U.S. DEPARTMENT OF COMMERCE
Office of Inspector General

OFFICE OF THE SECRETARY

Stronger Management Controls Will Improve Planning and Control of CAMS

Final Audit Report No. OSE-14129/September 2002

PUBLIC RELEASE

Office of Systems Evaluation

SEP 30 2002

MEMORANDUM FOR: Otto Wolff
Chief Financial Officer and
  Assistant Secretary for Administration

FROM: Johnnie E. Frazier

SUBJECT: *Stronger Management Controls Will Improve Planning and
Control of CAMS*
Final Inspection Report No. OSE-14129

This report details our review of management controls on the development and maintenance of
the Commerce Administrative Management System (CAMS) at the CAMS Support Center (CSC)
in Gaithersburg, Maryland. Our review found that stronger management controls would improve
the ability of the Department and CSC managers to plan and control CAMS development and
maintenance and would help Department senior officials and other stakeholders obtain needed
decision-making information for the completion and maintenance of CAMS.

Specifically, at the time of our review we found a need for the Department and CSC to
(1) improve the plans for CAMS major systems activities to better support its budget requests and
capital asset planning, (2) systematically track the actual cost of CAMS major system activities,
(3) improve the *CAMS Capital Asset Plan* and *CAMS Quarterly Reports*, and (4) use an
automated management system to better integrate cost, schedule, and capability information.

The response to our draft report indicated that, in general, the actions you are taking are consistent
with our recommendations. Further, in a subsequent meeting with CSC officials, we received
documentation relating to FY 2002 and FY 2003 planning that demonstrated the steps you are
taking to improve CSC management controls.

After each finding, we summarize your response and, where appropriate, provide our comments.
Your response to the draft report is included in its entirety as an attachment. Where appropriate,
we modified our report to more clearly describe our concerns and the documents we requested
during our inspection. Please describe in an action plan the steps you have taken (other than the
ones already discussed in this report) and intend to take to comply with our recommendations and
submit the plan within 60 calendar days of the date of this report.

We appreciate the cooperation and courtesies your staff extended to us during our evaluation.

Attachment

cc: James L. Taylor, Deputy Chief Financial Officer and Director for Financial Management
      Robert R. Bair, Deputy Director for Financial Systems and CAMS Program Manager

INTRODUCTION

In December 1994, the Department of Commerce awarded a contract to develop CAMS, an important effort to improve and unify financial management throughout the Department. This major system[1] is one of Commerce's largest information technology investments: from FY 1995 through 2001 the Department estimates that it spent $150 million on developing, deploying, and operating CAMS. The Office of Inspector General has identified the system's successful implementation as one of the Department's top 10 management challenges.

CAMS is now the official accounting system for Bureau of the Census and seven of the Department's operating units whose accounting functions are handled by the National Institute of Standards and Technology.[2] Information provided to us by the Department indicates that an additional $92 million will be spent in FY 2002 and FY 2003 to develop and deploy CAMS at National Oceanic and Atmospheric Administration and NIST and to operate the system.

Beginning in FY 2004, when CAMS is scheduled to be fully deployed, the Department's estimates indicate it will cost more than $25 million annually to operate and maintain CAMS. Once full deployment is attained, Commerce should be in compliance with OMB Circular A-127, "Financial Management Systems," which requires federal agencies to have a single, integrated financial management system with standard information and electronic data exchange formats.

CAMS Description and Management

Originally, the Department envisioned that CAMS would consist of a Core Financial System and bureau feeder and other modules, as shown in Figure 1 on the next page. In 1997, the Department decided to limit the scope of CAMS development to the Core Financial System and the three *core* modules that process a high percentage of the Department's financial transactions (payroll, purchase card, and small purchases). Core CAMS was then expanded to include four modules that interface with external transaction processing systems (accounts payable, accounts receivable, grants, and acquisition), as well as a data warehouse for easy access to management data and a corporate database into which all operating units submit financial statement data for consolidated reporting. The Core Financial System employs a commercial off-the-shelf software package that has been extensively modified to support the following accounting and financial management functions: general ledger and financial reports, budget execution, accounts payable, accounts receivable, cost allocation, and workflow management.

The Department's Deputy Chief Financial Officer is responsible for overall management of the CAMS program as well as the CAMS Support Center's budget. The CAMS program manager at the CSC handles day-to-day management of CAMS development and maintenance, as well as

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[1] OMB Circular A-11 defines a *major* information technology system as one that "requires special management attention because of its importance to an agency mission; its high development, operating, or maintenance costs; or its significant role in the administration of agency programs, finances, property, or other resources."

[2] The units serviced by NIST are the Bureau of Economic Analysis, Economic Development Administration, Economics and Statistics Administration, Minority Business Development Agency, Office of the Secretary, Office of Computer Services, and Office of Inspector General.

coordination and support for operating unit implementation. While Census, NOAA, NIST, and EDA have been primarily responsible for implementing and operating the system, all of the Department's operating units that will use CAMS helped develop requirements.

