
Effectiveness of the Department's Financial Management Support System Oracle 11i Re-Implementation

FINAL AUDIT REPORT

Statements that managerial practices need improvements, as well as other conclusions and recommendations in this report, represent the opinions of the Office of Inspector General. Determinations of corrective action to be taken will be made by the appropriate Department of Education officials.

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Executive Summary

The *Federal Acquisition Streamlining Act of 1994 (FASA)* requires agencies to apply a *Performance-Based Management System* to their management of major acquisitions. The Office of Management and Budget (OMB) specifically requires the use of an *Earned Value Management System (EVMS)* for major information technology (IT) acquisition projects. EVMS provides an integrated method for monitoring, measuring, and reporting planned and actual project or contract cost, as well as schedule and performance outcomes or benefits. In addition, in 2002, the President's Management Agenda (PMA) established government-wide goals to improve federal management and deliver results.

Over the past decade, the U.S. Department of Education (Department) has upgraded its financial management systems on a number of occasions. The present re-implementation effort was originally aimed at upgrading and consolidating two separate financial management systems: one system from the Office of Federal Student Aid (FSA), and the other from the Office of the Chief Financial Officer (OCFO). The Department, however, abandoned this consolidation plan in January 2005; thus, we revised our initial audit objectives to focus on the OCFO system.

We conducted our audit to assess the effectiveness of overall project management of the Department's Financial Management Support System (FMSS) re-implementation. In particular, we assessed: (1) the project's system development methodology to manage system requirements; (2) the project's EVMS implementation to control project scope, costs, and schedules; (3) aspects of contract monitoring, change control, and risk management; (4) the Department's use of independent verification and validation (IV&V) services; and (5) the Department's IT capital asset management and oversight practices. Our audit scope covered the period February 2005 through April 2006 and focused on the system Design/Build phase from start to scheduled finish. We also considered the Department's decision not to consolidate the FSA and OCFO systems from a change control perspective.

Successful system development requires effective adherence to a system development methodology, and capitalizes on effective project management controls. Our audit found that the Department ineffectively carried out several key project management controls. Specifically, performance measurement baselines were insufficient for accountability, and were not adequately maintained. Poorly controlled project work delays increased project risks. These problems occurred initially because the project management team (PMT) and implementation contractor (IC) did not follow their project management plans. In addition, there was a lack of effective project monitoring and controls by OCFO Financial Systems Operations (FSO) and Contracts and Acquisitions Management (CAM) personnel, as well as ineffective oversight by the investment's steering committee and the IT capital planning and investment control (CPIC) processes.

As a result of these weaknesses, the Department's PMT, including the IC, did not adequately account for project results, and system development did not meet scheduled expectations. Also, inaccurate earned value reporting and uncontrolled changes undermined the original project baselines, which had an adverse and cascading effect on risk management and contract administration, including improper payments to the IC. Additionally, decision-makers and

stakeholders lacked objective and accurate information about project status for making investment management decisions.

To correct the weaknesses identified in our review, we recommend that the Chief of Staff direct the Investment Review Board (IRB) Chair, the Chief Financial Officer (CFO), and the Chief Information Officer (CIO) to:

1. Establish an IV&V services policy to ensure effective IV&V resource usage, and enhance existing EVMS and contract monitoring policies and procedures.
2. Review the identified contract administration irregularities and project management weaknesses within FSO and CAM, and take corrective actions necessary to ensure adherence to acquisition policies and project management best practices.
3. Coordinate IT investment oversight and monitoring functions across OCFO and the Office of the CIO (OCIO), and develop a mandatory project and contract monitoring curriculum for project managers responsible for major IT acquisitions, and contracting officers and their representatives.
4. Direct the IRB Chair to use established or revised CPIC Evaluate and Select procedures to determine the best course of action for the FMSS investment, including ensuring OMB, GAO, and/or Congress receive sufficient and accurate information with respect to FMSS O11i project performance and status.
5. Improve IT acquisition and CPIC practices, including expanding the applicability of the Evaluate phase, to ensure that investment baselines are sufficient, project controls are effective, and performance results information is valid.
6. Determine the feasibility and advisability of consolidating system development infrastructures Department-wide and offering centralized expert support to development projects.

In response to our draft report, the Department stated the OIG recommendations are extremely useful and will use them to improve the Department's overall effectiveness in system implementations. The Department also stated that while it agrees that there are areas for improvement in the re-implementation project and concurs with many of the findings and recommendations it is not able to concur with all of the findings and recommendations. In addition to providing a response to the draft report, the Department described specific actions and plans to address our concerns in its corrective action plan. For the findings and recommendations with which the Department did not concur, we have included its response in the "Findings" section of the audit report. In addition, we have included additional language to clarify the results of our audit work. Also, in its response to the draft report, management provided additional information to some recommendations for which it did not concur.

Upon review, we have removed these recommendations in the final report. The Department's response is included in its entirety in Appendix A of this report.

Objectives, Scope, and Methodology

The audit objective was to assess the effectiveness of the overall project management of the Department's FMSS re-implementation. In particular, we assessed: (1) the project's system development methodology to manage system requirements; (2) the project's EVMS implementation to control project scope, costs, and schedules; (3) aspects of contract monitoring, change control and risk management; (4) the Department's use of IV&V services; and (5) the Department's IT capital asset management and oversight practices.

Our audit scope focused on the system Design/Build phase from start to scheduled finish. We reviewed project management and performance from the time the Department approved implementation baselines in February and March 2005 through the end of March 2006.¹ We also considered the Department's decision not to consolidate the FSA and OCFO financial management systems from a change control perspective (this decision preceded the Design/Build phase). The audit scope included limited assessment of project documentation before and after the Design/Build phase.

We also focused on the project management responsibilities of key OCFO personnel tasked with managing, leading, and providing directions to the several project teams and contractors that comprise the O11ie² Team (see *Enclosure B – O11ie Project Management Structure*). These individuals included the Project Manager (PM), Implementation Lead, Implementation Coordinator, Change Management Lead, and Contracting Officer's Representative (COR). Throughout our report, we use the term project management team to specifically refer to these key Department employees.³

In reviewing the project's EVMS, we focused on determining whether the EVMS generally complied with essential provisions of the American National Standards Institute (ANSI) / Electronic Industries Alliance (EIA) Standard 748–1998, *Earned Value Management Systems* (ANSI/EIA-STD-748).⁴ Specifically, we assessed whether: (1) the EVMS Performance Measurement Baseline (PMB) included sufficient details (e.g., schedule interdependencies, interim measures, clear product specification); (2) changes to the PMB were adequately controlled; (3) the project periodically determined schedule and cost results by comparing the earned value and actual costs against the PMB at the cost account level; (4) work results variances were used to generate forecasts to complete and inform decision-makers; and (5) performance results and forecast information were adequately communicated to keep management at all levels apprised of project status.

¹ An enterprise pilot was to mark the end of the Design/Build phase of development.

² O11ie stands for "Oracle 11i Implementation Environment." "11i" refers to the version of Oracle Federal Financials, a commercial off-the-shelf software application that the Department had selected for the upgrade.

³ As defined by the project, the PMT also includes the project managers from the three vendors contracted to provide implementation, project/change management, and IV&V support respectively.

⁴ Initially approved May 19, 1998, the standard was reaffirmed on August 28, 2002.

In reviewing the Department's IT capital asset management and oversight practices, we considered CPIC practices in light of the PMA and associated OMB CPIC and enterprise architecture guidance.

To accomplish our objective, we performed a review of applicable internal controls. We interviewed Department officials and contractor personnel, assessed the Department's internal guidance,⁵ and reviewed pertinent federal laws, external criteria, and industry best practices. Our methodology included the use of an automated data analysis tool, based on the way the PMT and contractors maintained project baselines (i.e., project scope, costs and schedules, and product requirements), and measured and tracked changes and performance results.

We conducted our fieldwork at applicable Department offices from June 2005 through September 1, 2006. On June 22, 2006, we met with the then Acting CFO, the PM, the Implementation Lead, and other OCFO staff involved in the FMSS re-implementation. During this meeting, we presented significant preliminary findings regarding management practices over the Design/Build phase of system re-implementation. We brought these concerns to the attention of Department officials so that they could take timely corrective action if necessary.

The audit results were discussed with the Deputy Secretary, the Senior Counselor to the Secretary, the CIO, the Deputy CFO, and other Department officials at a formal exit conference held on September 5, 2006. We subsequently updated pertinent sections of our Design/Build analysis, based in part on a request by the Department for the Office of Inspector General to consider a cutover preparedness report issued by the IV&V contractor.⁶ We obtained and assessed selected information the IV&V team had relied on in their report. We also met with OCIO officials to update CPIC-related information.

The audit was performed in accordance with generally accepted government auditing standards appropriate to the scope of the review described above.

Background

Since passage of the *Government Performance Results Act of 1993 (GPRA)*, *FASA*, and the *Clinger-Cohen Act of 1996 (CCA)*, the federal government has focused on performance-based management as a practice critical to the effective acquisition and management of IT capital assets. For almost a decade, OMB has required agencies to apply a performance-based management system to their management of major acquisitions, and now OMB specifically requires an EVMS compliant with ANSI/EIA-STD-748 for all major IT acquisitions.⁷ OMB expects agencies to apply a documented, systematic, and integrated method for monitoring, measuring, and reporting planned and actual project or contract cost, schedule, and performance outcomes or benefits.

In 2002, the PMA also established government-wide goals to improve federal management and deliver results. The Budget and Performance Integration initiative aims at improving control

⁵ In the form of contract, budget or project plans information, as well as select policy directives.

⁶ *IV&V Cutover Readiness Assessment Report*, September 26, 2006.

⁷ OMB Circular A-11.

over resources and accountability by program managers in delivering results. Under the Expanded Electronic Government initiative, OMB initiated a government-wide analysis of several lines of business (LoB) to reduce the cost of government and improve services through the establishment of Shared Service Centers (SSC).⁸ OMB requires agencies that plan major grants or financial management (GM-FM) system enhancements to either become an SSC or migrate existing systems to an established SSC.

The Department's core mission includes the efficient disbursement of funds to various grantees and monitoring of fund recipients throughout the life of their grants. OCFO had long envisioned becoming an SSC under the GM LoB initiative. During our audit, the Department received OMB approval to become a GM SSC. OCFO was also considering whether to pursue FM LoB SSC status. Near the end of our fieldwork, OCFO officials stated they would not seek to become a FM LoB SSC, although they had not established a schedule to migrate to an SSC.

Over the past decade, the Department has upgraded its financial management systems on a number of occasions. The present re-implementation effort was originally aimed at consolidating separate FSA and OCFO financial management platforms under a single system, while upgrading the infrastructure and application software. This effort is referred to as O11ie.⁹

A project of this magnitude is a significant and complex undertaking. The planned implementation consisted of a multi-phased, tiered approach. Tier I included high-level assessments to determine the upgrade's impact on business processes, custom interfaces, extensions and reports. Completed in June 2002, Tier I assessments concluded that consolidation was feasible.

In April 2004, the Department proceeded to award a contract valued at just over \$14.5 million¹⁰ to an implementation contractor to carry out development and provide post-production testing and transition support. According to the approved proposal,¹¹ and as illustrated in Figure 1, the IC would use a four-phased approach to Analyze, Design/Build, Integrate, and Implement the system and ensure a rigorous testing process.¹² The contractor's iterative Analyze and Design/Build development approach included a series of conference room pilots (CRP).¹³

⁸ Formerly referred to as Centers of Excellence. An SSC supports multiple agencies, a significant added responsibility that requires superior stewardship.

⁹ The consolidation was also known as "One Financial."

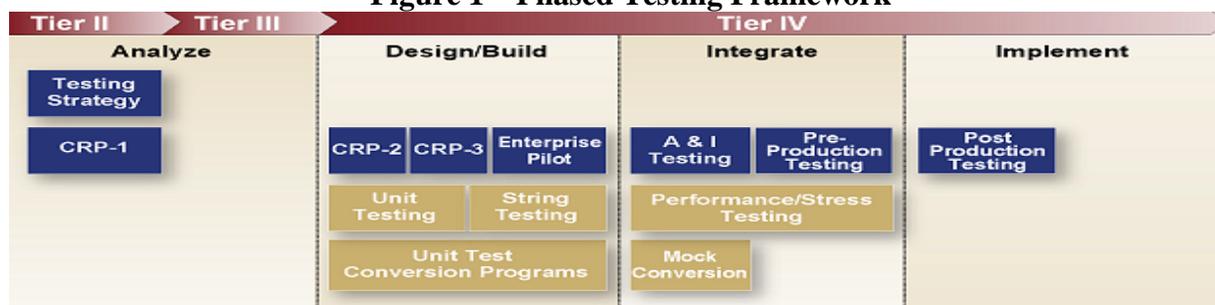
¹⁰ O11ie hardware and software costs are not included in this figure.

¹¹ Technical Proposal dated February 17, 2004, incorporated by reference in the contract.

¹² Application and Integration (A&I) testing would be conducted during the Integrate Phase, while unit and string testing would occur throughout the Design/Build phase.

¹³ The Design/Build phase included two conference room pilots (CRP-2 and CRP-3) and an enterprise pilot.

Figure 1 – Phased Testing Framework



Enclosure C – Summary of System Development Approach for O11ie provides additional information on the IC’s multi-phased approach, including details about the relationship between approved project tiers, systems requirements management, and pilot activities.

Two additional contracts were awarded to support O11ie. The first of these two contracts, valued at about \$2.3 million, was awarded to procure project/change management support services. This contractor provided support to the PMT, and is generally referred to as the Project Management Office. The second contract, valued at about \$5.3 million, was awarded to procure IV&V services. IV&V would provide proactive, real-time feedback and advice to the PM and the O11ie Team through written and oral reports. IV&V was to participate in all project-related meetings. The O11ie Team also included significant Department resources to manage O11ie, or serve as functional experts or liaisons with interfacing systems and offices.

Prior to the start of our audit, we discovered that the Department had abandoned its goal of overall consolidation. Instead, FSA would “upgrade-in-place”¹⁴ and OCFO would conduct a full “system re-implementation.”¹⁵ According to Department officials and Planning and Investment Review Group (PIRWG) records, the January 2005 O11ie Steering Committee (Committee) decision was based on a reassessment of risks at the end of Tier II.

Based on the status of both initiatives at the time of our review, we decided to focus our audit work exclusively on OCFO’s re-implementation, also known as “FMSS Oracle 11i” (FMSS O11i). We considered the originally planned consolidation scope only with respect to limited aspects of change control. We assessed the investment based on OMB guidance and best practice in performance-based project management, as applied to system development projects.

Audit Results

We found that the Department did not effectively carry out several key project management controls. Specifically, performance measurement baselines were insufficient for accountability, and were not adequately maintained. Poorly controlled project work delays increased project risks. These problems occurred initially because the PMT and IC did not follow their project

¹⁴ “Upgrade-in-place” refers to an upgrade to a new version of the software without any significant redesign of functionality or configuration.

¹⁵ A “re-implementation” involves an upgrade to a new version of the software accompanied by significant functionality and/or configuration redesign.

management plans. In addition, there was a lack of effective project monitoring and controls by OCFO FSO and CAM personnel, as well as ineffective oversight by the Committee and the IT CPIC processes.

Improvements Needed to Project Management Planning, Execution, and Control

Successful system development requires effective adherence to a system development methodology and capitalizes on effective project management controls. Our audit revealed that the Department did not effectively carry out several key project management controls. As a result of these weaknesses, the Department's PMT, including the IC, did not adequately account for project results, and its system development effort did not meet scheduled expectations. Also, inaccurate earned value reporting and uncontrolled changes undermined the original project baselines. This had an adverse and cascading effect on risk management and contract administration, including improper payments to the IC. Additionally, decision-makers and stakeholders lacked objective and accurate information about the project to make sound investment management decisions.

