OFFICE OF INSPECTOR GENERAL

FOLLOW-UP ON THE RISK ASSESSMENT OF THE MILLENNIUM CHALLENGE CORPORATION'S INFORMATION TECHNOLOGY GOVERNANCE FOR ITS INFORMATION TECHNOLOGY INVESTMENTS

AUDIT REPORT NO. A-MCC-15-007-P
JUNE 11, 2015

WASHINGTON, D.C.

June 11, 2015

Mr. Mathew Bohn
Vice President, Department of Administration and Finance
Millennium Challenge Corporation
875 15th Street, NW
Washington, DC 20005

Dear Mr. Bohn,

Enclosed is the final audit report on the *Follow-up on the Risk Assessment of the Millennium Challenge Corporation's Information Technology Governance for Its Information Technology Investments* (Report No. A-MCC-15-007-P). The Office of Inspector General (OIG) contracted with the independent certified public accounting firm of CliftonLarsonAllen LLP (Clifton) to conduct the audit. The objective was to determine whether the Millennium Challenge Corporation (MCC) corrected the weaknesses identified in the *Risk Assessment of the Millennium Challenge Corporation's Information Technology Governance Over Its Information Technology Investments* (OIG Report No. M-000-11-001-O, June 1, 2011). Clifton was required to conduct the audit in accordance with U.S. generally accepted government auditing standards.

Clifton is responsible for the enclosed auditor's report and the conclusions expressed in it. We did not find any instances of Clifton not complying, in all material respects, with applicable standards. Appendix I of Clifton's report describes the scope and methodology used for the audit.

The audit concluded that MCC fully implemented 18 of the 23 recommendations and 13 of the 17 suggestions. For example, MCC made key improvements to its information technology (IT) governance practices by:

- Updating its IT strategic plan to reflect current organizational strategic goals.

- Implementing a formal process for prioritizing IT investments and then prioritizing them in accordance with MCC's direction and goals.

- Implementing an enterprise architecture[1] initiative to support MCC's strategic goals.

- Developing guidance to help make sure all components of an IT acquisition are considered.

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[1] An enterprise architecture is a description of an organization's entire set of information systems, including how they are configured and integrated, and how they are operated to support the organization's mission.

- Implementing a formal process for managing risk when discussing strategic direction and approval of IT investments.

- Developing and implementing a process to incorporate project governance and risk management into oversight of IT investment projects.

Although MCC substantially improved governance practices over its IT investments, the audit identified areas in the IT governance program that can be improved, and they are listed below.

- Update its budget policies and procedures to reflect current budgeting processes.

- Fully implement "earned value management"[2] in accordance with its *Contracts Operating Manual.*

- Consistently develop, store, and organize project management documents, including project charters.

- Update its system development life cycle (SDLC) plan to address the current methodology.

- Consistently develop and maintain deliverables required in the SDLC plan.

- Document and approve justification for not developing certain deliverables.

- Implement a process to make sure MCC follows the SDLC requirements.

- Implement a process for monitoring compliance with acquisition requirements, including acquisition plans.

Clifton makes seven recommendations to help MCC strengthen its IT governance practices over its IT investments.

In carrying out our oversight responsibilities, OIG reviewed Clifton's report and related audit documentation. Our review was different from an audit in accordance with U.S. generally accepted government auditing standards and was not intended to enable us to express, and we do not express, an opinion on MCC's IT governance for its IT investments.

To address the weaknesses identified in Clifton's report, OIG makes the following recommendations to MCC's management.

> ***Recommendation 1.*** *We recommend that the Millennium Challenge Corporation's Deputy Chief Financial Officer revise the written budget policy and procedures to account for the change from line item budgeting to project budgeting.*

> ***Recommendation 2.*** *We recommend that the Millennium Challenge Corporation's Chief Information Officer work with the Acquisitions/Contracting Office to develop and implement a written process to monitor projects requiring earned value management in accordance with Millennium Challenge Corporation policies and procedures, including identifying those projects and determining their earned value.*

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[2] Earned value management is used to identify and mitigate project risks.

Recommendation 3. We recommend that the Millennium Challenge Corporation's Chief Information Officer develop and implement a written process to document project charters consistently.

Recommendation 4. We recommend that the Millennium Challenge Corporation's Chief Information Officer develop and implement a written process to consistently develop, store, and organize project management artifacts on the corporation's Project Management Central Web site.

Recommendation 5. We recommend that the Millennium Challenge Corporation's Chief Information Officer finalize and implement the written systems development life cycle plan to address the corporation's agile methodology,[3] including the justification for any deliverables or requirements that are not deemed applicable or critical to the project.

Recommendation 6. We recommend that the Millennium Challenge Corporation's Chief Information Officer develop and implement a written process to monitor whether the corporation's systems development life cycle methodology is followed.

Recommendation 7. We recommend that the Millennium Challenge Corporation's Managing Director, Contracts and Grants Management Division, design and implement a written process to monitor compliance with the requirement for program offices to complete, submit, and obtain approval for acquisition plans.