Figure 1. CAMS Program Scope[3]
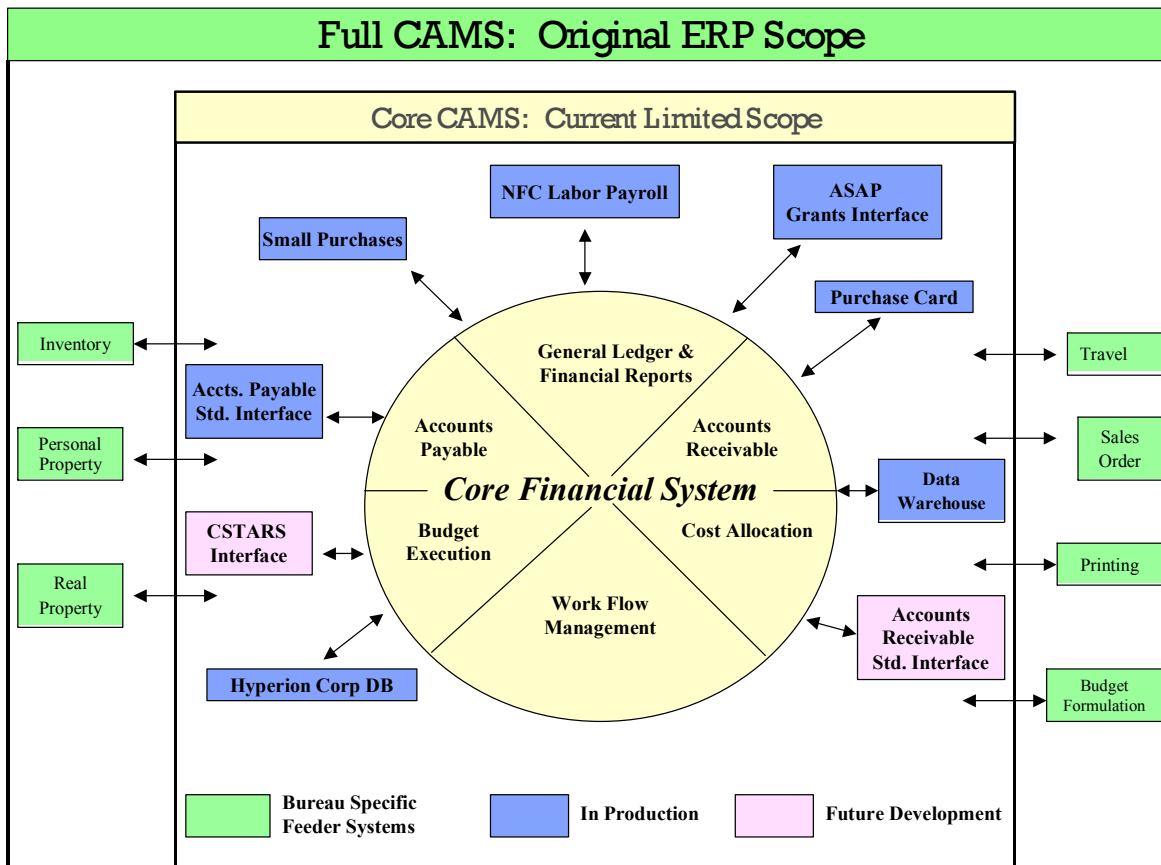
CSC Management Control Problems

In October 2001, funding scenarios under consideration as a result of Congressional action would have significantly reduced CSC funding in FY 2002 for CAMS development and maintenance. The Department believed these funding levels would prevent NOAA from completing CAMS in FY 2002 and would result in reduced credibility of the Department's financial reporting systems. Because we were monitoring CAMS' progress, the Office of Inspector General requested information that we believed the Department would have available and would have needed to effectively determine the impact of the proposed funding level so that we could conduct our own evaluation. The Department did not provide all of the information we requested, and based on the information we received, we were not able to make a determination about the impact of the funding level. This information should have been readily available as it

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[3] Source: CAMS User Conference, June 11, 2002, "CAMS Deployment History, Current Implementation and Future Deployments".

is necessary to effectively control and manage the resources needed to complete and maintain CAMS.

There is ample federal law and policy, as well as industry guidance, on the need for establishing effective management controls over major system programs. The Clinger-Cohen Act, OMB Circular A-11, and industry best practices[4] all recommend the following steps for implementing such controls:

- **Planning**—Prepare a baseline plan[5] with concrete cost, schedule, and capability goals for system activities.
- **Tracking**—Collect data on a regular basis about progress toward achieving these goals.
- **Reporting**—Report progress against goals in a timely and independently verifiable fashion.
- **Evaluating**—Identify deviations from the plan and direct the program accordingly.

Effective program management requires a clear, specific baseline plan and an objective comparison of quantitative progress data against that plan. Without such an approach, (1) managers have increased difficulty planning and controlling their programs, recognizing problems early, and improving program efficiency and economy; (2) senior Department management and other stakeholders lack the objective information they need to evaluate major programs, and to thereby ensure that programs are meeting the Department's goals and achieving a positive return on investment; and (3) those not involved in the program's day-to-day management cannot independently and reliably evaluate the impact of changes to the budget, schedule, or system capabilities.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our review evaluated management controls at the CSC related to the information that we believed would normally be available to systematically control and manage the resources needed to complete and maintain CAMS and that the Department needed to determine the impact of the proposed funding level. Initially, we asked the CAMS program manager at the CSC to provide the following basic information:

- FY 2002 cost estimate for each milestone in the quarterly report.
- Lower level cost estimate information used to develop the FY 2002 milestone cost estimate.
- Cost estimate developed for FY 2001 that served as the basis of the FY 2001 budget request.
- FY 2001 actual obligations and expenditures per milestone specified in the cost estimate.
- Milestones that were funded in FY 2001 or prior years and are continuing in FY 2002.
- FY 1999 and FY 2000 baseline cost estimate and actual expenditures by milestone.