Performance Measurement Baselines Were Insufficient and Inadequately Controlled

The PMT, including the IC, did not establish and maintain detailed performance measurement baselines necessary for quality control and scope verification. Specifically:

- The PMT did not identify O11i's intended outcomes in sufficient detail to support a determination on whether the investment met its goals.
- The performance measures selected had limited project control value.
- The IC did not establish and maintain necessary time-phased PMB for earned value management.

Without specific project baselines, the Department did not effectively establish a quality control and scope verification process,¹⁶ or hold the IC accountable for development results.

These shortcomings occurred because the PMT did not follow approved plans and accepted procedures. Ineffective OCFO project oversight and ineffective investment oversight by the Committee and the Department's CPIC process also contributed to the shortcomings. As a result, decision-makers and stakeholders were not well informed on whether the project's expectations and goals were met. The following discusses these findings in more detail.

OMB Circular A-11 (Circular) establishes requirements for the development and submission of annual performance budgets. The Circular mandates the use of an ANSI/EIA-STD-748 compliant EVMS for capital IT acquisitions. It also requires that capital investments support

¹⁶ Scope verification refers to the formal acceptance of the completed project scope and associated deliverables conducted to ensure that each is completed satisfactorily, while quality control is primarily concerned with meeting the quality requirements specified for the deliverables. Quality control is generally performed before scope verification but may be performed in parallel.

simplified or otherwise redesigned work processes and make maximum use of commercial off-the-shelf (COTS) technology to reduce costs and improve effectiveness. OMB's *Capital Programming Guide*¹⁷ provides explicit guidance on planning, budgeting, acquiring, and managing capital assets.

According to the project's *Performance Measurement Plan*, a closed feedback loop was planned to measure performance, correct issues, and validate effective practices during the project lifecycle. The implementation contract also called for an industry-standards compliant EVMS. A *Performance Measurement Log*¹⁸ would contain the measures necessary to monitor progress toward the achievement of performance goals. The log would:

- Report on overall performance against the project's goals and standards.
- Identify areas and processes where improvements are necessary.
- Document accomplishments.
- Assist in managing and controlling costs, schedule, and scope.
- Establish accountability by pre-determining expected results.
- Help maintain executive sponsorship by providing easily accessible information on the health of the project.

Intended Investment Outcomes Were Not Fully Established

We determined that the PMT did not establish tangible investment outcomes to assess whether investment goals were met as planned and reported.

In its OMB funding requests, the Department identified certain important justifications for the FMSS O11i investment. Specifically, the Department's OMB Exhibit 300¹⁹ submission indicated that the financial system re-implementation would have the potential to significantly reduce cost and improve efficiency. The upgrade would enable the Department to stay current with Oracle technology and take advantage of enhanced functionality and business process re-engineering opportunities. The new system and its functionality were envisioned to potentially eliminate custom software coding that existed since the January 2002 financial system implementation.

It is well recognized by industry leaders that software customizations are costly to develop and maintain and should be kept to a minimum when implementing a COTS-based system. The PMT, however, did not establish detailed goals and metrics, such as targets for custom code and cost per transaction reductions, as well as other specific measures of increased efficiency. A number of other investment goals, such as "improving financial system reporting capabilities," were not discussed in detail in the approved business case.

¹⁷ First published July 1997, this supplement to the Circular was revised in June 2006.

¹⁸ *Enclosure F – O11ie Performance Measurement Log as of January 19, 2006*, provides the complete performance measurement log used during system development.

¹⁹ OMB requires agencies to submit this *Capital Asset Plan and Business Case* for all major IT investments.

These shortcomings do not promote accountability for project results. For example, some system development payments made to the IC went beyond the initial contracted amount and could be considered cost overruns.

We determined that, as of the end of Fiscal Year (FY) 2006, the Department had funded approximately \$1.3 million in system “enhancements.” These included a contract modification awarded in excess of \$750,000 at the end of March 2006 for *Software Enhancement for Financial Statement Adjustment Module & Financial Statement Footnotes for Oracle 11i Implementation*. The PMT had classified these development activities as new requirements (enhancements), although they met the stated investment goal of “improving financial system reporting capabilities.” Since associated functional requirements were formalized in February and March 2004, prior to IC contract award, we believe that they should have been implemented as part of the approved investment and, therefore, not be deemed an enhancement. We also noted that the Department did not include the additional funding for these enhancements in its OMB Exhibit 300 until summer 2005, following the decision not to consolidate FSA and OCFO systems.

Performance Measures Selected Had Limited Value for Project Control

Our reviews of the *Performance Measurement Log* identified a number of measures that had limited value for project monitoring. Specifically, some key measures lacked interim metrics to help monitor their progress, and other measures and targets were overly vague to support their stated purpose or contribute to project risk management. Table 1 illustrates examples of performance measures that offer limited value for project management purposes and changes that weakened initial metrics.

Table 1: Example of Performance Measures With Limited Value

Measurement Area	Performance Measure/Target ²⁰	Weakness
High level of executive-level support for the project.	“The project meets with Steering Committee at least 4 times a year (12 months time-period).” <i>Note: The initial performance target for this measure stipulated 8 meetings per year.</i>	Measures focus on output rather than quality of outcomes. Numbers of meetings are a poor measure of customer satisfaction and quality of outcomes.
High level of user and stakeholder satisfaction.	“The Project briefs the FMO ²¹ twice a year.”	

²⁰ Based on Performance Measurement Log applicable as of January 19, 2006. Changes from initial approved measures and subsequent to 1/19/06 are noted.

²¹ Financial Management Operations (FMO) personnel have extensive financial management responsibilities for the Department.

Measurement Area	Performance Measure/Target ²⁰	Weakness
Monitor project risks and determine mitigation strategies in a timely manner.	<p>“All in-progress issues will have proposed resolutions identified.”</p> <p><i>Note: The initial performance target for this measure was: “All in-progress issues will have mitigation strategies in place within a month of being identified.”</i></p>	The revised measure does not assess whether the key actions required to mitigate risks have been implemented in a timely manner.
High percentage of the approved and high/must-priority requirements are implemented in the relevant timeframe.	<p>“100% of “Must” and “Approved” Requirements are implemented.”</p>	Measures are effective after system Go-Live. They lack interim targets to confirm that progress is as expected and to help identify problems early when corrective actions are still possible.
Effective and comprehensive end user training.	<p>“95% of required users identified to be trained are trained by Go-Live.”</p> <p><i>Note: The target for this metric was subsequently lowered to “50% or greater.” According to the Performance Measurement Log, as of the October 10, 2006, Go-Live date, only 38 percent of users had been trained.</i></p> <p>“90% of trained users surveyed respond that the training has helped them prepare for FMSS Oracle 11i's Go-Live,” and “addressed their specific job duties.”</p>	

Based on the weak risk mitigation metric identified in the *Performance Measurement Log*, we conducted a review of project risk management practices underlying in-progress issues status reporting. We identified the following risk management weaknesses: (1) the PMT had not implemented a single consolidated Project Issues Log,²² a key feature of its planned risk management strategy that would have facilitated readily prioritizing risk response across the project; (2) the *Performance Measurement Log* did not consistently capture significant in-progress risks; and (3) an IV&V finding during CRP3 confirmed that, in practice, the project was calling issues “complete” where the IC made a recommendation to the Department on the disposition of the issue. However, the work required to fully address the issue may not at that point have been performed by all responsible parties.

²² In this context, the term “issue” is synonymous with “risks.” We use both terms interchangeably in our report. This consolidated log would have captured risks from all sources: issues identified by PMT members; realized risks from the Risk Log; issues identified by Functional Sub-Team Points of Contact; issues identified by IV&V team members; and issues identified by other sources

PMB Establishment and Maintenance Were Inadequate for Effective EVMS

We found that the PMB²³ did not identify key interdependencies between control accounts or lower-level tasks/activities. As a result, the PMB offered only a partial picture of the project's critical path and milestones, as well as the amount of time a scheduled activity could be delayed without delaying the next activity or the project overall.

We also determined that all elements of the approved PMB changed repeatedly over the course of development, weakening the integrity of the original baselines, and undermining the value of the EVMS and the Department's ability to hold the IC accountable for project results.

For example: (1) the PMB showed frequent changes to the intended delivery schedule in the form of key tasks being dropped from their planned cost account, as well as changes to planned tasks' end dates; and (2) Budgets-at-Completion for each cost account showed changes to planned values over the period reviewed, without a documented association to other PMB changes. Few of these changes were adequately documented as controlled changes. With respect to project scope, we also determined that large cost accounts (i.e., major activities that would take several reporting periods to complete) lacked objective measurable milestones necessary to reliably assess interim progress.

Furthermore, the system requirements baseline provided limited value in documenting agreed-upon product scope. The IC's *Requirements Management Plan* specifically called for a comprehensive listing of the O11i functional requirements to be established by the start of the Design/Build phase. We refer to this initial *Requirements Traceability Matrix* as the *Requirements Baseline*. The *Requirements Management Plan* stipulated that requirements identified in the *Requirements Baseline* would have a "must" priority and an "approved" status. The "must" priority denotes requirements "critical to the success/survival of the business, or a direct order from the investor or a key account." From our review of the *Requirements Baseline* we identified over 200 requirements with a priority/status other than "must & approved," or approximately 20 percent of requirements listed in the *Requirements Baseline*. At inception of the Design/Build phase of development, system functional requirements should have been well established, clearly documenting agreed-upon product scope. Instead, the large number of baseline requirements with a priority/status other than "must & approved" raised concerns about the intended product's scope. For example, one "must" requirement had a "rejected" status and 15 "approved" requirements had a "could" priority (i.e., "possible, not necessarily advantageous").

We also determined that the change control process did not consistently document a number of changes to the *Requirements Baseline*. For example, approximately one-third of the requirements added to the list of "must & approved" requirements between the establishment of the *Requirements Baseline* and March 30, 2006, were not documented through the approved change control process. Additionally, the change control tool did not document the majority of 30 "must & approved" requirements that were removed from the *Requirements Baseline* during the period. We also identified requirement priority and/or status discrepancies between the change control tool and the official list of requirements as of March 30, 2006.

²³ The PMB consisted of a Work Breakdown Structure that identified work to be completed, including a narrative work description and associated budgets at a cost account level.

EVMS guidelines require that a PMB meet certain specifications. It is essential that the PMB identify objective and frequent indicators to enable measurement of work accomplished, thereby allowing its accurate comparison to planned work (e.g., physical products, milestones, technical performance goals, or other indicators to measure progress). Also, scheduling should describe the sequence of work and identify significant task interdependencies so as to establish the project's critical path. Furthermore, formal change control should: (1) consistently identify and request changes to established baselines; (2) assess the impact of each change and document approved changes; and (3) provide the mechanisms for the PMT to consistently communicate all proposed and approved changes to decision-makers and stakeholders.

Uncontrolled Project Work Delays Increased Project Risks

We identified that the FMSS project implementation experienced repeated schedule slippages that led to significant system development shortfalls through the end of the planned Design/Build phase. The PMT and IC inaccurately reported these recurring incomplete work results, thus also masking associated schedule and cost overruns. The PMT managed these risks as if they were not in progress.

Based on a fixed Go-Live date of October 2006, these delays increased the risks of significant project cost overruns. Additionally, delays in the Design/Build phase of development increased the risk of product shortfalls, such as incomplete functionality or system reliability issues. As reflected in project documentation,²⁴ the system experienced significant interface, performance, and functionality problems for several weeks after being placed in production on October 10, 2006. These problems could be attributable to the project implementation shortcomings identified in this report, and can result in additional cost overruns. As illustrated in Table 2, we determined that several development efforts were not completed as initially planned. Based on our review of development documentation, it was not always clear when or how the work postponed would be completed.

Table 2: Status of Planned Development Efforts

Modules to be Implemented	Development Phase 2 ²⁵			Development Phase 3 ²⁶		
	Planned	Actual	% Not Demonstrated	Planned	Actual #	% Not Demonstrated
General Ledger	6	6	0%	6	6	0%
Budget Execution	11	5	55%	2	2	0%
Account Receivable	24	24	0%	14	14	0%
Account Payable	30	22	27%	14	11	21%
Purchasing Order	7	4	43%	4	0	100%
FSA Integration	2	1	50%			
iSupplier				5	0	100%
Enterprise Planning Budget				6	0	100%
TOTAL	80	62		51	33	

²⁴ O11i Daily Status Meeting, November 6, 2006.

²⁵ CPR2.

²⁶ CRP3.

Pursuant to its contract, the IC was to deliver a fully functional system in a production-like environment at the end of the project's Design/Build phase. The Department was to test and evaluate full system functionality, conduct comprehensive, in-depth testing of complex scenarios, and test applications, including custom code and any workaround, marking the final activity in the development efforts, i.e., the Enterprise Pilot (EP).

To ensure completion of the Design/Build development phase, requirements mapping should have been completed to ensure that all source requirements with must/approved status had been fully addressed. Based on repeatedly postponed work, however, there was a significant shortfall in the requirements mapped through the end of the Design/Build development phase. We were unable to determine the exact Design/Build completion status based on poor requirements documentation. We did, however, identify that the IV&V contractor had expressed similar concerns. In fact, the IV&V contractor reported on March 28, 2006,²⁷ that approximately 320 of 792 requirements with must/approved status (only 40 percent) had been mapped to development efforts through the end of the Design/Build phase.

We further determined that the IC reported a fully Earned Value for each development activity (i.e., planned pilot work 100 percent completed) despite the project work postponements. Throughout each development cycle the IC and PMT would move to the next cost account without reporting the scope shortage, thus generating invalid schedule and cost variances. Reporting a fully Earned Value in these situations is inconsistent with EVMS guidelines, and is inappropriate even if the Department had approved postponing the planned work. EVMS guidelines specifically stipulate that approved changes may not alter an existing shortfall: when planned work is not completed for a given cost account, the earned value should be based on the initial planned work, and associated cost and schedule overruns must also be documented based on the initial plans.

We also noted that the project had experienced earlier difficulties in meeting initial contract milestones, which had resulted in several weeks of schedule delays and a 12.86 percent cost overrun prior to the Design/Build Phase (\$271,889). Cost and schedule overruns of over 10% must be reported through the CPIC process and corrected. The PMT resorted to "fast tracking" certain project phases after encountering significant delays, a technique in which activities that normally would be done in sequence were performed in parallel (i.e., Design/Build activities started before associated detailed implementation plans were finalized). Fast tracking involves risks, including the potential need for rework. Despite the fast tracking, the earlier delays had an impact on key development milestones. For example, initial project plans called for the completion of certain development activities by the end of February and September 2005. These development activities, however, were changed to mid-July and end of December 2005 completion target dates, and the Design/Build development phase completion date planned for the end of January 2006 had been changed to April 2006. These scheduling changes indicated that the project was already slipping behind schedule.

In addition, our reviews of project documentation revealed that the PMT had not fully considered pertinent performance results when managing risks and relied on erroneous performance data. For example, project documentation showed that the PMT did not acknowledge that repeated

²⁷ *Tier IV Enterprise Pilot Assessment Report.*

schedule slippages had occurred throughout the Design/Build development cycles. Risk mitigation strategies, such as “track schedule variance through monthly EVMS analysis” and “understand the project critical path and milestones,” were reported “in place” although they had not been effectively implemented. Poor implementation of the requirements management tool also contributed to development shortfalls, with lack of systematic automated system requirements traceability²⁸ during design and development.

Project Contract Monitoring Was Inadequate

We determined that OCFO personnel did not adequately administer and monitor the Implementation Contract. In particular, OCFO accepted deliverables that did not meet contract specifications, and unauthorized OCFO personnel gave instructions to the IC that inappropriately changed the terms of the contract. As a result, the Department made improper payments to the IC (e.g., full payment for an incomplete fixed-price deliverable; and incentive payments for work that was not actually completed as planned, based on erroneous EVMS reports).