In finalizing the report, Clifton evaluated MCC's responses to Recommendations 1 through 7 in the draft report and acknowledged their management decisions. Therefore, OIG also acknowledges MCC's management decisions on those recommendations.

OIG appreciates the cooperation and courtesies extended to our staff and Clifton's employees during the engagement.

Sincerely,

/s/

Alvin A. Brown
Deputy Assistant Inspector General
 for Audit
Office of Inspector General

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[3] Agile methodology provides an alternative to traditional project management. It is typically used in software development and allows organizations to respond to unpredictability.

**Millennium Challenge Corporation:
Follow-up on the 2011 Risk Assessment
of Information Technology Investment Governance**

Final Report

May 2015

1

Millennium Challenge Corporation: Update of the 2011 Risk Assessment of Information Technology Investment Governance

Table of Contents

Millennium Challenge Corporation: Update of the 2011 Risk Assessment of Information Technology Investment Governance

SUMMARY OF RESULTS

Background

In 2011, Clifton Gunderson LLP[1] was engaged by the USAID Office of Inspector General (OIG) to conduct a risk assessment of MCC's information technology (IT) governance over its IT investments. IT governance provides the structure that links IT processes, resources and information to enterprise strategies and objectives. The objectives of IT governance are to (1) align IT with the business, enable the business, and maximize resources; (2) use IT resources responsibly; and (3) appropriately manage IT risks.

The guidance used for that risk assessment was the Information Technology Governance Institute's Control Objectives for Information and related Technology (COBIT) framework version 4.1. COBIT provides managers, auditors and IT users with a set of generally accepted measures, indicators, processes and best practices to assist them in maximizing the benefits derived through the use of IT and developing appropriate IT governance and control in an organization. It provides good practices for the management of IT processes in a manageable and logical structure, meeting the multiple needs of enterprise management by bridging the gaps between business risks, technical issues, control needs and performance measurement requirements. In the absence of specific federal guidance solely focused on governance over IT investments, Information Technology Governance Institute's COBIT provided best practices in helping assess MCC's governance controls. However, since MCC must comply with federal laws and regulations we also included applicable guidance from the National Institute of Standards and Technology (NIST).

The objective of the assessment was to determine what MCC's risks were for selecting, managing, and controlling its information technology investments. The risk assessment identified weaknesses in controls that could impact MCC's ability to align IT risk with the enterprise risk management framework, correlate IT objectives with business objectives, set the tone from the top, make risk based business decisions, and manage IT investments in a manner that is perceived as a value in supporting business initiatives.

The assessment identified key risk areas, including:

- MCC had not developed and implemented a process for updating its IT Strategic Plan to reflect current enterprise strategic goals;

- MCC had not developed and implemented a process for ensuring risk assessments were performed for all IT projects or that continuous monitoring of project risk was occurring;

- MCC had not completed the enterprise architecture planning and implementation project in order to reflect current business requirements;

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[1] Clifton Gunderson and Larson Allen merged to establish CliftonLarsonAllen LLP in 2012.

- MCC had not consistently prioritized IT-enabled investment programs to ensure all IT projects were provided a priority level commensurate with the direction and goals of the Agency as a whole; and

- MCC had not consistently implemented a project governance structure containing the necessary elements to ensure a disciplined project management process.

The report made 23 recommendations to help MCC achieve an appropriate level of information technology governance and control. In addition, the report made 17 suggestions to help MCC implement best practices which were of lesser priority. Although the Office of Inspector General did not formally track the suggestions, MCC was encouraged to consider prioritizing and implementing them, as appropriate.[2]

Results

In 2014, the MCC OIG engaged CliftonLarsonAllen LLP (CLA) to perform a follow up on the 2011 risk assessment. The objective of this task was to answer the following question:

> *Did MCC correct the weaknesses identified in the Risk Assessment of the Millennium Challenge Corporation's Information Technology Governance Over Its Information Technology Investments (OIG Report No. M-000-11-001-O, June 1, 2011)?*

Our audit was performed in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

For this audit, we reviewed the following information technology projects: (1) MCC MIS; (2) Mobility; and (3) MCC Office 365. The audit fieldwork was performed at MCC's headquarters in Washington, D.C., from September 12, 2014 to March 9, 2015. The audit concluded that MCC fully implemented 18 of the 23 recommendations and 13 of the 17 suggestions. For example, some of the key improvements we noted with regard to IT governance practices are:

- The IT strategic plan was updated to reflect current enterprise strategic goals.

- A formal process for prioritizing IT investments has been implemented and IT projects are provided a priority level commensurate with direction and goals of the Corporation.

- An enterprise architecture initiative was implemented to support MCC strategic goals.

- Guidance was developed to assist in ensuring all components of an IT acquisition are considered.

- A formal process for managing risk when discussing strategic direction and approval of information technology investments has been implemented.