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[4] See, for example, Putnam, Lawrence H., 1992. *Measures for Excellence: Reliable Software On Time, Within Budget*. Upper Saddle River, NJ: Yourdon Press Computing Series.

[5] A baseline plan is an estimate of performance used as reference for comparing and controlling actual performance.

The CSC subsequently submitted information to us through the Department's Deputy Chief Financial Officer. We then met with the CAMS program manager at the CSC and later with the Deputy Chief Financial Officer. In addition, we reviewed the quarterly reports to determine the status of the program, and the FY 2001 *CAMS Capital Asset Plan* submitted to Office of Management and Budget in accordance with Circular A-11. We concentrated our review on management controls at the CSC because of the importance of the support center's services to CAMS Department-wide. We conducted our fieldwork from October 10, 2001, through January 23, 2002.

We performed our work in accordance with the Inspector General Act of 1978, as amended, and the *Quality Standards for Inspections*, March 1993, issued by the President's Council on Integrity and Efficiency.

FINDINGS AND RECOMMENDATIONS

I.   Plans for CAMS Major System Activities Need to Be Improved

Complete, detailed plans are needed so that CAMS managers and other interested stakeholders have a blueprint for the completion and maintenance of CAMS. Indeed, the inherent difficulties often associated with developing major systems of this magnitude, coupled with CAMS' specific historical problems and the array of interested stakeholders, require a complete, detailed plan. Among other things, this plan should include a baseline for measuring program progress. Moreover, to be a useful management tool, the plan for a major system such as CAMS should specify estimated costs for all major system activities for the fiscal year, including the cost of system development, enhancement, operation, and maintenance activities. The plan should be derived from the program's full life-cycle cost, schedule, and capability goals. The cost of major system activities should be substantiated by an analysis of the work required to meet schedule and capability goals. At the start of each fiscal year and at other appropriate times, the plan should be updated to reflect actual and probable funding and program changes.

During our fieldwork, the CSC could not readily provide a *detailed* plan for FY 2002 that specified the cost of *all* major system activities to support its funding request. For fiscal years 1999 through 2003, funding requests have been approximately $15 million annually. The plan the CSC initially provided for our review at the beginning of FY 2002 covered only part of its $15 million funding level, as detailed below. We followed up with a request for a plan that accounted for the *total* funding level, but did not receive one before we issued our draft report four months later. We were informed that by the beginning of FY 2002, the CSC knew informally how it would spend its funds on major system activities, but were never provided a complete, documented plan.

Specifically, we initially requested cost estimates for the milestones planned for FY 2002 that were listed in the *CAMS Quarterly Report*. We expected that the report to Congress was derived from and consistent with the management information used internally by the CSC and that the report included all of the CSC's major system activities and accounted for the total budget. However, CSC officials were only able to provide cost estimates for the quarterly report activities that accounted for about $3.7 million out of approximately $8 million of funding

intended for contracted services and did not include the amount for fixed costs, such as the cost of government personnel supporting the activities. We subsequently asked for a plan showing cost estimates that covered all of the support center's FY 2002 funding, but were advised that a complete plan was unavailable because system activities were being reprioritized.

Department officials told us that they intended to use a contractor's study of future CAMS operations and maintenance costs to support FY 2004 planning.[6] Subsequently, we met with CSC officials in July after our draft report was issued and obtained a prioritized list of system activities and costs that demonstrates that the CSC has initiated actions that are consistent with our recommendations.

Recommendations

The Chief Financial Officer and Assistant Secretary for Administration should ensure that the following actions are taken:

1. A plan is prepared and maintained for the CSC that more thoroughly supports the CAMS budget requests. This plan should
    a. specify full costs for all major system developments and enhancements as well as operations and maintenance activities; and
    b. be substantiated by an analysis of the work required to meet the schedule and capability goals.

2. The above-referenced plan is updated by the start of the fiscal year to incorporate the most current information about program funding, system activities, and their costs.

Synopsis of Department Response

In response to our draft report, the Department advised that the CAMS budget planning process is based on a capital asset planning model developed in FY 1999 that is updated annually for the budget request. It indicated that the model is updated for each budget request with actual costs from prior fiscal years and updated budget estimates for future years.

The Department stated that at the beginning of each fiscal year detailed plans are put into place for all major systems activities that are continuations from the prior year or that are new projects for which complete functional requirements have been documented and accepted. However, the Department noted that some activities do not have detailed requirements at the beginning of the fiscal year and can only be estimated as a "level of effort" requirement based on prior year experiences. Accordingly, specific functional requirements and detailed project and budget plans are produced for these activities as the budget year progresses.