These shortcomings occurred because the PMT and CAM personnel did not follow accepted contract administration procedures. In addition, the FSO Director may have overestimated the knowledge of the COR and the Implementation Lead. The FSO Director assured us that the COR had received adequate training in EVMS. Based on COR and Implementation Lead explanations of various PMB and EVMS shortcomings, we concluded that they did not have sufficient understanding of these management tools.

Federal acquisition regulations²⁹ and the Department’s contract administration policy impose specific management constraints including monitoring obligations by contracting officers and their representatives. Contract monitoring is split between a contracting officer (CO) and a COR. Department Administrative Communications System (ACS) Directive OCFO: 2-108, *Contract Monitoring for Program Officials*,³⁰ requires the CO to appoint a COR and explicitly document the COR’s limitations and responsibilities.³¹

The IC COR was specifically: (1) required to monitor the contractor’s performance to ensure compliance with the technical requirements of the contract, including inspecting and testing deliverables, evaluating reports, and recommending final acceptance or rejection to the CO; (2) required to notify the CO if the contractor’s performance is not proceeding satisfactorily or if problems are anticipated, so that the CO could act promptly to protect the Government’s rights under the contract; and (3) not authorized to modify the terms of the contract, such as obligated cost or price, delivery, or scope of work (these contract terms can only be altered through a formal contract modification signed by the CO).

Ineffective investment oversight processes also failed to identify and correct these shortcomings. We identified the following contract administration irregularities:

²⁸ Bidirectional requirements traceability helps determine all source requirements have been completely addressed and all lower-level requirements can be traced to a valid source.

²⁹ E.g., Code of Federal Regulations, Title 48, Chapter 1, Subpart 42.11 – *Production Surveillance and Reporting*.

³⁰ Effective April 15, 2004, revised March 30, 2006.

³¹ Appointment of Contracting Officer Representative Memorandum. Signed and acknowledged on April 28, 2004.

The Department accepted a \$195,115 fixed-price deliverable that did not meet contract specifications. The PMB discussed throughout our report was developed as a major deliverable under the IC contract. According to the contract, the deliverable constituted the baseline for the EVMS, and contractor eligibility for incentive payments or penalties would be based on this baseline. Even though the deliverable did not fully meet contract terms, such as not identifying key interdependencies between control accounts or lower-level tasks/activities, the Department made full payment for this incomplete deliverable. This shortcoming was never corrected.

We also found no evidence that OCFO personnel had adequately monitored EVMS implementation or conducted an adequate review of the IC's progress reports. We determined that the COR and CO accepted monthly progress/status reports from the IC that did not meet contract requirements. Significant problems with the EVMS were readily noticeable, and our analysis revealed extensive problems,³² with over half of 32 standard EVMS guidelines³³ not adequately met. The COR did indicate that the IC progress reports were transferred to other members of the PMT for evaluation. For example, the IC monthly reports approved by the Department contained:

- Unexplained changes to planned values (as previously discussed).
- Erroneous explanations for certain positive cost variances.
- Reported earned values that had not been earned (as previously discussed).
- An "actual cost" misapplied to a given cost account.
- Large fluctuations in cost and/or schedule variances from month to month (clearly indicative that planned 'baseline' values had changed).
- Lack of foundation for schedule and cost estimates to complete the scope of work (i.e., the projections to complete had no basis in the variance data reported).

Furthermore, when the Department abandoned the goal to consolidate the FSA and OCFO financial management systems in January 2005, the CO never formalized this decision to the contractor in writing. The decision not to consolidate the two systems effectively reduced the overall product scope by approximately half,³⁴ a significant reduction. Because of the work scope change, the CO was required by Department policy to assess the impact of the proposed change (e.g., determine and negotiate a reduced cost for Tier IV), and formalize the change through a contract modification.

The decreased scope, however, was never translated into a reduced contract and EVMS cost baseline for the remaining development work. Work remaining was conducted under a performance-based time and material task that incurred costs in direct proportion to work actually performed. The initial negotiated task price, however, continued to form the basis for incentive payments and penalties, thus significantly lowering performance expectations for the

³² We analyzed IC monthly reports from March 2005 through March 2006 and used a data analysis tool where applicable.

³³ ANSI/EIA-STD-748, based on the National Defense Industrial Association Program Management Systems Committee *ANSI/EIA-748-A Standard for Earned Value Management Systems Intent Guide*.

³⁴ This scope reduction estimate is based on the number of requirements in the combined list of requirements immediately before the decision not to consolidate the systems, compared to requirements deemed unique to FMSS.

IC. The contract and procurement officials we spoke with first indicated they were not aware of the change in scope. These same officials later acknowledged they knew of the change, but they did not think there was an impact to the scope of work that warranted modifying the contract. The COR understood that there was a scope of work change but mistakenly implied that it did not matter, based on development efforts being a time and material task.

Additionally, we noted that ACS Directive OCFO: 2-108 does not require a documented monitoring plan for major IT investments,³⁵ and the Department's EVMS Policy focuses almost exclusively on the requirement to incorporate EVMS in procurement instruments and is largely silent on procedures to monitor EVMS implementations.

IT Capital Planning and Investment Oversight Was Ineffective

The Department's oversight processes did not ensure availability of reliable project status information for the FMSS O11i project. As a result, decision-makers and stakeholders lacked objective and accurate performance data needed to make a fair assessment of the investment's progress and results. This occurred because:

- Investment and Acquisition Management Services (IAMS, an OCIO subcomponent) was unable to identify and correct performance problems not specifically reported by the project.
- Presentations to the PIRWG and the Committee included insufficient project performance information.
- The Department did not make full use of IV&V findings and services for effective risk management.
- The Department provided OMB and other stakeholders' invalid performance status information for FMSS O11i.

Decision-makers and stakeholders did not have valid performance status information and generally had to base investment and other decisions on unreliable and erroneous data. This occurred, in part, because EVMS performance results were derived from an unreliable EVMS. Furthermore, based on the Department's existing IT Investment Management (ITIM) program, the Department could possibly overlook similar problems that may occur with other major IT investments. We use CPIC and ITIM interchangeably in our report.

Federal statutes, such as the CCA, require agencies to improve mission performance by implementing a CPIC process for selecting, controlling, and evaluating IT investments. OMB guidance requires agencies to establish accountability, reduce duplicative spending, eliminate wasteful management, and maximize the value of IT investments. Agencies must develop, implement, and use a CPIC process to manage their IT portfolios consistent with established federal, agency, and bureau enterprise architecture goals. OMB reviews agencies' IT portfolios through the budget process and relies heavily on data from Exhibit 300 submissions. OMB requires agency heads to review major acquisitions achieving less than 90 percent of their goals to determine whether there is a continuing need for corrective action, including termination.

³⁵ Late October 2006, OCFO revised the *Procedure for Writing and Implementing a Contract Monitoring Plan* (CO-111). Although the procedure must now be followed for every contract, it does not, however, establish minimum requirements suitable for major IT investments.

The Department established an ITIM program to meet its IT CPIC requirements. The Department's program is complex and involves multiple parties. The IRB is the executive decision-making body for the Department. The IRB's responsibilities include: monitoring significant IT initiatives against their projected costs, schedule, and performance; and taking action to continue, modify, or terminate them. Several organizational components, various teams and working groups support the CPIC process and the work of the IRB.

IAMS was Unable to Identify and Correct Performance Problems

We found that IAMS personnel responsible for reviewing and coordinating the CPIC process rely almost exclusively on self-reported progress information by project managers, and they do not make use of projects' detailed EVMS reports. IAMS personnel were generally aware that there are ongoing problems in the CPIC control process and, for instance, that some projects' EVMS implementations generate more reliable data than others. They were not, however, aware of the specific problems we identified with FMSS O11i's EVMS. According to the IAMS Acting Director, it was not known that FMSS EVMS weaknesses resulted in project performance results data that are largely invalid.

We determined that IAMS and the CPIC process were ineffective in ensuring reliable performance measurement baselines sufficient to support accountability and clear measurement of capital investment results. IAMS representatives handling Exhibit 300 submissions were aware that the goals expressed in each major IT investment's business case are not always translated into detailed metrics sufficient to determine whether investment results meet expectations, and recognized that the current CPIC process has been largely ineffective in correcting such problems.

IAMS personnel also indicated that they have difficulties in assessing project results because the Department's project accounting capability is minimal.³⁶ In addition, a lack of integration exists between procurement and other project costs information and budget data, and there is limited coordination between IAMS and CAM personnel regarding major IT acquisitions. According to IAMS officials, lack of resources was a key reason that their group did not conduct independent assessments of project-reported performance information. They also indicated that they did not plan to evaluate the FMSS investment despite the newly implemented system because the project is still requesting acquisition funds.

Insufficient PIRWG and Committee Presentations

According to IAMS officials, the Department's CPIC process has primarily relied on self-reporting by project managers, and CPIC procedures have not included verification that EVM systems implemented for major IT investments are sound enough to generate generally reliable performance information. Only recently has the Department started to conduct integrated

³⁶ IAMS noted, and we confirmed that the O11ie re-implementation had considered, but rejected implementing the Oracle Project Accounting (PA) capability during the O11ie project. Oracle PA offers several capabilities. For example, Project Costing helps: capture and process project costs, manage projects across the enterprise, and manage and gain insight into individual project costs. Project Billing can help streamline invoice generation.

baseline reviews. As of the end of October 2006, the FMSS O11i EVMS had not been subject to any CPIC review to determine its reliability.

We noted that FMSS O11i performance results briefing material presented to the PIRWG³⁷ and the Committee³⁸ were insufficient for participants to make informed decisions. For example, one month after the CRP3's closeout session, the PIRWG was briefed about the health of FMSS O11i during a High Risk Project briefing (see *Enclosure D – FMSS PIRWG High Risk Project Briefing, December 14, 2005*):

- The briefing material presented only rolled up schedule variance information, and provided little insight into the Design/Build status, such as the schedule delays discussed earlier in our report. Overall schedule variances of –1.56 percent and –1.82 percent were reported for September and October 2005 respectively, a healthy posture for the project. (Negative schedule variances indicate slippage and should be kept low. Variances that exceed 10 percent must be reported through the CPIC process and corrected.)
- The briefing acknowledged that delays had been experienced with regard to preparations for upcoming milestones.³⁹ The briefing, however, stated that no impact was expected in meeting the last scheduled development activity (EP) and other major milestones. The briefing did not discuss schedule variances at the cost account level (major milestones).

Our review of the underlying variance information for the cost accounts provided in the briefing showed considerable schedule delays, as illustrated in Table 3 and reported at a high level. Based on these high variances, the Implementation Lead's reporting of "no impact is expected in meeting the major milestones" seems inaccurate based on such a high level of reporting. In addition, the projection was not based on adequate use of the EVMS forecasting methodology. Also, the variances at the cost account level exceeded the 10 percent threshold, but they were not presented to the PIRWG.

Table 3: Implementation Contractor Reported Significant Schedule Variances⁴⁰

	Schedule Variance		
	September 2005	October 2005	November 2005
Enterprise Pilot Code Migration	-93%	-62%	- 42%
Application & Integration Test Plans (core)	-69%	-67%	- 14%

³⁷ The PIRWG is responsible for reviewing and analyzing IT investments in the context of various IT investment management phases to make recommendations to the CIO and the IRB to continue, modify, or terminate investments in the Department's IT portfolio. The PIRWG also provides a forum at which IT investments of Department program offices can be held accountable to their established performance measurement baseline.

³⁸ A steering committee had been established to provide the O11ie project executive-level guidance through an understanding of the Department's priorities, funding allocations, and long-term strategic goals.

³⁹ The *Enterprise Pilot Code Migration* and the *Application & Integration Test Plans* cost account activities.

⁴⁰ *O11ie monthly Financial Status Reports* for the periods ending September, October and November 2005: Attachment 4 – *O11ie Variance Analysis Report* (Variance Analysis Tab). The implementation contractor submitted its November 2005 report on January 10, 2006.

We found similar problems with briefing material provided to the Committee. For example, at the end of EP, the Implementation Lead briefed the Committee on the health of the project. Again, relying on the briefing material, the O11ie Team reported that it was facing no major development challenges (see *Enclosure E – O11ie Steering Committee Report, March 31, 2006*).

The Department Did Not Make Full Use of IV&V Findings and Services for Effective Risk Management

The CPIC process and the Committee did not make adequate use of the Department's substantial investment in IV&V services (over \$5 million). IV&V was not positioned to ensure adequate independence from the FMSS PMT. The PMT did not make adequate use of IV&V findings. We also noted that the Department did not have a policy for making use of contracted IV&V services. While IAMS managers have plans to improve the Department's CPIC process, these plans do not presently include making better use of project-level IV&V services in making oversight decisions.

Specifically:

- We determined that the IV&V contractor reported directly to the FMSS O11i PM and COR, and had no access to the Committee, PIRWG, or IRB. The IAMS team leader responsible for acquisition was unaware that FMSS O11i had contracted for IV&V services, and expressed concerns that the IV&V contractor was reporting to the same COR and PM as the FMSS implementation vendor, as this would affect its ability to offer independent opinions.
- We determined that the CPIC process did not generally make use of IV&V information. IAMS managers indicated that they did not use often-available IV&V resources, such as reviewing IV&V reports, or inviting IV&V representatives to brief them on a periodic basis. They confirmed that the PIRWG and IRB also did not make use of the IV&V resource to inform their decision-making.⁴¹

Throughout the project, the IV&V team members discussed their concerns with the O11ie PMT and submitted written deliverables that formalized their analyses and conclusions. Written products included weekly and monthly reports, and a number of technical reports on product development.⁴² *Enclosure G – Annotated Excerpts From IV&V Reports* highlights select reports delivered through the end of the Design/Build development phase.

⁴¹ Following our formal exit conference on September 5, 2006, and at our suggestion, the IRB Chair met with IV&V representatives to discuss the FMSS project status.

⁴² For example, IV&V issued an assessment report after each pilot, summarizing observations and recommendations with respect to pilot plan and approach, scenario preparation and execution, and system configuration. IV&V also issued comprehensive periodic reports that addressed major project control areas (i.e., program management, risk and issue management, change management, and performance measurement).

- IV&V repeatedly reported ineffective implementation and usage of automated requirements management tools and associated requirements traceability problems⁴³ that were occurring throughout system developments.
- IV&V highlighted slow system development progress by developing and reporting demonstration and mapping statistics of “must & approved” requirements during pilot sessions. The poor CRP3 results in November 2005 were clearly indicative of problems on the horizon. The Enterprise Pilot goal would not be met as planned unless aggressive corrective action was undertaken.
- IV&V identified concerns about the actual status of work reported “complete.”
- IV&V identified the lack of adequate performance measures to monitor progress as an ongoing problem.

More recently, IV&V issued a Cutover Readiness Report on September 26, 2006.⁴⁴ The report presented a generally positive cutover readiness posture. However, just two weeks before Go-Live, IV&V was non-committal in its report about the system’s readiness for production based on incomplete user acceptance tests and some open issues.

Based on our reviews, we believe that the Committee, IAMS, PIRWG, and the IRB would have benefited from receiving periodic briefings from the IV&V contractor. Additionally, the project would have benefited from IV&V reporting outside of the PMT, such as to the Steering Committee, IAMS, or directly to the PIRWG or IRB.

The Department Did Not Provide OMB and Other Stakeholders An Accurate Assessment of FMSS O11i’s Performance Status

The Department provided OMB inaccurate FMSS O11i status information. This data was insufficient for OMB to make informed investment decisions and reliably report to Congress. We noted that the FMSS performance information provided to OMB is generally the same as that which is provided to the PIRWG and the Committee. As we discussed earlier, the information provided to the PIRWG and Committee was insufficient, and the EVMS data was invalid.

