping of IEMP data sources to the new PMII Work Breakdown Structure (WBS) in our LCCE. The development and implementation of IEMP will be completed in FY 2008, and the current LCCE for this development and implementation is $662.6 million.

We are in the process of producing the most recent update to our Program Life Cycle Cost Estimate, to be included in our current budget cycle. Our record in the past four years in estimating the life cycle cost of our deployed modules has been reasonably good. However, we are cognizant of the fact that, as we move forward, from trying to meet the discrete requirements of our accounting community, to meeting the requirements of highly distributed and individual organizations in program management, asset management and contract management, we will face increasingly complex Life Cycle Cost Estimating challenges. In this instance, past successes are not indications of future successes.

In conclusion, NASA is again involved in a multi-year, complex, difficult and far reaching initiative. In this instance though, the objective is far more prosaic than what our deep space exploration or human space flight missions aim to accomplish, but not less important. We clearly understand that, if we are to meet our long-term goals as an Agency, we must continuously

improve not only the accounting of our finances but the way we manage our investments, our programs and our people.

Mr. Chairmen, I would be pleased to respond to questions.