The response further indicated that the costs provided to us were the estimates for the activities related to the milestones in the quarterly report and were not intended to account for the entire CSC budget. According to the Departmental response, the milestones are intended to highlight

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[6] The Department contracted with Booz-Allen-Hamilton for two studies: *Costs and Environment Associated with the Useful Life-Cycle of Post-2003 CAMS* and *CAMS Business Case Analysis: Year 2004 and Beyond*.

the activities critical to successful implementation of CAMS and include only the estimated contractor costs that are variable, not fixed costs such as the CSC infrastructure or staff costs. The Department indicated, however, that the budget planning process would improve as CAMS moves into the operations and maintenance phase and requirements stabilize.

OIG Comments

During our fieldwork, CSC officials said that the data used by the budget-planning model is outdated and that the report generated by the model (not the model itself) is adjusted on the basis of experience. We believe an up-to-date model and data should be used for CAMS budgeting and understand that the previously referenced contractor's work is intended to help accomplish this goal. From the documents we received during our fieldwork, we concluded that a detailed plan did not exist for effectively controlling and managing resources.

When we subsequently met with CSC officials in July, after our draft report was issued, we received the following pertinent information:

- A prioritized list of CSC software initiatives and their estimated costs for FY 2003 and beyond.
- A description of software initiatives for the remainder of FY 2002 and for FY 2003.
- Twelve project plans showing tasks and their planned and actual schedules.

Although we have not analyzed the information listed above, this documentation indicates that development of the types of crucial planning and control information we had initially requested, and that will enhance Departmental managers and other stakeholders management and oversight of CAMS, has been initiated.

II.   The Total Actual Costs of CAMS Major System Activities Need to Be Tracked

The Clinger-Cohen Act requires executive agencies to measure program progress "in terms of cost, capability of the system to meet specified requirements, timeliness, and quality." However, until recently, the CSC did not systematically track the total actual cost of major system activities, which is essential for effectively evaluating program progress.

As noted earlier, we requested actual cost information for FY 1999 through FY 2001 milestones. The amounts that the CSC identified in response to this request represented the actual cost for about one-third of the FY 2001 milestones that we identified and accounted for about 22 percent of CSC's estimated costs for system contracts. Further, the costs the CSC identified were not the *total* actual costs for the milestones because they did not include the cost of government staff working on the activity. The CSC did not provide costs for milestones from prior years, but indicated that it could reconstruct them.

Although the CSC did not track the total actual cost of system activities, we found that it did track the actual costs of contractor tasks. However, these tasks were typically broad and did not correspond to specific system activities. For example, the FY 2001 system activity to analyze the procurement module's interface to CAMS was carried out under a broad task order that provided high-level system analysis services as needed. Because this analysis activity was not

specifically identified in the contract, the CSC could not track the cost of developing the interface. Such an approach is inadequate to support tracking overall CAMS program progress. Department officials have recognized that a better approach is needed to track actual costs, and at the exit conference held February 27, 2002, told us that the CSC began tracking the total actual cost of major system activities beginning in FY 2002.

Recommendation

The Chief Financial Officer and Assistant Secretary for Administration should take the necessary actions to ensure that the full cost of major system activities for CAMS is tracked.

Synopsis of Department Response

The Department agreed that, prior to FY 2002, it did not track the full cost of major system activities. It noted that although program officials did not track actual or full costs for each system project at the CSC as it progressed, they were able to construct actual costs for FY 2001 by using the project plans and accumulating contractor and government staff costs based on the schedule of activities for each project. The response further noted that this method was used to derive costs for past projects when estimating future costs for similar projects.

The Department's response stated that beginning in FY 2002, in part to meet the requirement of Statement of Federal Financial Accounting Standards (SFFAS) #10 that the cost of software developed for internal use be reported, the CSC instituted new procedures to track full costs, including new time and effort reporting to capture the cost of government staff by the major system or project supported and the aligning of contractor task orders with system activities. An algorithm is used to allocate indirect costs. These changes allow the CSC to track costs and progress against the baseline project plans on a monthly basis.

OIG Comments

When we met with CSC officials in July, after our draft report was issued, we received the following pertinent documents:

- SFFAS #10 summary of government and contractor costs reports for FY 2001 and three quarters of FY 2002.
- A contractor's report on staff charges for work performed on tasks in FY 2002.
- A time and attendance sheet showing a government employee's charges to various project numbers.

Although we have not analyzed the information subsequently provided, the documents indicate that in FY 2002 the CSC has taken steps to align contractor tasks and government staff hours with system activities.

III.   CAMS Reports Need to Provide Greater Visibility into the Program

CAMS' development and its subsequent successful operation have long been of interest to its many stakeholders. Commerce prepares two types of reports on CAMS' spending and progress for its stakeholders: (1) The annual *CAMS Capital Asset Plan*, submitted to OMB, is supposed to describe and justify the program; detail its cost, schedule, and capability goals; and report progress in meeting goals. (2) *CAMS Quarterly Reports* to Congress are supposed show progress against the Department's established baseline schedule and cost estimates for major systems activities.

We examined the reports issued in FY 2001 and found that they needed improvement. Neither of the reports provided adequate visibility into the program's baseline plans or into the impact of program changes. The Department could improve both reports so that they provide the information needed to better evaluate CAMS program progress.