The Department is required to periodically report IT investments’ performance to OMB. The Exhibit 300 is designed to coordinate collection of agency information for OMB’s reports to the Congress, as required by *FASA* and *CCA*, to ensure the investment’s business case is tied to the mission statement, long-term goals and objectives, and annual performance plans developed pursuant to *GPRA*. For IT, Exhibits 300 are designed to be used as one-stop documents for many IT management issues such as business cases for investments, IT security reporting, *CCA*

⁴³ Under Carnegie Mellon® Software Engineering Institute Capability Maturity Model Integration, the Requirements Management process area, Specific Practice 1.4 states, “Maintain bidirectional traceability among the requirements and the project plans and work products.”

⁴⁴ The FMSS project management team provided the audit team with this information for consideration.

implementation, *E-Government Act* implementation, *Government Paperwork Elimination Act* implementation, agency's modernization efforts, and overall project (investment) management.

The Exhibit 300 data is self-reported by each agency, and OMB has not conducted an independent verification of the accuracy and reliability of the performance data the Department has provided. From time to time, GAO also relies on self-reported information to meet congressional requests or conduct other government-wide assessments. It is, therefore, critical that the performance information reported to OMB and GAO is accurate and reliable. We noted several instances where inaccurate or insufficient information can affect these stakeholders.

For example, we noted that, in the FY2006 Third Quarter PMA E-Gov scorecard, OMB elevated the Department's rating to "GREEN" on "STATUS," in part based on the Department reporting EVMS variances of less than 10 percent for its major IT investments. We do not believe that the Department's rating was consistent with OMB's published criteria for a "GREEN" status.

Additionally, in the Department's Budget Year (BY) 2008 request, the FMSS Exhibit 300 noted that the Department would spend over \$20 million in new investment activities between FY2007 and 2012 and beyond.⁴⁵ OMB needs accurate and complete FMSS performance information in order to make a fair assessment of the Department's BY2008 funding request and continued FMSS investment plans. This is especially important since OCFO officials have decided not to become a FM LoB SSC, and the Department would have to plan to migrate to an established FM LoB SSC.

Recommendations

To correct the weaknesses identified we recommend that the Chief of Staff:

1. Direct the IRB Chair, the CFO and the CIO to jointly review and revise IT acquisition policies and procedures, to:
 - 1.1. Strengthen the March 2006 EVMS Policy by developing EVMS monitoring procedures for CORs, COs and project managers, and IAMS/CAM oversight.

Department Response

The Department concurred with this recommendation and provided its corrective action plans that met the recommendation's intent.

- 1.2. Modify ACS Directive OCFO: 2-108 to require a documented monitoring plan for all major IT investments, commensurate with project risks (e.g., complexity, cost, length, lifecycle stage); and make necessary adjustments to associated procedures.⁴⁶

⁴⁵ FMSS BY2008 Exhibit 300 provided by IAMS personnel. Table 1: Summary of spending for project phases. Acquisition costs for "CY 2007" (current year) through "BY+4 and beyond."

⁴⁶ Such as OCFO Procedure CO-111.

Department Response

The Department concurred with this recommendation and provided its corrective action plans that met the recommendation's intent.

- 1.3. Develop an IV&V services ACS Directive that establishes: (1) IV&V independence from the project served; (2) documented disposition of significant or repeated IV&V findings; and (3) periodic communication of IV&V findings to oversight bodies and project stakeholders at all levels.

Department Response

(1) The Department did not concur with this recommendation. The Department stated that the IV&V role is to provide an objective assessment of project activities and processes and provide the PMT its recommendations. The project team engaged the IV&V team throughout the project lifecycle and believes it must reserve the right to determine appropriate responses to IV&V observations and recommendations. Management did recognize that it would have been a good practice to document the disposition of all IV&V recommendations, whether agreed to or not.

OIG Response

We believe our recommendation having IV&V report independently is still necessary.

The recommendation was not intended to prevent IV&V services from working directly with a project team. We agree with management that IV&V services should work closely with the PMT team. The recommendation intent was to formally position IV&V services to report its reviews and findings to oversight entities independently and unfiltered from the project team. Under this proposed positioning, IV&V services would strengthen a system implementation by not just questioning an implementation but could also support the implementation team by validating the soundness and accuracy of the project approach, plans, deliverables and products, schedule, architecture, processes, and data, thereby, strengthening internal controls, as prescribed in the Ollie Project Plan.

As pointed out in management's response, in hindsight, it would have been a good practice to document the disposition of all IV&V recommendations whether agreed to or not. Formally positioning IV&V services to report independently is a means to strengthen senior level project oversight, project accountability, and management internal controls. Therefore, we stand by our finding and conclusion and will be asking management to respond to this report recommendation in light of our clarifying position.

(2) and (3) The Department concurred with these recommendations and provided its corrective action plans that met the recommendations intent.

2. Direct the CFO to review the contract administration irregularities and project management weaknesses identified in FSO and CAM and to take corrective actions to:
 - 2.1. Consult the Office of General Counsel regarding possible remedies to recover funds from the Oracle 11i implementation contractor for improper incentive payments, unacceptable deliverables, and reductions to the scope of work made without the formal authorization of the CO.

Department Response

The Department did not concur with this recommendation.

Management stated that no incentive payments were made to the contractor; therefore, no improper incentive payments have been made. In addition, the Department stated that it did not consider any of the integration contractor's deliverables to be unacceptable since all project deliverables were accepted. Also, the Department stated there were no project scope reductions. New user requirements did however require the project schedule to be adjusted at various times. As a result, demonstration of specific requirements and functionality were moved within or between CRPs with the approval of the project management team. These adjustments had no impact on project scope or project schedule completion date.

OIG Response

During our exit conference with OCFO, the Deputy CFO stated that incentive payments were made. In addition, we question the project team's acceptance of the fixed-price deliverable, which constituted the EVMS baseline, because it appeared not to meet deliverable specifications due to the status of key-interdependencies described in the draft audit report. We believe this deliverable should have been partly unacceptable because key interdependencies between control accounts or lower level tasks/activities were not specified, resulting in an incomplete deliverable. In addition, some issues raised by IV&V were consistent with the findings presented in our report and, as management points out, disposition of IV&V findings were not documented or verifiable. Lastly, management also stated the PMT was not well versed with the requirements of EVMS. This supports our conclusion that deliverables could have been accepted that were incomplete, resulting in an incentive payment. We will request that the contracting officer certify that in fact no incentive payments were made.

- 2.2. Determine whether the project management problems we identified were unique to the O11ie investment, and address any systemic problem that extends to other OCFO-FSO investments.⁴⁷

Department Response

The Department did not concur with this recommendation. The Department disagreed that project management problems existed with the Oracle 11i re-Implementation project. Management stated that no other systemic problems extended to other OCFO/FSO investments and that the Department oversight committees routinely reviewed its investments (i.e., PIRWG and IRB committees). The CFO also regularly reviews the status of all IT projects in OCFO/FSO.

OIG Response

We disagree with management and believe that other systematic problems may exist within other Department projects. The Oracle 11i re-implementation was the first project for which EVMS was attempted. This first attempt seemed to result in ineffective implementation and usage of automated requirements management tools and associated traceability problems that were occurring throughout development; IV&V findings were not formally documented; and significant schedule variances existed indicating that the Department's system development life cycle had not fully matured and other projects may be at risk. Therefore, we stand by our finding and conclusion.

3. Direct the CFO and CIO to work jointly to: (1) coordinate CAM and IAMS oversight and monitoring functions; and (2) develop a mandatory⁴⁸ project and contract monitoring curriculum that focuses on (a) establishing and carrying out a comprehensive contract monitoring plan for major IT investments, (b) EVMS compliance monitoring and reviewing a contractor's periodic status reports, and (c) using EVMS variances and forecasts to mitigate project risks.

Department Response

The Department concurred with this recommendation and provided its corrective action plans that met the recommendation's intent.

4. Direct the IRB Chair to use established or revised CPIC Evaluate and Select procedures to determine the best course of action for the FMSS investment, including ensuring OMB, GAO, and/or Congress receive sufficient and accurate information with respect to FMSS O11i project performance and status.

⁴⁷ For example, determine whether investments that use the same vendor as the O11ie IC; or the same CO, Contract Specialist (CS), COR, and/or PM as O11ie have similar problems that need to be addressed.

⁴⁸ We recommend that the Department make this curriculum mandatory for all major IT investment contracts' CO, CS, COR, and project managers; and make the training available to other Department personnel.

Department Response

The Department concurred with this recommendation and provided its corrective action plans that met the recommendation's intent.

5. Direct the IRB Chair, the CFO and the CIO to jointly improve IT acquisition and the ITIM program to make oversight practices more effective by: (1) making the CPIC "Evaluate" phase applicable at the conclusion of any major system enhancements; and (2) ensuring that CPIC oversight functions are able to ascertain whether/verify that (a) tangible investment outcomes are established prior to capital investment approval, (b) the EVMS effectively complies with all essential ANSI/EIA-STD-748 guidelines, (c) the project has provided reliable performance results information to all decision-makers and stakeholders sufficient for informed decision-making, (d) the disposition of IV&V findings is adequate and risks resulting from disposition are acceptable, and (e) project managers generally follow project plans and departures are documented and resulting risks are understood and acceptable.

Department Response

The Department concurred with this recommendation and provided its corrective action plans that met the recommendation's intent.

6. Direct the CIO to determine the feasibility and advisability of consolidating system development infrastructures agency-wide and offering centralized expert support to development projects.

Department Response

The Department concurred with this recommendation and provided its corrective action plans that met the recommendation's intent.

We initially included the following sub-recommendations in our draft report:

Direct the IRB Chair to use established or revised CPIC Evaluate and Select procedures to determine the best course of action for the FMSS investment, including:

Obtain an independent assessment that identifies: (1) enhancements and maintenance likely to be required over the next 3 years and their approximate cost, and (2) long-term financial and technical impacts based on compatibility with interfacing systems and other pertinent technical considerations.

Use the assessment's results to reassess capital investment decisions and long term enterprise architecture goals, particularly with respect to: (1) OMB's Financial Management Line of Business Shared Service Center policy;⁴⁹ and (2) Department-wide technical and information infrastructure goals (e.g., migration toward target enterprise architecture, feasibility of original O11ie goal to establish a single system).

⁴⁹ See Financial Systems Integration Office and OMB guidance. <http://www.fsio.gov/fsio/fsiodata/>

Reinstate the FMSS high-risk status and apply surveillance consistent with OMB M-05-23, *Improving Information Technology (IT) Project Planning and Execution* (August 2005).

In its response, management stated it did not concur with these recommendations and provided additional information. Upon further review, and in light of this additional information, we have removed these recommendations in the final report.

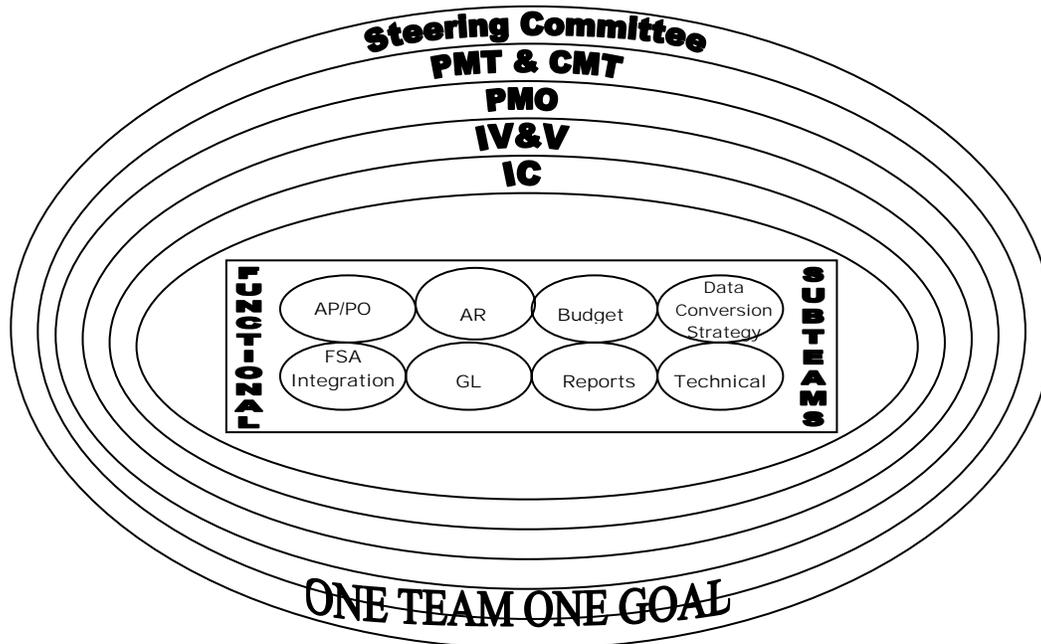
LIST OF ACRONYMS

Acronym	Definition
A&I	Application and Integration
ACS	Administrative Communications System
ANSI	American National Standards Institute
BY	Budget Year
CAM	Contracts and Acquisitions Management (OCFO subcomponent)
CCA	Clinger-Cohen Act of 1996
CIO	Chief Information Officer
CFO	Chief Financial Officer
CO	Contracting Officer
COR	Contracting Officer's Representative
COTS	Commercial Off-The-Shelf
CPIC	Capital Planning and Investment Control
CRP	Conference Room Pilot
CS	Contract Specialist
EIA	Electronic Industries Alliance
EP	Enterprise Pilot
EVM	Earned Value Management
EVMS	Earned Value Management System
FASA	Federal Acquisition Streamlining Act of 1994
FM	Financial Management
FM LoB	Financial Management Line of Business
FMSS	Financial Management Support System (also 'FMSS O11i')
FSA	Office of Federal Student Aid
FSO	Financial System Operations (OCFO subcomponent)
FST	Functional Sub-Team
FY	Fiscal Year
GAO	Government Accountability Office
GM	Grants Management
GM LoB	Grants Management Line of Business
GPRA	Government Performance Results Act of 1993
IAMS	Investment and Acquisition Management Services (OCIO subcomponent)
IC	Implementation Contractor (FMSS O11i implementation vendor)
IRB	Investment Review Board
IT	Information Technology
ITIM	Information Technology Investment Management
IV&V	Independent Verification and Validation Also refers to the IV&V Contractor
JFMIP	Joint Financial Management Improvement Program

Acronym	Definition
LoB	Line of Business
O11i	Version 11i of Oracle Federal Financials
O11ie	Oracle 11i Implementation Environment
OCFO	Office of the Chief Financial Officer
OCIO	Office of the Chief Information Officer
OMB	Office of Management and Budget
PIRWG	Planning and Investment Review Working Group
PM	Project Manager
PMA	President's Management Agenda - 2002
PMB	Performance Measurement Baseline
PMT	Project Management Team
SSC	Shared Service Center

The O11ie Team – Project Management Structure¹

To ensure successful completion of the O11ie project, the Department established a complex management structure comprised of a wide variety of dedicated Department personnel and contractors. The Department refers to them jointly as the “O11ie Team.” As described in the *Project Management Plan*, the project includes multiple teams that have specific roles and responsibilities:



- The Steering Committee, comprised of executive-level representatives from within the Department, provides strategic guidance and oversight. The Committee provides guidance to the project through an understanding of the Department’s priorities, funding allocations, and long-term strategic goals.
- The Project Management Team (PMT), headed by the Project Manager, is responsible for overall project planning, management, and budget formulation. The Project Manager also serves as senior management liaison.
- The Change Management Team (CMT) is responsible for organizational change management, communications, marketing, and user training needs of the project.
- The Project Management Office (PMO) contractor supports the PMT in project management-related tasks on a day-to-day basis.
- The Independent Verification and Validation (IV&V) contractor provides independent verification and validation services for Tiers II through IV and the Pre-Production and Post-Production testing periods.
- The Implementation Contractor (IC) is responsible for the technical implementation of the project solution.
- Several Functional Sub-Teams (FST) address specific areas of functionality² to ensure all aspects of the implementation and specific goals are achieved.
- Key Department Personnel manage, lead, or provide directions to the project teams. They include a Project Manager, an Implementation Lead, an Implementation Coordinator, a Change Management Lead, and a Contracting Officer’s Representative.