OMB Circular A-11 requires that agencies submit a capital asset plan annually to OMB in support of the budget request that describes and justifies each major information technology system; details its cost, schedule, and capability goals; and reports progress in meeting program goals. However, the *CAMS Capital Asset Plan* for the FY 2002 budget request did not fulfill these requirements for two reasons: (1) The plan's cost estimates cannot be verified because they were based on a computer model that used out-of-date data and may be inaccurate. (2) The plan did not provide detailed schedule and system capability goals or describe the actual progress achieved. More detail was added to the capital asset plan for the FY 2003 budget request by incorporating the *CAMS Quarterly Report* milestones.

The conference report accompanying Commerce's FY 2001 appropriation directed the Department to submit an initial *CAMS Quarterly Report* for the first quarter of FY 2001, followed by quarterly progress reports. The initial report was to establish a baseline plan containing schedule and cost estimates for major system activities. The quarterly reports were to show progress against the baseline. However, these reports did not explain how deviations from the baseline plan specified in the first quarterly report would impact overall program goals.

We found that significant deviations from the baseline occurred in FY 2001. In the third quarterly report, for example, six new major system activities were added, but without an explanation as to why they were added or what their impact would be. In the fourth quarterly report, four activities were delayed. Although the two reports stated the length of these delays (i.e., the new completion date), they did not describe the delays' potential effect on overall program funding and delivery of system capability.

At the exit conference, Department officials agreed that the *CAMS Capital Asset Plan* needed to be improved and told us that they intended to update the plan based, in part, on the contractor's review of future CAMS operations and maintenance costs. They also agreed to describe the impact of program deviations in future quarterly reports.

Recommendations

The Chief Financial Officer and Assistant Secretary for Administration should ensure that the following actions occur:

1. The *CAMS Capital Asset Plan* is updated to
    a. use cost estimates that are based on the work to be performed and are supported by an appropriate cost-estimating methodology; and
    b. include a comparison of actual progress achieved with detailed schedule and system capability goals.

2. The *CAMS Quarterly Reports* describe the impact of deviations from the baseline on future costs and delivery schedules.

Synopsis of Department Response

In responding to our draft report, the Department indicated that the *CAMS Capital Asset Plan* is updated each fiscal year on the basis of prior-year actual costs and the most current estimates of future costs, and that the model was overhauled in early 2001 to make it more robust and easier to use. It indicated, as we previously noted, that the *CAMS Quarterly Report* includes critical milestones only after the Department—in working with the bureaus—has identified the level of effort needed to complete the milestones and is confident that the completion dates can be met. Finally, the Department noted that it frequently requests feedback regarding the reports from OMB and Congress, and has received no feedback that would indicate that they are dissatisfied with the quarterly reports.

OIG Comments

We reviewed the capital asset plan and quarterly reports, expecting that they would, in fact, provide insight into the status of CAMS. However, we found nothing that altered the issues discussed in our finding and recommendations. Further, although users of the quarterly report may not have expressed concerns about it, the Department, for its own purposes, should benefit from providing reports that are consistent with the information it uses to manage the program and be assured that stakeholders can accurately gauge progress and make appropriate resource decisions.

We met with CSC representatives in July, after our draft report was issued, and obtained the quarterly report for the second quarter of FY 2002. We found that it does demonstrate some changes consistent with our recommendation. Specifically, the report describes the impact of delays on schedule and users, although it does not address their affect on program costs. We also were given a draft FY 2004 *CAMS Capital Asset Plan*, which included revised fiscal year costs and estimated future costs. A detailed schedule, capability goals, and actual progress information were not included in the material we received.

IV.   A Performance-Based Management System Should Be Implemented

OMB Circular A-11 requires agencies to use performance-based management systems to obtain timely, objective information about a program's progress and thereby ensure that it is not deviating excessively from its goals. If a program is not achieving 90 percent of its goals, the head of the agency is required to take corrective action. However, the CSC does not use a performance-based management system to oversee CAMS. The program needs such a system to support day-to-day program management and comply with OMB Circular A-11.

A performance-based management system better enables managers to establish, monitor, measure, and report planned and actual program costs, schedules, and capabilities in an integrated fashion. It is a tool for providing objective information about program progress that can be used for planning and controlling programs.

In December 1997, when the current CAMS approach was being finalized, the *CAMS Performance Management Plan* stated that the program would produce an *earned value report*.[7] The February 2001 *CAMS Capital Asset Plan* stated that to ensure the program proceeded in a controlled manner, a performance-based management system would be employed to track activities and progress. However, at the time of our fieldwork, the CSC did not have a system that tracked cost, schedule, and capabilities in an integrated way.

At the exit conference, Department officials agreed that a performance-based management system is needed. They told us that the CSC is learning to use such a system and expects to implement it for CAMS by FY 2003.

Recommendation

The Chief Financial Officer and Assistant Secretary for Administration should take the necessary actions to ensure that a performance-based management system is implemented for CAMS as soon as possible.

Synopsis of Department Response

The Department's response indicated that although the CSC lacks an integrated software tool that can collect and produce earned value analysis, it does collect and monitor schedule, cost, and progress data. The response noted that a spreadsheet model of earned value has now been piloted and that the CSC plans to implement an integrated software system that supports full performance-based management techniques.

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[7] Earned value is a method of performance-based program management.