¹ Summary based on 2004 *Communications* and *Project Management Plans* prepared by the O11ie PMO Contractor.

² For example: Accounts Payable and Purchasing (AP/PO), Accounts Receivable (AR), General Ledger (GL).

SUMMARY OF SYSTEM DEVELOPMENT APPROACH FOR O11ie

Four Project Tiers

According to Statements of Work to contractors, the Department used a four-tiered approach for the O11ie project as follows:

- Tier I, conduct a high-level Impact Assessment of the upgrade on the business process, as well as custom interfaces, extensions and reports.
- Tier II, develop an Upgrade Strategy and Approach utilizing the Tier I impact assessment.
- Tier III, develop a detailed Implementation Plan.
- Tier IV, implement the 11i upgrade.

At completion of Tier I in June 2002, the Department had determined it was feasible to move to a single accounting system that would include FSA. The Department proceeded accordingly, completing certain pre-implementation tasks early in calendar 2004.

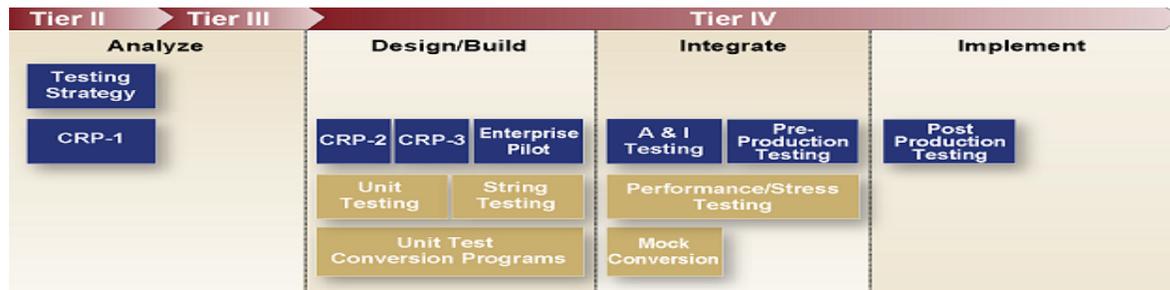
Tier II, was to develop an Upgrade Strategy and Approach that validated the Tier I Impact Assessment. The results were to be presented in an Upgrade Strategy deliverable. The analysis was to take into consideration any training, data conversion, development, configuration, and/or testing impact with the upgrade. In addition, the Upgrade Strategy would include the proposed methodology for moving forward with the implementation of the upgrade (e.g., deployment strategy, dependencies, timing considerations, implementation tasks, planned work products, and deliverables, etc.) and high-level milestones.

Tier III was to develop a detailed Implementation Plan. Upon approval of the Upgrade Strategy, a detailed implementation work plan and schedule was to be prepared in accordance with the Upgrade Strategy and Approach. The Implementation Plan was to include the detailed tasks, timing, and level of effort estimates for the 11i upgrade implementation lifecycle (e.g., configuration, enterprise pilot, design, development, testing, training, infrastructure upgrade, cutover, etc.)

Tier IV was to encompass the actual implementation effort. The “Go-Live” date was initially scheduled for October 1, 2006, although the Department expected the upgrade to be ready to go earlier with several months dedicated to pre-production testing. In addition, up to three months of post-production testing would occur.

Relationship between Project Tiers, System Development Phases, Systems Requirements Management, and Pilots

According to its approved technical proposal dated February 17, 2004, the implementation contractor would use a four-phased approach to Analyze, Design/Build, Integrate and Implement the system:



According to the implementation contractor's *Requirements Management Plan* (July 2004), several elements would comprise the O11ie system requirements development and management process:

Requirements Development Process – Tier II:

- Establish the definition of what is considered a required function/functionality.
- Establish preliminary O11ie functional requirements baseline and develop the initial Requirements Traceability Matrix (RTM, a product of Tier II).

Requirements Development Process – Tier IV:

- Detail and Clarify Baseline Requirements by developing the functional requirements to a lower level of detail that can be used in development (including unit testing) and A&I Testing efforts.

Requirements Management Process – Throughout both Tiers:

- Manage Requirement Change.
- Develop test plans to validate that requirements are met in the solution.

Tier II

During the analysis phase, the O11ie Team would capture all requirements for the new system. The O11ie requirements would include Joint Financial Management Improvement Program (JFMIP) standard requirements for financial management systems and Department specific requirements.

The O11ie Team would collect, review and confirm requirements collected to assess whether they are valid and apply to the core O11ie business processes, using several validation mechanisms, including: Business Process Analysis, Pre-CRP1 Working Sessions, and CRP1. The O11ie Team would develop an understanding of the requirements. When the requirements have been collected and reviewed, the timeline and scope of the project would be considered when making the final decisions about what is classified as a mandatory requirement. The O11ie Project Team would take into consideration the impact of addressing the requirement including, where appropriate, both the immediate and ongoing cost and risk of developing an extension to address the need.

The end result of these efforts would be the generation of the baseline RTM at the conclusion of Tier II. Those requirements identified as part of the initial RTM baseline would have a Priority of “Must” and a Status of “Approved.” The RTM would be maintained in a requirements management industry-standard tool and would be available in text format for review.

More specifically, at the conclusion of the Tier II, a comprehensive listing of the O11ie Functional Requirements would be provided. The term “functional requirement” refers to a level of detail sufficient to assess the impact of the requirement but not sufficient to develop any required code or detailed configuration steps. For example, a functional requirement for the Document Summary Report would be, “The EDCAPS Document Summary Report will provide summary document information for a period range.” The automated tool selected for this project also refers to such a requirement as a feature and assigns a FEAT number.

Tier IV

After the requirements have been baselined during Tier II, another series of events would occur to provide clarity and details as appropriate to the requirements throughout Tier IV activities. The baseline functional requirements would be detailed to include a “Use Case,” defined as, “A description of system behavior in terms of sequences of actions. A use case should yield an observable result to the end user.” The automated tool would assign a Use Case (UC) number. During detailing, one or more Supplementary Requirements (SUPP) may also be identified (such as a non-functional requirement like the use of a particular format standard). Approved FEAT requirements would cross-trace to and from UC and SUPP requirements.

Detail and clarification of the baseline requirements would be conducted in Tier IV through: Interface Analysis and Design Documents for any new development efforts, CRP2 and CRP3, EP, and Change Requests.

Conference Room Pilots 2 & 3

The execution of CRP2 and CRP3 would demonstrate/validate that high-level requirements have been properly decomposed to a lower level. The decomposition of the high-level requirements might result in one high-level requirement having relationships to multiple O11ie functions, artifacts, documents, and test cases while at the child level there would be a narrow relationship. At that point, these “parent-child relationships” would be identified in the RTM. The RTM would be used to prepare test cases, allowing for a backward trace from test cases to specific requirements. The mapping of test cases to requirements would be maintained in the RTM.

Gaps in the requirements might be identified. The O11ie Project Team would then assess the various possibilities available to bridge each gap through one of several possibilities (e.g., process workaround; design/develop an extension or customization to resolve the gap; specify that the requirement will be addressed as a future enhancement – only for non-critical gaps; or de-prioritize the requirement such that it is not required, such as for a report that is desired but not critical).

The second and third conference room pilots would allow the team to incorporate configuration updates resulting from the gap/issues document discussions. Similar to the process for CRP1, a listing of issues and decisions reached would be maintained for CRP2 and CRP3. As items are resolved, the conclusions/ decisions reached would be documented and not deleted. Any items not resolved at the conclusion of the third CRP were to be addressed before the start of EP.

Enterprise Pilot

The EP was intended as a demonstration of the business scenarios in a pre-production environment where all customizations and workarounds should be demonstrated as they are planned for production. The scenarios from CRP3 would have been updated (or new scenarios created) to include the processing required for the customizations. All scenarios were required to be covered in the EP. Any issues or changes made to configuration/designs had to be documented in an EP Issues/Discussion log similar to that used in the CRPs. It was suggested that the Training and Testing Teams participate in the EP.

Training and Testing

Consistent throughout the CRPs and EP, the IC FST Leads would identify issues that must be addressed during end user training. These items would be marked on the issues document and captured in the designated Change Management tool. Also, requirements identified that might be outside the scope of the implementation would be captured in the automated tool as items for “Post-Implementation Consideration.”

The scenarios developed for the CRPs and EP and the interface requirements document would be used as input for the A&I test scripts. The scripts would use the scenarios to ensure full test coverage and add detailed procedures as necessary to support the testing needs.

Likewise, the Training team would use the scenarios to develop and validate their end-user training material.



Department of Education

FY2005 Q4 High Risk Project Briefing Financial Management Support System (FMSS)

PIRWG Meeting

December 14, 2005

1



Investment Overview

- **Project Name:** Financial Management Support System (FMSS)
- **Project Owner:** OCFO
- **Project Manager:** Danny Harris
- **Project Lead:** Steve Sirk
- **IV & V Vendor:** eSource / BearingPoint
- **Development Vendor:** IBM
- **Project Description:** O11ie supports the implementation of the next version of Oracle Federal Financials, currently release 11.5.10, also known as Oracle 11i. The Oracle 11i implementation seeks to:
 - Stay current with Oracle technology, and to take advantage of enhanced functionality, product "bug" fixes, and an enhanced technical architecture
 - Improve the efficiency of the Department's financial systems and operations
 - Validate assumptions and decisions made during the previous implementation
 - Take advantage of business process re-engineering opportunities
 - Continue the Department's track record of a successful, effective Oracle Federal Financials implementation process

2

High Risk Rationale		
Cost / Schedule Variance		
	9/30/2005 <i>FY05Q4 Control Report</i>	10/31/2005 <i>October Monthly Update</i>
Cost Variance	+0.83%	+0.73%
Cost Impact*	\$445,240 under budget	\$393,168 under budget
Schedule Variance	-1.56%	-1.82%
Schedule Impact**	Delays in EP Code Migration, Data Conversion, and A&I Test Plans (Core) but no impact is expected in meeting the major milestones and no delay is expected in the Go-Live date.	Delay in Financial Statements implementation task but no impact is expected in meeting the major milestones and no delay is expected in the Go-Live date.

NOTE: Designation as high risk for cost and schedule variance is based on quarterly Control data. The latest cost and schedule variance is included for your reference.

EVMS Software: eCPIC

Applicable High Risk Criteria	Explanation
An investment that is applying to become an E-Gov Center of Excellence	It is the Department's desire to become a Center of Excellence to provide financial management services to other agencies in the federal government.

3

Risk Mitigation Strategies / Key Activities		
Highlight critical risk mitigation strategies and key project activities performed to date		
Risk Mitigation Strategies		
Date Identified	Risk	Mitigation Strategy
Sept. 2005	Delay in Migrating Data Center to Oxon Hill may impact schedule and resources	<ul style="list-style-type: none"> - Align migration schedule with O11ie schedule - Communicate regularly with OCIO on progress of migration - Provide proactive, timely support to migration team
Feb. 2005	HW/SW procurement delays may impact schedule, cost, and resources	<ul style="list-style-type: none"> - Define viable alternative solutions and leverage existing Department resources to resolve issues - Identify vendors that will ensure quick turn-around times – - Hold weekly meetings to communicate and ensure timely resolution of issues - Manage and reschedule procurement-dependent tasks without causing a delay in go-live date
Jun. 2004	Interoperability issues with legacy and new systems may create implementation issues	<ul style="list-style-type: none"> - Conduct bi-weekly meetings and share documentation with FSA's FMS upgrade team - Convene quarterly meetings with leads of other systems/projects to align schedules and identify integration impacts - Communicate with end-users to ensure appropriate involvement and support for the system, processes, and procedures
Aug. 2005	Slow response of vendor (Oracle) to Technical Assistance Request (TAR) resolution and enhancement requests may cause major delays in the project schedule	<ul style="list-style-type: none"> - Hold weekly meetings with vendor and project team to expedite resolutions - Define deadlines for, and contingency workarounds in lieu of, TAR resolution by vendor - Postpone non-critical functionality if resolutions are not met by the defined deadline

4



Risk Mitigation Strategies / Key Activities (cont.)

Highlight critical risk mitigation strategies and key project activities performed to date (cont.)

Key Activities (Previous 3-4 Months)		
Date	Activity	Impact
Sept. 2005	Ongoing technical issue reviews	Discuss and evaluate issues regarding data center move to Oxon Hill and other technical concerns in several weekly meetings to ensure appropriate planning and procurement, and timely issue resolution.
Oct. 2005	Technical Architecture Assessment	Examined infrastructure decisions related to deployment of servers, storage, and network connectivity for the multiple project environments, as well as the data center move to Oxon Hill. Provided analysis and recommendations to increase alignment with industry best practices.
Oct. – Nov. 2005	Conference Room Pilot (CRP) 3	Further demonstration and validation of Oracle functionality according to the Department's business processes, including evaluation of data conversion approach.
Nov. 2005	Initial Performance Test	Provided baseline data points for Performance Testing exercises to be conducted during the performance tuning process (Jul. 2006).
Dec. 2005	Ongoing monthly and quarterly risk reviews	Conduct regular risk reviews with the Project Management Team to evaluate the effectiveness of enacted mitigation strategies, identify resolutions to realized risks, and discuss new risks.

5



Next Steps

Provide the planned activities for implementing risk mitigation strategies as well as upcoming key project activities

Key Upcoming Activities		
Date	Activity	Impact
Dec. 2005	Center of Excellence feasibility study	Perform an analysis of the Department's ability to provide financial system functionality as a Federal Center of Excellence.
Jan. 2006	System integration demonstrations	Demonstrate the interoperability of FMSS interfaces with CPSS and Norridge, and document and resolve any unexpected results.
Jan. 2006	Training Plan development	Develop, vet, and finalize a Training Plan to guide communication, planning, and scheduling of training activities for users of FMSS.
Jan. – Feb. 2006	Data Center Migration to Oxon Hill	Continue to hold regular meetings and validate schedule of activities; collaborate with OCIO throughout this critical activity.
Feb. – Mar. 2006	Enterprise Pilot	An evaluation of the final, fully-functional system. Demonstrate all FMSS business processes in a production-like environment, and document and resolve any unexpected results. This marks the final activity in the design/build phase of the project.

6



Dependencies and Other Pertinent Information

Describe dependencies with other major projects

Enter the name of projects upon which this investment is dependent

- FSA's FMS
 - Bi-weekly meetings held between FMS and O11ie teams to discuss integration points and lessons learned from the FMS upgrade
- Integration points with CPSS, Nortridge, GAPS, eTravel
 - Quarterly meetings held between O11ie management and functional leads for each of these projects/systems to discuss integration points and align milestones

State other issues that are impacting the execution / implementation / performance of this project

- Data Center Migration – delays may impact Oracle 11i go-live
- Technical Architecture Assessment – additional resources needed to ensure business continuity and address network issues and documentation procedures

Oracle 11i Implementation Environment (O11ie): Steering Committee Report

Steve Sirk
March 31, 2006



ONE TEAM, ONE GOAL 



ONE TEAM, ONE GOAL 

Agenda

- Progress Review
 - Recent Accomplishments
 - Activities in Progress
 - Change Management Activities
- Financial Report
- Upcoming Activities
- Challenges





Progress Review:

Recent Accomplishments

- Completion of Enterprise Pilot (EP)
 - Excellent attendance and participation
 - New EPB module and Single Sign-On functionality demonstrated in the production-like environment
 - No showstopper issues identified
- Preparation for training development
 - Training Plan, Training Evaluation Plan, and draft Training Curriculum delivered
 - OnDemand training tool procured
- Preparation for testing execution
 - A&I Test Plan and detailed schedule delivered
 - User Acceptance detailed schedule completed
- Section 508 Compliance Assurance
 - Accessibility Review/Test conducted 3/28

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Progress Review:

Recent Accomplishments (cont.)

- Quarterly Risk Review conducted
- Challenges overcome:
 - Data center move
 - Worked with OCIO to complete the move successfully
 - Readiness of data encryption by EP
 - Worked with OCIO to implement an effective data encryption solution

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Progress Review: **Activities in Progress** ONE TEAM, ONE GOAL

- Controlled Performance Test
- Application and Integration (A&I) Testing
- Training Activities
 - Setup and configuration of OnDemand (training tool)
 - Development of course materials
- Certification and Accreditation (C&A)
- Data clean-up
- OIG review
- Functional Sub-Teams
 - Resolve outstanding EP issues/actions
 - Focus is shifting from designing the system to testing, training, and change management efforts

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Progress Review: **Change Management Activities** ONE TEAM, ONE GOAL

- Increasing level of project involvement to end-users
 - User Acceptance testing
 - Open House event in July
- Ongoing communications
 - Conducting informational briefings throughout the Department to present:
 - Project status
 - Changes in the new system
 - When to expect training
 - Training Coordinators as “change agents”
 - FMSS Oracle 11i information now on *connectED*
- Increased frequency of Change Management Team meetings from monthly to biweekly

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ONE TEAM, ONE GOAL

Financial Report (as of February 2006)

Total Budget (for the whole of Tier IV)	Planned Value (in '000s) (A)	Actual Cost (in '000s) (B)	% Spending Variance	Earned Value (in '000s) (C)	% Cost Variance	% Schedule Variance
\$12,205,205	\$ 7,146.7	\$6,510.0	+8.91%	\$7,099.9	+8.31%	-0.66%

- Total Budget** is the total estimated cost for all of Tier IV
- Planned Value** is the budgeted cost of the work scheduled as of February 2006
- Actual Cost** refers to the cost incurred for the work performed as of February 2006
- % Spending Variance** is the comparison between how much money was planned to be spent as of February 2006 and how much was actually spent

$$\left[\frac{(A - B)}{A} \right] \times 100$$
- Earned Value** is the estimated cost budgeted for the work actually performed as of February 2006
- % Cost Variance** is the comparison between the budget for the work performed and its actual cost

$$\left[\frac{(C - B)}{C} \right] \times 100$$
- % Schedule Variance** is the comparison between the budget for the work performed and the budget for the work scheduled

$$\left[\frac{(C - A)}{A} \right] \times 100$$

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ONE TEAM, ONE GOAL

Upcoming Activities

- A&I Testing: February - June
- User Acceptance Testing: April - August
- Mock Cutover: July
- Conduct C&A: July – September
- Training: Starts in July
- Pre-Production Validation: July – September
- Go-Live: October

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ONE TEAM, ONE GOAL

Challenges

- Enterprise Planning and Budgeting (EPB) module
 - Working with Oracle to resolve remaining issues (no showstoppers)
 - Contingency plan: implement Oracle Financial Analyzer (OFA) in standalone mode
- Training resource constraints

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 **Performance Measurement Log**

FMSS Oracle 11i will contribute to the Department maintaining the Unqualified Audit Opinion on its financial statements						
Performance Target	Results					
	2006					
The Department's financial statements gets an unqualified audit opinion						
FMSS Oracle 11i will improve the reconciliation process based on final solution design that either reduces manual processes or removes a reconciliation effort						
FMSS Oracle 11i will result in an accelerated financial reporting						

The audit of the Department's financial statements will result in no Material Weaknesses that will be due to FMSS Oracle 11i						
Performance Target	Results					
	Prior to Go-Live					
100% of approved (i.e. verified and accepted by the O11ie Project Management) potential material weaknesses ¹ are resolved prior to go-live						

¹ Identified through IV&V's compliance check

High level of O11ie Team and Stakeholder Support for the Project						
Performance Target	Results					
O11ie Team Support	Apr 2004 ¹	Jul 2004	Apr 2005	Dec 2005		...
75% or more team members participate in pre-team maintenance meeting survey	N/A	79%	73%	49%		
75% or more team members attend the team maintenance meeting	100%	77.33%	93.18%	67%		
75% or more team members have at least a GOOD knowledge of O11ie based on the phase of the project lifecycle within the relevant time-period of the survey	95%	76.50%	94%	93%		
Executive-Level Support	Apr 2004 - Mar 2005	Apr 2005 - Mar 2006	Apr 2006 - Oct 2006 ²			
The project meets with Steering Committee at least 4x a year (12 month time-period)	8x	3x				
Others	Sep 2004 (for FY05)	Sep 2005 (for FY06)	Sep 2006 (for FY07)			
The project submits the Exhibit 300 to OMB on time	Yes	Yes				
The project submits the Business Case to the IRB on time	Yes	Yes				

¹ As part of the Project Kick-Off

² Target is to meet with Steering Committee at least 2x in the last 7 months of the project

High level of FMSS Oracle 11i User and Stakeholder Satisfaction						
Performance Target	Results					
	Jun 2004 - May 2005	Jun 2005 - May 2006	Jun 2006 - Oct 2006			
The Project briefs the FMO twice a year	2x	1x				
At least 70% of the FMSS Oracle 11i users surveyed have a FAIR knowledge of O11ie status to date	100% (FMO) 92% (FSA CFO)					

 **Performance Measurement Log**

Effective and comprehensive end user training						
Performance Target	Results					
	TBD (2006) ¹	TBD (2006) ¹				
95% of required users identified to be trained are trained by Go-Live						
90% of trained users surveyed respond that the training has helped them prepare for FMSS Oracle 11i's Go-Live						
90% of trained users surveyed respond that the training addressed their specific job duties						
90% of trained users surveyed respond at least FAIR that the timing of their training is appropriate in preparing them for use of the new system						

Auditor Note:
 Target was subsequently reduced to 50%.

¹ The timing for when the metrics will be collected is currently being determined

Complete project within budget								
Performance Target	Results							
	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05
Tier IV: Monthly Cost Variance for Implementation will not exceed (negative) 10% of the current baseline approved by the Department	13.85%	17.63%	17.56%	12.18%	-0.19%	7.53%	10.54%	8.52%
	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
	15.04%							

Complete project within schedule								
Performance Target	Results							
Tier II	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04
Tier II: Monthly Schedule Variance for Implementation will not exceed (negative) 10% of the current baseline approved by the Department	1.19%	5.74%	14.09%	8.14%	11.07%	-2.52%	-1.20%	-1.21%
	Jan-05	Feb-05						
	-1.21%	0.00%						
Tier III	Mar-05							
Tier III: Monthly Schedule Variance for Implementation will not exceed (negative) 10% of the current baseline approved by the Department	0.00%							
Tier IV	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05
Tier IV: Monthly Schedule Variance for Implementation will not exceed (negative) 10% of the current baseline approved by the Department	-12.06%	15.29%	16.31%	14.56%	-11.39%	-9.19%	-8.74%	-9.25%
	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
	-3.99%							
Deliverables	Tier I	Pre-Implementation Ramp-up	Tier II	Tier III	Tier IV			
100% of major ¹ deliverables are submitted on time	100% (4 of 4)	100% (3 of 3)	100% (9 of 9)	100% (1 of 1)	Currently, 100% (9 of 9)			

¹ does not include status reports

 **Performance Measurement Log**

Monitor project risks and determine mitigation strategies in a timely manner								
Performance Target	Results							
	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05
Risk Log is reviewed bi-weekly by PMO	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06
	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Risks in the risk log are reviewed, as scheduled, during the Project Status Meeting	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05
	4-Oct	1-Nov	13-Dec (O)	10-Jan	14-Feb	29-March (O)	25-Apr	CRP2
	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06
	27-June (Rescheduled)	18-July (A)	29-Aug	26-Sep	CRP 3	7-Nov (O)	5-Dec	13-Jan
All in-progress issues will have proposed resolutions identified	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05
	100%	100%	N/A	100%	100%	100%	100%	100%
	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06
	N/A	100%	100%	100%	100%	100%	N/A	100%

High percentage of the approved and high/must-priority requirements are implemented in the relevant timeframe					
Performance Target	Results				
	CRP 1	CRP 2	CRP 3	Pre-EP	EP
100% of Issues/Action Items from CRP are resolved	92% Signed-Off	97.8% Signed-Off	94% are either Completed, logged as a TAR, or to be addressed in EP	0% (of 2 issues)	
	Post-Production				
100% of "Must" and "Approved" Requirements are implemented					

High degree of FMSS Oracle 11i up-time					
Performance Target	Results				
	Oct-06	Nov-06	Dec-06		
Percent of time FMSS Oracle 11i is available is 95% or greater					

**MAJOR IV&V REPORTS DELIVERED DURING
THE ANALYZE AND DESIGN/BUILD PHASES OF DEVELOPMENT**

- Tier II Conference Room Pilot 1 Readiness Report, August 27, 2004
- Tier II Conference Room Pilot 1 Assessment Report, October 14, 2004
- Tier II Assessment Report, December 20, 2004
- Tier IV Conference Room Pilot 2 Readiness Report, May 13, 2005
- Tier IV Conference Room Pilot 2 Assessment Report, June 17, 2005
- Tier IV Post Conference Room Pilot 2 Program Assessment Report, June 24, 2005
- Tier IV Conference Room Pilot 3 Readiness Report, October 14, 2005
- Tier IV Conference Room Pilot 3 Assessment Report, December 05, 2005
- Tier IV Post Conference Room Pilot 3 Program Assessment Report, January 23, 2006
- Tier IV Enterprise Pilot Assessment Report, March 28, 2006

The IV&V contractor also delivered weekly and monthly status reports and other assessments.

ANNOTATED EXCERPTS FROM IV&V REPORTS

IV&V Finding of Ineffective Requirements Management.

Throughout all phases of development, IV&V repeatedly expressed concerns about requirements management problems and their adverse impact on system development progress. For example:

During Tier II, IV&V reported:¹

Generally, the management of requirements by the IC for activities [through] CRP1 [has] not been conducted in a manner consistent with the guidelines of Capability Maturity Model Integration (CMMI) for the management of requirements. . . . The lack of requirements traceability for the CRP activities is a significant flaw. The IC should correct these requirements traceability weaknesses immediately to avoid the risk of moving to the next project Tier without the appropriate linkages between requirements and O11ie Project work products and activities.

IV&V also recommended:

Future CRPs should be planned with un-ambiguous entry and exit criteria to ensure that the Department's requirements are being met and that the CRP goals and objectives are unified with the overall project plan, project objectives and vision.

Transition from Tier II to Tier IV. IV&V also reported:²

The O11ie Change Control Board (OCCB) has not been formally established to support the review process required for change requests. Individuals selected to serve on this board need to be formally identified and made aware of the Board's planned activities. The OCCB will be required to take action in the near future on requirements change requests. In addition, the requirements change control process has not been established. As a result, there are no controls, procedures, or processes in place to manage and track the requirements that have been gathered since the February 14th baseline.

Post CRP2. IV&V reported improvements:³

CRP2 has included significantly more focus on requirements traceability than for CRP1. This focus on requirements traceability is a very positive trend that we expect to continue for the remaining duration of the O11ie Project.

¹ *Tier II Conference Room Pilot 1 Assessment Report*, October 14, 2004.

² IV&V contractor's *Monthly Status Report* for February 2005.

³ *Tier IV Conference Room Pilot 2 Assessment Report*, June 17, 2005.

However, IV&V also noted the following traceability problems:

Generally, all CRP2 scripts⁴ that we have been able to examine have been mapped to requirements. However, the mapping of requirements to scripts is limited to [a four digit unique identification (ID) number]. As a result, it was very difficult, if not impossible, for CRP2 participants or session leaders to ascertain specifically which requirements were being demonstrated in specific steps of the CRP scripts. . . . Additionally, there are requirements in the CRP2 documentation that are linked to scripts but have no relevance to the script itself.

Post EP. IV&V reported continued traceability problems:⁵

EP sessions involved limited references to the specific descriptions of the requirements associated with specific EP scripts. EP scripts contained unique ID numbers for requirements, but did not include the detailed description information required to determine if the processes being demonstrated completely satisfied the requirement. Consequently, the detailed validation of requirements to the system configuration and functionality will have to occur primarily during the Application and Integration (A&I) Testing and User Acceptance Testing (UAT) cycles.” As of June 2006, the project’s Risk Log indicated that IV&V had identified “patterns of inaccurate and/or otherwise questionable mappings of requirements to the A&I Test scripts.

IV&V Finding: Slow System Development Progress During Design/Build Phase.

Throughout the Design/Build phase of system development, IV&V produced statistics for the project management team’s consideration. These statistics identified slow progress towards system design & build completion. For example:

Post CRP2. IV&V reported:⁶

As part of our assessment work, we also performed a detailed review of the number of Department of Education specific requirements that are mapped to scripts for selected modules and business areas. These modules and/or business process areas include General Ledger, Budget Execution and Accounts Receivable. The results of this analysis are as follows:

General Ledger: There are a total of 199 approved General Ledger requirements. Of this number, 64 are JFMIP requirements.⁷ Thus, 135 General Ledger requirements are DoED [Department] specific. Of the 135 DoED specific requirements, only 12 or 9% have been mapped to General Ledger scripts for CRP2.

⁴ Auditor Note: pilot scripts demonstrate and test scenarios.

⁵ *Tier IV Enterprise Pilot Assessment Report*, March 28, 2006.

⁶ *Tier IV Conference Room Pilot 2 Assessment Report*, June 17, 2005.

⁷ Auditor note: The Financial Systems Integration Office (General Services Administration) was formerly known as the Joint Financial Management Improvement Program. JFMIP refers to a set of core financial system requirements.

Budget Execution: There are a total of 140 approved Budget Execution requirements. Of this number, 47 are JFMIP requirements. Thus, 93 Budget Execution requirements are DoED specific. Of the 93 DoED specific requirements, 35 or 38% have been mapped to Budget Execution scripts for CRP2.

Accounts Receivable: There are a total of 100 approved Accounts Receivable requirements. Of this number, 48 are JFMIP requirements. Thus, 52 Accounts Receivable requirements are DoED specific. Of the 52 DoED specific requirements, 12 or 23% have been mapped to the scripts for CRP2.

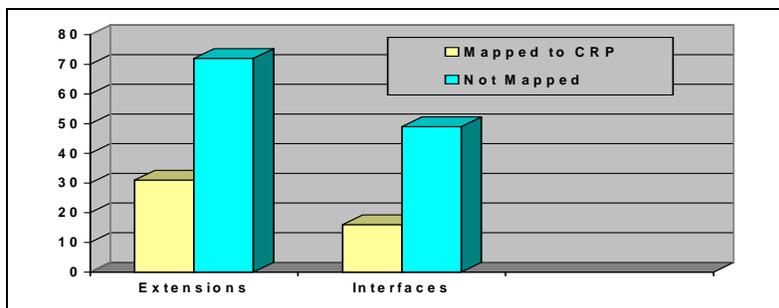
The overall results of this analysis indicate that the vast majority of the DoED specific requirements will have to be addressed in future CRPs, EP and/or testing cycles.

Post CRP3. IV&V reported:⁸

During the period, we continued our analysis of requirements. Analysis was limited to requirements with a must priority and an approved status,⁹ as these requirements are to be manifested in the October 1, 2006 production system. This analysis provides insight into the number of requirements that have been demonstrated in CRPs, and requirements that have not yet been mapped (traced) to CRP scripts or other project deliverables and work products. This will also help to determine the appropriate disposition of the unmapped requirements including establishing priorities for pursuing requirements traceability objectives.