11

UNITED STATES DEPARTMENT OF COMMERCE
Chief Financial Officer
Assistant Secretary for Administration
Washington, D.C. 20230

MAY 1 5 2002

MEMORANDUM FOR   Judith J. Gordon
                               Assistant Inspector General for Systems Evaluation

FROM: Otto J. Wolff
                               Chief Financial Officer and
                                  Assistant Secretary for Administration

SUBJECT: Response to Draft Inspection Report No.14129/March 2002

This office has reviewed the subject report. While we have attached substantial comments, there are areas with which we concur. The Department must do a better job of coordinating and managing the multiple budgets used to manage Department-wide financial management systems. As you are aware, the decentralized approach historically used to fund and implement CAMS would create difficulties in managing the project under the best of circumstances. We have taken several steps to improve in this area: First, the Office of Financial Management, which is responsible for overseeing CAMS, now reviews all bureau budget requests before they are considered as part of the Department's review process. Second, we are piloting performance budgeting this fiscal year at our CAMS Support Center, and we intend to expand that capability utilizing automated tools next fiscal year.

We agree that the Department does not have a system for managing the CAMS budget across the Department. We can, and do budget for major systems, and track actual costs. However, this is an extensive effort involving coordination among the bureaus and the Department, and is not a product which is available in the form of an easily produced automated report, or even a series of reports. We welcome your assistance in improving our capabilities in this area.

Attached, please find our comments which address the four draft findings in your cover letter (Attachment 1), followed by detailed comments (Attachment 2). Thank you for the opportunity to review the above report. If you have any questions regarding the comments provided, feel free to contact James Taylor, Deputy Chief Financial Officer and Director for Financial Management at 482-1207.

Attachments

cc: James L. Taylor

Comments and Response to OIG Draft Inspection Report No. OSE-13129

<u>Comments on Cover Letter</u>

1. **The draft states that the CAMS program, "does not have a detailed budget plan for major system activities to support its budget submission".**

   The reason detailed project plans are not available for each major software development activity to support the budget submission process is because the CSC and the bureaus are not able to document in detail functional requirements for software changes 18 months in advance of the budget year. But, as soon as requirements are documented, the CSC develops detailed project plans before the software development work commences.

   These plans include schedule, staffing and costs for each of its major software enhancement or maintenance projects, and are used by management to track progress and cost on a monthly basis during the full life cycle of each software activity. The plans are detailed by standard life cycle development categories of requirements, design, coding, testing, documentation and delivery. Approximately 60 percent of the operating budget of the CAMS Support Center (CSC) is consumed by these major software projects and is tracked with these detailed plans. The remainder of the CSC annual costs are attributed to infrastructure support costs such as: government support staff, physical plant, supplies, hardware and software purchases, hardware and software maintenance contracts, software licenses, and contracts administration. Budget line items are established for each of these costs at the beginning of the fiscal year and actual expenditures are tracked monthly.

2. **The draft states that the CAMS program, " does not track the actual cost of major system activities".**

   OFM/CSC does track the actual cost of major system activities. We define major systems activities to be the major software enhancement or maintenance projects that we undertake in a given fiscal year. We collect contractor costs by these major projects from invoices submitted on a monthly basis as well as government staff cost from bi-weekly time and attendance sheets. These data are entered into a tracking database that compares project budgets versus actual expenditures to date, and projects spending for the duration of the project and expected budget balances. Additionally, OFM/CSC project leads track MicroSoft Project schedules by SLCD categories and updates progress of work completed. OFM/CSC management reviews these reports monthly and take corrective actions where necessary to bring projects back into schedule and/or cost alignment. Prior to FY2002 the OFM/CSC did not track government staff costs as part of major software project costs, because they were not a substantial part of project costs (the software design and development work is all done by contractors). However, full software project costs for prior years, including government FTE costs, could be identified..

3.   **The draft states that the CAMS program, "generates reports that do not provide adequate visibility into the program".**

To our recollection the CAMS program has been able to generate any report requested by management or oversight groups. In the particular case of the Quarterly Report to Congress, we designed the content following discussions with the congressional staff who specifically requested the report. Their request was to receive information that major implementation dates would be met within the budgetary allowances. The report was never intended to be a comprehensive budget execution report, as has been assumed in the draft report. We also frequently request feedback in an effort to make that report more useful to our stakeholders, and all indications are that they are satisfied with these reports.

4.   **The draft states that the CAMS program, "does not have a performance-based management system, as required by federal law".**

While OFM/CSC does collect and monitor schedule, cost and progress data for each of its major software enhancement or maintenance projects, we do not have an integrated software tool that can collect and produce earned value analysis. The OFM/CSC measures achievement of system capability goals in two ways. We periodically evaluate CAMS capabilities against JFMIP core requirements and we have bureau representatives functionally test software enhancements to determine that all the documented functional requirements have been met before we release the software to the bureaus.

We have been conducting a pilot program in FY2002 to use performance based budgeting. It has demonstrated to us the need to identify an integrated performance-based management system and collect, track and report earned value for our major system development activities.