The results of this analysis are reproduced below:

Mapping of “Must & Approved” Non-JFMIP Requirements¹⁰ – Extensions and Interfaces



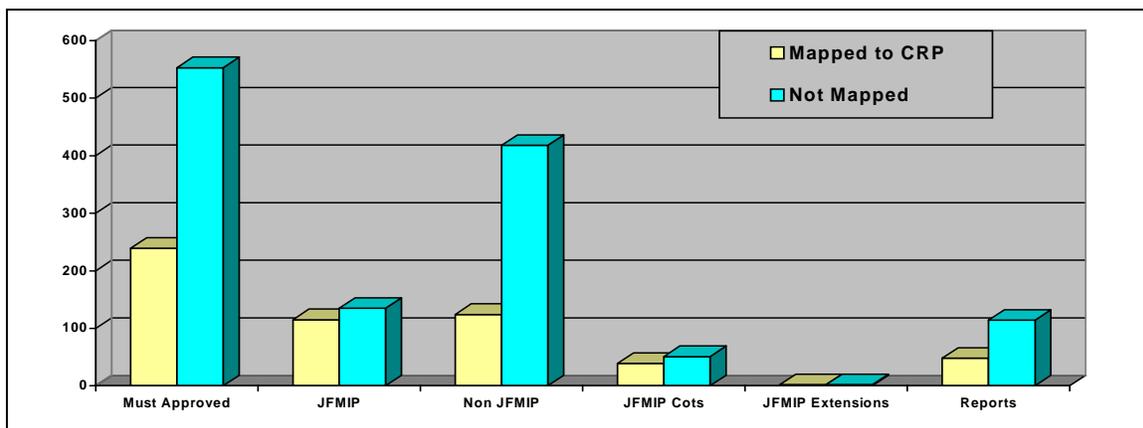
Category	Extensions	Interfaces
Mapped	31	16
Not Mapped	72	49

⁸ IV&V contractor’s *Monthly Status Report* for November 2005.

⁹ According to the IV&V report, the analysis was based on the list of must and approved requirements as of 9/30/05.

¹⁰ The “Non-JFMIP” category refers to Department-unique requirements.

“Must & Approved” Requirements



Category	Requirements	JFMIP	Non JFMIP	JFMIP COTS	JFMIP Extensions	Reports
Mapped	239	115	124	39	2	48
Not Mapped	553	135	418	51	2	114
Total	792					

Post EP. IV&V reported:¹¹

At the close of EP, there has been some improvement in the absolute number of requirements with a must/approved status that have been mapped to either CRP or EP scripts. Approximately, 320 requirements out of a total of 792 or 40% of requirements with must/approve status were mapped to either CRP or EP scripts. [A total of] 472 requirements with a must/approved status were not associated with specific CRP or EP scripts and should be addressed with A&I test scripts or linked to specific project artifacts, such as design documents, configuration documents, etc.

IV&V Finding of Incorrect or Ambiguous Work “Complete” Status.

IV&V also brought up a concern that the reported “percent complete” for tasks and issues did not always reflect actual progress. For example:

Post CRP2. IV&V reported:¹²

... Process Diagrams being prepared ... include the narrative sections that will contain the detailed descriptions of the activities that are occurring at each step of the processes ... [and] work on the business processes has been ongoing for several weeks without progressing to this step. Essentially, the process diagrams are substantially incomplete without this information, ... [and] the percent

¹¹ Tier IV Enterprise Pilot Assessment Report, March 28, 2006.

¹² IV&V contractor’s Monthly Status Report for February 2005.

complete that has been reported . . . needs to be reviewed to correct discrepancies in the status of the work. Currently . . . there are several flows that are reported as being 100% complete. None of the business process flows should be considered more than 50% complete without the detailed narrative section.

Also, in performing some additional analysis regarding the status of the actual CRP2 instance, we have determined that there are major differences in the code packages that have been installed in the actual CRP2 instance when compared to the Patch, Development and Sandbox instances. This condition indicates that the CRP2 instance did not contain the software components (migrated code) required to support planned CRP2 activities. This information conflicts with data in the Integration Contractor project plan, which indicates that most of the work related to the migration of specific code packages for CRP2 is 100% complete. Clarification is needed regarding the intent of these statuses in the plan. For our analysis, a 4/30/05 version of the IC's plan was used.

Post CRP3. IV&V reported:¹³

. . . we are concerned about the manner in which 'complete' statuses are assigned to issues.¹⁴ Specifically, under the current process a status of 'complete' is assigned to issues at the point where the [implementation contractor] has made a recommendation to the Department on the disposition of an issue. However under this scenario, all of the work required to fully address an issue may not have been performed by all responsible parties. As a result, there is a risk that issues marked as 'complete' could be overlooked and thus not followed up on in a timely manner. [IV&V] recommended that the 'complete' status be reserved for issues wherein all necessary follow up actions have been finished.

IV&V Finding of Lack of Adequate Performance Measures.

IV&V also repeatedly expressed concerns over the lack of completeness, and the general inadequacy of the performance measures to support project monitoring. For example:

During Tier II, IV&V reported:¹⁵

At various times during Tier II we have expressed concerns about the completeness and adequacy of the Performance Measures for the O11ie Project. During the preparation of this report we reviewed the December 8, 2004 version of the Performance Measures Log and concluded that our basic concerns about the performance measures and performance targets are still valid. The IV&V Team's opinion at this time is that the current listing of Performance Measures is inadequate for a project of the size and complexity of the O11ie Project.

¹³ Tier IV Conference Room Pilot 3 Assessment Report, December 5, 2005.

¹⁴ Auditor note: a log was used to capture the relevant issues and action items generated during CRP3 sessions.

¹⁵ Tier II Assessment Report, December 20, 2004.

Post CRP2. IV&V reported:¹⁶

The IV&V Team has expressed concerns about the completeness and adequacy of the Performance Measures for the O11ie Project throughout Tier II via a variety of mediums [sic], which included direct dialogues with the project management, detailed written comments, extensive discussions with the PMO Team, and discussion in the *IV&V Tier II Assessment Report*. Our concerns about the O11ie Project Performance Measures have continued up to this point in Tier IV.” In addition: “A review of the most current version of the Performance Measurement Log shows very little change in the condition of the performance measures, since the time of our last review. . . . In summary, our concerns are as follows:

- The Performance Measures lack a sufficient number of tactically relevant measures.
- The performance targets listed do not appear to be consistent with the Operationalized Measurement Indicator.
- There are numerous performance targets listed that are too subjective or which lack a strong connection to critical project success factors.

Post CRP3. IV&V reported:¹⁷

There has been no change of note to the performance measurement component of the project since the last IV&V assessment report.

¹⁶ *Tier IV Post Conference Room Pilot 2 Program Assessment Report*, June 24, 2005.

¹⁷ *Tier IV Post Conference Room Pilot 3 Program Assessment Report*, January 23, 2006.



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE SECRETARY

April 6, 2007

MEMORANDUM

TO: David Cole
Director, Information Technology Audits Division
Office of Inspector General

FROM: David L. Dunn
Chief of Staff 

SUBJECT: Draft Audit Report – Effectiveness of the Department’s Financial Management Support System Oracle 11i Re-Implementation
Control Number ED-OIG/A11F0005

Thank you for the opportunity to comment on the draft audit report, entitled “Effectiveness of the Department’s Financial Management Support System Oracle 11i Re-Implementation,” ED-OIG/A11F0005. The Department finds your audit recommendations extremely useful and will use them to improve the Department’s overall effectiveness in system implementations. While we agree that there were areas for improvement in the re-implementation project, and we concur with many of the findings and recommendations, we are not able to concur on all of the findings and recommendations as explained below.

Background

In May 2002, the Office of the Chief Financial Officer initiated the re-implementation project (Ollie) of the Oracle Federal Financials applications (Oracle 11i) as the Department’s financial management system. This project was deemed necessary to apply improved features available in Oracle 11i that were not included in the legacy version of the product. The vendor made many of the improvements incorporated in the Oracle 11i version in direct response to the Department’s requests. Implementing Oracle 11i also allowed the Department to remain current with the vendor’s version of the application, allowing for continued vendor support of the product. The project was successfully completed on schedule and within budget in December 2006.

The project was composed of four tiers. Tier I consisted of assessing the impact of changes in the 11i product compared to the 11.0.3 version and the benefits of implementing the product at the Department. Tier II detailed the strategy and approach for implementing the product. Tier III provided the detail plan for implementing the application. Finally, Tier IV comprised the actual implementation tasks. The Ollie Project consisted of 1,093 requirements; 3,635 tasks on the work breakdown structure; 81 risks tracked throughout the life of the project; and 26 performance measurements monitored.

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The Ollie project was identified as major, significant and high-risk because it involved a mission-critical, Department-wide system that had a multi-year duration with significant costs. At the completion of the project, and with the Oracle 11i application fully serving as the Department's financial management system, the project was removed as a high-risk investment.

The following are the Department's responses to each finding.

Performance Measurement Baselines Were Insufficient and Inadequately Controlled

Intended Investment Outcomes Were Not Fully Established

The Department generally concurs with this finding. The outcomes identified were generally at a high level and lacked specifics, e.g., report run times, transaction processing efficiency, business process improvements, etc. While the Project Management Team (PMT) did establish investment outcomes as detailed on Department and OMB budget request documents, and these documents were reviewed and approved by the Department's oversight teams and by OMB, the Department acknowledges that the addition of lower level outcomes would have provided more measurable progress toward meeting the higher level measurements. Yet, for those outcomes provided, the Department has implemented the latest version of the software and has full product support from the vendor. The technical infrastructure was entirely upgraded to provide the optimum performance and efficiencies of the application and supporting hardware. Additionally, the Department re-engineered many of its business processes to provide better efficiencies to the end users (the re-engineering of IPAC processes and performing receipt functionality in the Financial Management Support System (FMSS) rather than in both FMSS and the Contracts and Purchasing Support System (CPSS), as examples).

The Department would further point out that the example in the draft audit report of the financial statement enhancements being cost overruns is incorrect. The base requirements were that financial statement capabilities would be available at the time the system went live. The enhancements referred to in the draft audit report relate to functionality above and beyond the basic financial statement requirements. This new functionality provides automated footnote capabilities and an integrated adjustment module for reporting presentation entries that are not to be recorded in the general ledger. These enhancements were outside the scope of the original financial statement requirements and, therefore, necessitated a request for additional funding.

Performance Measures Selected Had Limited Value for Project Control

The Department generally concurs with this finding. Several of the performance measures provided limited value to the project. This may have been due to the fact that they had only one measuring point, usually at the end of the project. Measures of this nature limit the time to perform any corrective actions. However, the PMT considered performance measures an important component for measuring the health and effectiveness of the project. Performance measures were captured at the start of the project during the project's kick-off meeting.

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Throughout the life of the project, measures were reviewed and new measures added as they were identified. There were 26 performance measures for the project that were grouped into several categories. Measures that allowed for interim reporting had targets identified and the project team measured against them when appropriate during the project. The performance measures of the Ollie project measured a variety of outcomes, including quantities, qualities, outputs and other statistics. Each measure was assigned a frequency for its measurement and the method of the measurement. The project's performance measures were reviewed during the weekly Change Management Team meetings. With respect to the example used in the draft audit report, '95% of users will be trained by go-live,' the actual percentage completed throughout the training period was monitored by the change management team and compared to the target goal. The Department acknowledges that these interim measures were not formally part of the project's performance measurement process; however, they did exist and were monitored by the project team.

PMB Establishment and Maintenance Were Inadequate for Effective EVMS

The Department generally concurs with this finding. The Oracle 11i Re-Implementation was the first project within OCFO/FSO to use an Earned Value Management System (EVMS) for measuring and tracking cost and schedule variances. As a result, the project team experienced a learning curve and adjustment period to effectively integrate this process into the project. Additionally, the contract for the 11i re-implementation was issued prior to the requirement for full ANSI Standard 748 compliant EVMS. Adding to the difficulties, the first three tiers of the project were fixed-priced. This contract type does not lend itself well to EVMS processes and analysis since they produce flawed results. Tier four was a Time and Materials (T&M) contract type and the project team was able to measure variances in schedule and costs using EVMS. Throughout tier four the project team became increasingly knowledgeable about EVMS and felt the results were accurate and reliable. The Implementation Contractor (IC) defined the work to be done in a Work Breakdown Structure (WBS) with over 3,600 elements that formed the basis for the Performance Measurement Baseline (PMB). The IC used Microsoft Project to schedule all tasks, with start and finish dates, as well as dependencies and durations. Discrete work packages data were summarized to control accounts where deliverables or milestones provided evidence of progress. Changes to the baseline were made with the PMT's consent.

Uncontrolled Project Work Delays Increased Project Risks

The Department generally concurs that the Oracle 11i Re-Implementation project experienced work delays that did increase risk to the project; however, the Department disagrees that delays were not controlled. Adjustments to project work schedules were made in an informed and controlled manner by the PMT. All adjustments to schedules were made within the overall project work schedule and did not negatively impact the established end date of the project. As pointed out in the draft audit report, these adjustments were made during the Conference Room Pilots (CRPs) in response to end-user requests for modifications to the application and/or processes based on demonstrations of the application. CRPs are controlled demonstrations of specific application functionality that

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provide end-users the opportunity to experience the operations of the system and comment on its applicability to their needs. Since the FMSS is provided for all Education system users it is imperative that it be built in line with their requirements. To meet these requirements, the detailed schedule of the demonstrations had limited flexibility to allow the required end-users to participate in the CRPs and review the system functions. Adjustments to the schedule were also made to allow for the development of new scenarios or business processes based on end-user inputs. As identified in the draft audit report, the fast-track technique was used to recoup time spent on these development issues. Fast-tracking is an acceptable and appropriate technique to maintain project schedule. This technique, in conjunction with the controlled and planned adjustments to the project schedule, allowed the Ollie project to be successfully completed on time and within budget.

Project Contract Monitoring Was Inadequate

The Department does not concur with this finding. All project deliverables prepared by the implementation contractor were submitted in draft form to the Department. The Department reviewed and provided comments to the contractor on each deliverable. The contractor updated the documents in accordance with the comments and the final document was submitted to the Department. The Department did not consider any of the integration contractor's final deliverables to be unacceptable. The Department accepted all project deliverables; therefore, no improper payments were made to the contractor. The Tier III deliverables specifically cited (the Implementation Plan and Work Breakdown Structure) fully met the Department's requirements. No instructions were given to the contractor that inappropriately changed the terms of the contract. The Contracting Officer (CO) was consulted on all issues that would alter the terms of the contract and only he provided direction to the contractor on such items. The project schedule was adjusted at various times to allow for new user requirements. These requirements may have caused the demonstration of specific functionality to be moved within or between CRPs. However, these adjustments were made with the approval of project management and had no impact on the project scope or the project schedule completion date.

The Implementation Contractor (IC) Contracting Officer's Representative (COR) monitored the contractor's performance in consultation with the PMT to ensure compliance with the technical requirements of the contract. Had any issues with contractor performance requiring CO intervention arisen, the COR would have notified the CO so that the CO could act promptly to protect the Government's rights under the contract. The COR did not authorize the modification of the terms of the contract, such as obligated cost or price, delivery, or scope of work, since these contract terms could only be altered through a formal contract modification signed by the CO.

Further, the draft audit report's assertion that the decision not to consolidate the FSA and OCFO systems effectively reduced the scope of work is incorrect. The impact assessment performed during the second tier of the project was the point at which this decision was made by the project's Steering Committee. This was prior to the development of the PMB

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in Tier III of the project. Additionally, the funding for the FSA's portion was provided by FSA and was separate and never combined with OCFO's funding. Therefore, the decision had no impact on the Oracle Re-Implementation project's scope of work.

OCFO personnel reviewed earned value each month utilizing the IC's progress reports. Monthly progress/status reports from the IC met contract requirements. The IC monthly financial report showed their costs and progress against the agreed-upon schedule for the task. The report contained cumulative data from contract inception through the report month. The IC was questioned if any discrepancies appeared. Variances are to be expected in individual tasks, and the IC adequately explained any of significance (+/- 10%). No incentives have been paid to the IC to date. Overall, the actual cost of Tiers II through IV for the baseline contract was approximately \$500k less than the original negotiated contract price.

IT Capital Planning and Investment Oversight Was Ineffective

IAMS was Unable to Identify and Correct Performance Problems

The Department generally concurs with this finding. As previously stated, the Oracle 11i Re-Implementation project was the first OCFO/FSO project to use EVMS. The project team followed, to the best of its ability, EVMS guidelines when preparing and reporting project data. EVMS data were produced through the Department's eCIPC reporting tool for OMB 300B submissions. In addition, an independent analysis was produced by the project team. This independent analysis was considered necessary by the project team since EVMS reporting was new to OCFO/FSO. Both methods produced essentially the same results. When the project reported statistics considered outside the level of acceptance (+/- 10% for cost and schedule), effective and appropriate action was taken by the team to eliminate these variances. Because of the lack of experience with EVMS, individuals providing oversight for the project may not have been able to identify all potential performance problems. This was mitigated in part by producing two separate analyses of the data. As project team experience in using EVMS developed over the life of the project the project team was better able to manage the project with a focus on EVMS. Ultimately, the project was completed on schedule, within budget, and within accepted parameters for EVMS reporting.

Insufficient PIRWG and Committee Presentations

The Department does not concur with this finding. OCFO stands by the accuracy and reliability of the information presented to the PIRWG and the Committee. The variance data provided in the presentations were based on the calculations of the eCIPC tool and independent project reporting. No significant project delays were reported to these groups because the project team did not experience or suspect them. In fact the project was completed on schedule and within budget. The example provided in the draft audit report indicates a significant problem in schedule variance with Enterprise Pilot Code Migration. However, Enterprise Pilot Code Migration did not create a significant problem, since it was simply the process of copying the CRP 3 environment code to the EP environment. The

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variance associated with the Application and Integration Test Plans was a direct result of end user process changes. The test plans had to reflect these changes to this functionality to be valid. Even with schedule variances for the migration of code and test plans, the overall schedule variance for the project remained healthy and was reported as such to the project stakeholders.

The Department Did Not Make Full Use of IV&V Findings and Services for Effective Risk Management

The Department does not concur with this finding. The Independent Verification and Validation (IV&V) contractor served as an advisor and independent observer on all project activities. IV&V fully participated in all meetings of the project by providing their insights and recommendations to the team in a real-time manner. Traditionally, the IV&V team is separate and apart from the project team – they make their observations and report them to the PMT monthly. In a desire to make full use of the IV&V services and to have their input provide the most value to the project, the PMT decided to have the IV&V contractor engaged and provide their input more immediately. All project deliverables were reviewed and commented on by the IV&V team. Weekly meetings with the IV&V team highlighted the prior week's activities and included their recommendations on aspects of the project. The project team considered all input from IV&V and, where it deemed appropriate and necessary, took action based on their input. The PMT did not concur with all IV&V findings and therefore no actions were taken on those items. Items were not acted on when the project team did not agree with the finding or judged that no action was warranted. The PMT did not record responses in writing to all IV&V observations; therefore, placing too much reliance on the IV&V reports may incorrectly lead one to believe that their observations were not adequately addressed. However, the project team discussed all IV&V issues and responded as it deemed necessary. OCFO agrees that a good practice would be to document the disposition of all recommendations by the IV&V contractor, whether agreed to or not.

The Department Did Not Provide OMB and Other Stakeholders An Accurate Assessment of FMSS O11ie's Performance Status

The Department does not concur with this finding. OCFO stands by the information presented to the OMB and other stakeholders as being accurate and reliable. The variance data provided was based on the calculations of the eCIPC tool and independent project reporting. In fact, intentionally reporting false information to OMB or any oversight team would be unethical. The project team acted in a professional and ethical manner throughout the project. No significant project delays were reported to these groups because the project team did not experience or suspect them. This perception was eventually verified when the project was successfully completed on schedule and within budget.

The following are the Department's responses to each recommendation.

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1. Direct the IRB Chair, the CFO and the CIO to jointly review and revise IT acquisition policies and procedures, to:

- **Strengthen the March 2006 EVMS Policy by developing EVMS monitoring procedures for CORs, COs and project managers, and IAMS/CAM oversight.**

The Department concurs with this recommendation. As the responsibilities for establishing Department policies for Information Technology Information Management reside with the OCIO, the governing policy for addressing EVMS process improvements should remain within OCIO ACS Directive 3-108, "Information Technology Information Management (ITIM) and Software Acquisition Policy," and the IT Investment Management Guide. Therefore, consideration will be given to revising the Department's standing policies to expand language to address EVMS monitoring and surveillance implementation requirements, to include conducting Integrated Baseline Reviews.

- **Modify ACS Directive OCFO: 2-108 to require a documented monitoring plan for all major IT investments, commensurate with project risks (e.g., complexity, cost, length, lifecycle stage); and make necessary adjustments to associated procedures.**

The Department concurs that monitoring plans should be required for major IT investments. Current Department procedures require that contract monitoring plans be developed for all Department contracts, to the extent appropriate for the size and complexity of the contract requirement. To this end, OCFO ACS Directive 2-108, "Contract Monitoring for Program Officials," will be amended to codify the current contract monitoring plan procedure into the Directive and refer users to the Department's IT Investment Management Guide for further information on documenting monitoring plans for major IT investments. As stated in response to Recommendation 1, the Department's IT policies will address EVMS monitoring and surveillance implementation requirements.

- **Develop an IV&V services ACS Directive that establishes: (1) IV&V independence from the project served; (2) documented disposition of significant or repeated IV&V findings; and (3) periodic communication of IV&V findings to oversight bodies and project stakeholders at all levels.**

(1) The Department does not concur with this recommendation. The IV&V role is to provide an objective assessment of project activities and processes and provide their recommendations to the PMT. The IV&V team were engaged in the Ollie project throughout the project lifecycle. The PMT must reserve the right to determine appropriate responses to the IV&V observations and recommendations based on experience and impact on the overall project. The IV&V team must work directly with the project team to provide immediate feedback, which would not be possible if they acted independently from the project served.

(2) The Department concurs with this recommendation. Documented disposition of IV&V findings will be completed for all future OCFO/FSO projects. Additionally, all IV&V

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findings will be documented with project management responses, both agreeing and disagreeing, and will not be limited to significant or repeated findings as recommended.

(3) The Department concurs with this recommendation. At any point during a system implementation lifecycle the IV&V team can, and should, provide their findings to oversight bodies. In fact, the IV&V team for the Oracle 11i Re-Implementation project did provide their opinions to Department management when requested. The Department, through the CPIC process, will institute such reporting as standard operating procedure for project management. OCFO agrees that more direct contact between the IV&V contractor and the senior steering committee and PIRWG process would provide additional and useful oversight.

2. Direct the CFO to review the contract administration irregularities and project management weaknesses identified in FSO and CAM and to take corrective actions to:

- **Consult the Office of General Counsel regarding possible remedies to recover funds from the Oracle 11i implementation contractor for improper incentive payments, unacceptable deliverables, and reductions to the scope of work made without the formal authorization of the CO.**

The Department does not concur with this recommendation. No incentive payments were made to the contractor; therefore, no improper incentive payments have been made. The Department did not consider any of the integration contractor's deliverables to be unacceptable. The Department accepted all project deliverables. No reductions to the scope of the project were made. The project schedule was adjusted at various times to allow for new user requirements. These requirements caused the demonstration of specific functionality to be moved within or between CRPs; however, these adjustments were made with the approval of the project management and had no impact on project scope or project schedule completion date.

- **Determine whether the project management problems we identified were unique to the O11ie investment, and address any systemic problem that extends to other OCFO-FSO investments.**

The Department does not concur with this recommendation. The Department disagrees that project management problems existed with the Oracle 11i Re-Implementation project and no other systemic problems extend to other OCFO/FSO investments. These investments are routinely reviewed by the Department's oversight committees (i.e., PIRWG and IRB committees). Additionally, the CFO regularly reviews the status of all IT projects in OCFO/FSO and will continue to do so.

3. Direct the CFO and CIO to work jointly to: (1) coordinate CAM and IAMS oversight and monitoring functions; and (2) develop a mandatory project and contract monitoring curriculum that focuses on (a) establishing and carrying out a comprehensive contract monitoring plan for major IT investments, (b) EVMS compliance monitoring and reviewing a

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contractor's periodic status reports, and (c) using EVMS variances and forecasts to mitigate project risks.

(1) The Department concurs with this recommendation. See the Department's response to recommendation 1.

(2) The Department concurs with this recommendation. The Department will evaluate current government and commercially available EVMS training to determine if curricula already exist to address EVMS monitoring and surveillance requirements, and provide the training to Department contracts and program management staff.

4. Direct the IRB Chair to use established or revised CPIC Evaluate and Select procedures to determine the best course of action for the FMSS investment, including:

• Obtain an independent assessment that identifies: (1) enhancements and maintenance likely to be required over the next 3 years and their approximate cost, and (2) long-term financial and technical impacts based on compatibility with interfacing systems and other pertinent technical considerations.

(1) The Department does not concur with this recommendation. Enhancement budgets for the next three years are based on known enhancements identified by system users and on historical records of typical enhancement expenditures after major system implementations. Additionally, all budgets, both current year and future years, must pass OCFO management, senior Department management and investment reviews and approvals. This ensures all required independence on their validity and necessity.

(2) The Department does not concur with this recommendation. During the Oracle 11i re-implementation, the Department completed a full technology update of its hardware and database systems; therefore, no long-term financial and technical impacts are expected.

• Use the assessment's results to reassess capital investment decisions and long term enterprise architecture goals, particularly with respect to: (1) OMB's Financial Management Line of Business Shared Service Center policy; and (2) Department-wide technical and information infrastructure goals (e.g., migration toward target enterprise architecture, feasibility of original O11ie goal to establish a single system).

The Department does not concur with this recommendation. Management from the offices of OCFO, OCIO and Budget Service approves capital investment decisions. Investment decisions concerning the FMSS are made consistent with the FMLoB initiative and with the overall Department enterprise architecture. (1) At this time, the Department is anticipating migrating to a shared service provided no earlier than 2010. (2) As previously stated, the Department has recently completed an update of all hardware and database systems supporting the Department's enterprise architecture. The Department has decided that it is not feasible to establish a single system due to large volumes of data, impacts on system performance and the large number of scheduled tasks to be performed. These issues would

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introduce significant risk to the entire Department with respect to meeting its fiduciary responsibilities and the demands of end users.

- **Reinstate the FMSS high-risk status and apply surveillance consistent with OMB M-05-23, Improving Information Technology (IT) Project Planning and Execution (August 2005).**

The Department does not concur with this recommendation. The FMSS was designated high-risk due to the Ollie project. With the completion of this project, the FMSS no longer was considered to be high-risk. In fact, in the December 2006 OMB scorecard, Education again received a green rating for financial management. The 11i system became operational in October 2006 and since that time it has not experienced any problematic unscheduled downtime or failures of critical business processes.

- **Ensure OMB, GAO, and/or Congress receive sufficient and accurate information with respect to FMSS O11i project performance and status.**

The Department concurs with this recommendation. A responsibility of the project manager is to provide an accurate assessment of the status of the project. However, the OCFO stands by the accuracy and reliability of the information presented to oversight bodies on the status of the project. The Oracle 11i Re-Implementation project was formally completed in December 2006. No future updates on project performance or status are planned.

5. Direct the IRB Chair, the CFO and the CIO to jointly improve IT acquisition and the ITIM program to make oversight practices more effective by: (1) making the CPIC “Evaluate” phase applicable at the conclusion of any major system enhancements; and (2) ensuring that CPIC oversight functions are able to ascertain whether/verify that (a) tangible investment outcomes are established prior to capital investment approval, (b) the EVMS effectively complies with all essential ANSI/EIA-STD-748 guidelines, (c) the project has provided reliable performance results information to all decision-makers and stakeholders sufficient for informed decision-making, (d) the disposition of IV&V findings is adequate and risks resulting from disposition are acceptable, and (e) project managers generally follow project plans and departures are documented and resulting risks are understood and acceptable.

The Department concurs with this recommendation. Investments must be able to demonstrate improvements compared to the systems they replace. These improvements may take many different forms, as in the case of the Ollie project where processes have been streamlined, internal controls have been strengthened, reconciliations are faster and easier and the product is the most updated version with the full support of the vendor. EVMS is an important component of projects and it must be executed in ways that comply with guidance. IV&V findings should be reviewed and acted upon as deemed appropriate by project management. Project managers must follow project plans and monitor all risks associated with the investment.

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6. Direct the CIO to determine the feasibility and advisability of consolidating system development infrastructures agency-wide and offering centralized expert support to development projects.

The Department concurs with this recommendation. Feasibility studies of the consolidation of system development efforts are reasonable and proper. For the Ollie project, the CIO was a full partner in the development of the necessary system infrastructure for the project and participated in all decisions affecting the final solution.

Thank you for this opportunity to respond. Attached is the proposed Corrective Action Plan. If you have any questions, please contact Danny Harris, Deputy Chief Financial Officer, at (202) 401-0896.

Attachment – Corrective Action Plan

Management Comments and OIG Response

In its response, management provided nonconcurring comments to the report findings. The following summarizes management's additional comments and OIG response to these comments.

Management Comments to Project Contract Monitoring Was Inadequate

Management stated that the draft audit report's assertion that the decision not to consolidate the FSA and OCFO systems effectively reduced the scope of work is incorrect. Also management stated that funding for the FSA's portion was provided by FSA and was separate and never combined with OCFO's funding. Therefore the decision had no impact on the re-implementation project's scope of work.

OIG's Response

As discussed in the draft audit report, there was no contract modification for the scope after the decision not to consolidate both the FSA and OCFO financial systems. Before the Department abandoned its goal of consolidating the FSA's FMS and OCFO's FMSS systems, there were approximately 2,125 requirement records. After deciding that FSA would instead "upgrade-in-place" and OCFO would conduct a "re-implementation," on February 11, 2005, approximately 1164 requirements were dropped and the remaining 961 formed the FMSS implementation requirement "Baseline," a significant decrease in implementation scope. As a result, the scope of the requirements changed thereby requiring a formal contract modification to recognize the drop in requirements from 2125 to 961 (45% of original requirements). In addition, the Department states that "variances are to be expected in individual tasks, and the IC adequately explained any significance (+/- 10%)." Although the Department makes this statement, as shown in our draft report, not all cost accounts with variances at or above 10% were explained. In addition, for those cost accounts that were explained, not all explanations provided a complete explanation for the variance and not all cost accounts provided a mitigation strategy. Therefore, we stand by our finding and conclusion.

Management Comments to Insufficient PIRWG and Committee Presentations

The Department did not concur with this finding. OCFO states the information presented to the PIRWG and the Committee was accurate and reliable. No significant delays were reported because the project team did not experience or suspect them. Management stated that the project was completed on schedule and within budget. The draft report example provided indicates significant problem in schedule and variance with Enterprise Pilot Code Migration. The Department stated Enterprise Pilot Code Migration did not create a significant problem since it was simply a process of copying the CRP3 environment code to the EP environment.

OIG's Response

Although the Department claims that information presented to the PIRWG and Committee was accurate and reliable, we believe that a finer level of detail would have provided the oversight

entities a clearer picture of the project's health and detailed status. One of the underlying benefits of EVMS is to provide detailed management information on the status of a project. As management has indicated, the re-implementation project was the first to attempt to adhere to EVMS (even though OMB has required EVMS compliance since 2002). Because the project team was not prepared to adhere to managing a project per EVMS, the project level details were not captured. In addition, the Department states that "no significant project delays were reported to the PIRWG and Committee because the project team did not experience or suspect them," however, management states "schedule variances" did exist and performance measures provided limited project value and had only a single measuring point, usually at the end of a project, which according to management, measures of this nature limit the time to perform any corrective actions. In regards to the draft report example, the Enterprise Pilot Code Migration and the application and integration test plans variances exceeded the 10% threshold; however, such details are not visible when a project team reports at a higher measurement level. Therefore, we stand by our finding and conclusion.