OFM Comments and Response to OIG Draft Inspection Report No. OSE-13129

<u>Specific Comments</u>:

Objectives, Scope, and Methodology

> **Page 4, Paragraph 1 - "...And reports detailing obligations and expenditures for major system activities performed in FY 2001. (This latter information would identify FY 2001 activities that remained to be completed in FY 2002 and any FY 2001 activities that remained to be completed in FY 2002 and any FY 2001 funding that would be carried over to FY 2002)."**

> Specific information regarding NOAA implementation-critical software development activities, the percentage of completion at the end of FY 2001, and the percentage remaining to be completed in FY 2002, and its costs and schedule plans is available.

> **Page 4, Paragraph 2 - "...We then met with the program manager of CAMS development at the CSC, who confirmed that our evaluation of the information was correct."**

> The CAMS manager did not agree with the conclusions drawn by the OIG, or that the information requested accurately reflected the CAMS budget planning and execution process. He only agreed that the questions asked by the OIG, and the responses to those questions would not identify how the entire CSC budget would be expended in FY 2002 and how that related to milestone activities. In fact, other data from management control records, not requested by the OIG, but available at both the CSC and NOAA, provides the management controls cited as missing.

> **Page 4, Paragraph 2, last sentence - "...We limited our review to CAMS program management controls at the CSC because of the importance of the support center's system development and maintenance services and the lack of information from NOAA."**

> NOAA does track detailed costs and progress by major modules of CAMS, and in many ways those modules do track to some of the milestones in the Quarterly Report. In addition, bi-weekly meetings are held between NOAA CAMS and the OFM/CSC technical staff, and between the DCFO and NOAA CFO to review the management control data and to take any actions that are needed to remove impediments to the successful CAMS implementation on the planned schedule.

Findings and Recommendations

Page 4, Paragraphs 4 and 5 - "...The CSC does not prepare a detailed budget plan that identifies major system activities and their estimated costs. Such a plan is not prepared to support the annual budget submission to OMB and only a partial, tentative plan is available when system activities start at the beginning of the fiscal year."

The OFM/CAMS budget planning process is based on the development of a Capital Asset Plan (CAP) in accordance with OMB Circular A-11. Beginning in FY 1999, the CSC developed a full life-cycle CAP using the expertise of Booz Allen Hamilton. The plan was developed in accordance with OMB guidelines and incorporated the "best" information available at the time on what resources would be required to fully develop the CAMS software and install and make it operational at the target bureaus of the Department. Standard phases of system life-cycle developed are incorporated into the model as well as the best thinking and analysis of the implementing bureaus on what resources need to be applied to make CAMS operational. Lessons learned from the Census Bureau CAMS pilot were also applied to the model. The model is updated for each subsequent budget submission with actual costs from prior fiscal years, and budget estimates for future years are refined with the latest lessons learned. Implementing bureaus have detailed project implementation plans that support their budget numbers.

OFM estimates a level of effort necessary to fully support the bureaus implementation plans, and the budget plan for the CSC that supports the Department's budget submission includes the cost of major systems activities, including system development, enhancement, operation, and maintenance. The budget plan is derived from the programs' full life-cycle cost, schedule, and capability goals, as presented in the most current CAP.

Page 5, Paragraph 1, sentence 3 - "...It does not commit to a complete, documented budget plan for measuring progress."

At the beginning of the fiscal year, detailed management plans are put in place for all major systems activities that are either continuation projects from the previous fiscal year or new projects for which complete functional requirements (capability goals) have been documented and agreed to by the bureaus. These are detailed Microsoft Project plans that provide work breakdown structure for all major phases of the projects, including baseline schedules and resourcing, and against which actual progress and variance to baseline are tracked. Expenditures are also tracked on a monthly basis. Some activities don't have detailed requirements at the beginning of the fiscal year and can only be estimated as a level of effort requirement based on prior year experiences. Software maintenance would fall into this category. This means that as the budget execution year progresses there

are some system activities that are still "evolving", for which specific functional requirements will be produced and after which detailed project plans and budget detail will be established. Until this happens, placeholder budget amounts are maintained in the same fashion as they were documented in the budget plan that was developed to support the budget submission.

Page 5, Paragraph 1, sentence 4 - "...In response to our request for FY 2002 cost estimates, the CSC provided a plan that accounted for only about 26 percent of its funding and did not include costs for system maintenance activities or for government personnel supporting the activities."

The costs provided were the estimates for the activities related to the milestones in the quarterly report, as requested. The milestones in that report are not intended to account for all funds in the CSC budget. The milestones are intended to highlight activities critical to the successful implementation of CAMS at the target bureaus on a prescribed schedule. The costs provided for these milestones only included estimated contractor costs, which are the vast majority of the variable costs of these projects. Government FTE is a fixed cost, as well as CSC infrastructure costs.

Page 5, Paragraph 2, sentence 2 - "...Department officials agree that budget planning needs to be improved and intends to develop a plan that identifies costs for major system activities to support its FY 2004 CAMS budget submission."

We do agree that improvements can be made as we move past initial implementation of CAMS. The Department, however, does develop detailed budget and management plans as system requirements are identified. Currently, the following categories of activities to develop and execute management controls are used: functional requirements development, high level design, detail level design, coding and unit testing, functional testing, regression testing, documentation, delivery/deployment, and production support and maintenance. In the past, the time frame for full requirements definition for the implementation has not always matched the budget submission time frame. As we move beyond implementation in FY 2004, our detailed budget plans will reflect a more stable planning environment.

The Actual Costs of Major System Activities Need to be Tracked

Page 5, Paragraph 4, sentence 2 – "...Congress directed that the CAMS program report actual costs for major systems activities, specifically, to "outline progress in meeting the milestones and spending targets."

In agreement with OMB and Congress, the Quarterly Report was developed to show the critical milestone activities that need to be accomplished to achieve bureau implementation of CAMS against a prescribed schedule. The Quarterly Report identifies completion dates for these milestones, provides an "on schedule, or behind or ahead of schedule" indication, and provides actual costs by quarter for each bureau and the CSC. We routinely request feedback from OMB and Congressional staff to make the report more useful.

Page 5, Paragraph 4, sentence 3 - "...The CSC does not track the actual cost of major system activities."

Prior to FY 2002 OFM did not construct total, or actual costs for each "major system activity." Prior to FY 2002, the CSC tracked contractor hours and costs by contract tasks and subtasks. These tasks and subtasks were constructed to stay within 8(a) contract thresholds and to provide flexibility in providing support in the areas of system design, programming and technical support. CSC team leaders did develop Microsoft project plans for each major development project (or, major system activity) that included work breakdown structure and resource plans, and time lines for each activity. Although we did not track actual, or full costs, for each project at the CSC as it progressed, we were able to construct actual costs by using the project plans, and accumulating contractor and government staff costs based on the schedule of activities for each project. We used this method to derive costs for past projects when estimating future costs for similar projects. During FY 2001, the Statement of Federal Financial Accounting Standards (SFFAS) #10 required that OFM construct actual costs for "software developed for internal use" into the categories capitalized, or expensed. We used this technique to develop cost reports.

For FY 2002, in part to meet the requirements of the SFFAS #10 reporting and in part at the suggestion of the OIG, the CSC instituted new time and attendance reporting requirements for government staff so that bi-weekly hours and costs are captured by the major system activity or project the staff worked on. Likewise, CSC contracts are structured this fiscal year in such a manner that individual tasks are awarded to the contractors for each unique system activity, or project, so that project plans up front include contractor agreed to levels of effort, and the invoicing that is submitted monthly to the CSC records hours and costs by these activities or projects. This allows the CSC to track on a monthly basis, the actual costs of government and contractor personnel by major activity or project, and to compare the progress and cost to date against the baseline project plan. This still does not constitute full costing of projects as we do not spread, on a monthly basis, the fixed costs of the CSC over the major activities or projects. We do have an algorithm for allocating indirect costs to projects for SFFAS #10 reporting requirements. However, for managing projects at the CSC, team leads and

managers use direct cost analysis.

Page 5, Paragraph 4, sentence 4 - "...The CSC could not provide actual costs of major system activities for FY 1999 and 2000 and provided costs for only 1/3 of its FY 2001 system activities, representing about 22 percent of its estimated system contract costs."

The limitation of the cost estimates for milestones is that milestones were not intended to include all costs of the CSC in any given fiscal year. Costs for FY 2000 for the entire CSC budget can be produced using the systems discussed above.

CAMS Reports Need to Provide Greater Visibility into the Program

Page 6, Paragraph 4 - "...Neither the CAMS Capital Asset Plan submitted to OMB nor the CAMS Quarterly Reports submitted to Congress provide adequate visibility into the program's baseline plans or into the impact of program changes. The Department should improve both reports so that decision-makers have the information they need to evaluate and direct the CAMS program."

The Department has submitted a Capital Asset Plan for CAMS since 1999, and a Quarterly Report to Congress since 2001, that comply with the requirements for these reports. The Capital Asset Plan was initially constructed in 1999 with assistance from Booz Allen Hamilton, and the data in that model has been updated each fiscal year prior to budget submission based on prior year actual costs and most current estimates of future costs. The model was overhauled in early 2001 to be more robust and easier to use. For the FY 2003 budget submission in the summer of 2001, the OFM/CSC completed a much more substantial Exhibit 300 to comply with OMB A-11 changes in requirements for this Exhibit. Exhibit 300 was submitted to and approved by the Department's CIO. The Exhibit also was reviewed and approved by OMB.

The Quarterly Report to Congress includes critical milestones only when we, working with the bureaus, have identified the level of effort required to complete the milestone, and are confident that the completion date can be met. The original baseline plan did not include certain milestones in the out-years for this reason. In cases where a milestone completion dated slipped into a future quarter, it was noted in the report and a brief statement of impact, or no impact was included.

The audience for this report, OMB and the Congress, have been routinely asked for feedback on this report regarding any inadequacies.

A performance-Based Management System Should be Implemented

Page 7, Paragraphs 4,5,6 – "...The CSC does not use a performance-based management system to oversee CAMS."

OFM/CSC does track planned and actual program costs, schedules and system capabilities. We utilize a number of data sources and compile monthly management reports that CSC managers utilize to measure and report on progress. The methods and systems that we use are admittedly not integrated.

In FY2001, CSC staff were trained in earned-value techniques, and since then an Excel spreadsheet model of earned value has been piloted to measure and track the cost and performance of 23 major vendor activities at the CSC. CSC Management reviews the "system's" outputs each month and meets to gain understanding and familiarity with the measures. The insight into the accuracy and usefulness of these metrics will be used to implement an integrated software system that supports full performance-based management techniques.