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[2] *Risk Assessment of the Millennium Challenge Corporation's Information Technology Governance Over Its Information Technology Investments* (Report No. M-000-11-001-O).

- A process to incorporate project governance and risk management into oversight of IT investment projects has been developed and implemented.

Although MCC made substantial improvements in governance practices over its IT investments, the audit identified areas in MCC's IT governance program that can be improved. Specifically, we noted the following:

- The budget policies and procedures need to be updated to reflect current budgeting processes (former Recommendation 8).

- Earned value management (EVM) needs to be fully implemented in accordance with the Contracts Operating Manual (COM) (former Recommendation 9).

- Project management artifacts, including project charters, need to be consistently developed, stored and organized (former Recommendations 12 and 13 and Suggestions 14 and 17).

- The system development life cycle (SDLC) plan needs to be updated to address the current methodology. In addition, deliverables required in the SDLC plan need to be consistently developed and maintained; and justification for not developing certain deliverables needs to be documented and approved by management. Furthermore, a process to monitor that the SDLC requirements are followed needs to be implemented (former Recommendation 14).

- MCC needs to implement a process for monitoring compliance with acquisition requirements including Acquisition Plans (former Suggestions 8 and 16).

We made the following seven recommendations to address the above areas and assist MCC in strengthening its IT governance practices over its IT investments.

(1) We recommend that the Millennium Challenge Corporation Deputy Chief Financial Officer revise the written budget policy and procedures to account for the change from line item budgeting to project budgeting.

(2) We recommend that the Millennium Challenge Corporation Chief Information Officer work with the Acquisitions/Contracting Office to develop and implement a written process to monitor projects requiring earn value management in accordance with Millennium Challenge Corporation policies and procedures, including identifying those projects and determining their earned value management.

(3) We recommend that the Millennium Challenge Corporation Chief Information Officer develop and implement a written process to ensure consistent documentation of project charters.

(4) We recommend that the Millennium Challenge Corporation Chief Information Officer develop and implement a written process to consistently develop, store and organize project management artifacts on the Project Management Central website.

(5) We recommend that the Millennium Challenge Corporation Chief Information Officer

finalize and implement the written systems development life cycle plan to address the Corporation's agile methodology, including the justification for any deliverables or requirements that are not deemed applicable or critical to the project.

(6) We recommend that the Millennium Challenge Corporation Chief Information Officer develop and implement a written process to monitor that the Corporation's systems development life cycle methodology is followed.

(7) We recommend that the Millennium Challenge Corporation Managing Director of the Contracts and Grants Management Division design and implement a written process to monitor compliance with the requirement for program offices to complete, submit and obtain approval for acquisition plans.[3]

Each problem area is discussed in the following section. Detailed assessment results appear in Appendix III. Appendix I describes the audit scope and methodology. Appendix IV includes a summary status of the previous recommendations and suggestions.

Based on our evaluation of management comments, we acknowledge management decisions on all seven recommendations. MCC's comments are included in their entirety in Appendix II.

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[3] Although recommendation #6 is associated with a former suggestion, we consider monitoring for compliance with Agency and Federal requirements to be a significant process that should be implemented.

PROBLEM AREAS

1. MCC Needs To Ensure Compliance With the Corporation's IT Investment Management Policies

Office of Management and Budget OMB Circular A-123, *Management's Responsibility for Internal Control* states policies and procedures are tools to help program and financial managers achieve results and safeguard the integrity of their programs. While the procedures may vary from agency to agency, management should have a clear, organized strategy with well-defined documentation processes.

During the 2011 review, we noted MCC established a detailed manual for IT budget formulation policy and procedures and a budget for IT projects had been established. At the time of the review, the MCC budgeting process was modified from line item budgeting to a project based approach; however, the budget policy and procedures manual did not reflect the change. Based on our follow-up review, we discovered MCC management had not updated the budget policies and procedures to account for the change from line item budgeting to project budgeting.

Also, during our previous review, we noted there was no clear line of site between budgeting for IT projects and monitoring of project plans in order to determine earned value and provide early warning of performance issues impacting project budgets. Therefore, we recommended that MCC (1) revise the budget policy and procedures to account for the change from line item budgeting to project budgeting (2) and develop a process and implement a tool for monitoring project plans and work completed to determine earned value, providing an early warning of performance issues impacting project budgets.[4]

During our follow-up review, we determined Section 39.14, "Earned Value Management" of the COM requires an Earned Value Management System (EVMS) for non fixed-price type contracts, orders, or blank purchase agreement calls containing software development requirements, either as part of the overall requirements or the entire requirement, where the software development component of the requirement is valued at $1,000,000 or more through the life of a contract. The COM states implementation of EVMS systems should consist of the following elements at a minimum:

    a. Compliance with the American National Standards Institute/Electronics Industries Alliance (ANSI/EIA) Standard-748, EVMS
    b. Integrated Baseline Reviews (IBRs) in accordance with Federal Acquisition Regulation (FAR) 34.202(c)
    c. Monthly EVM reports.

MCC used a program management website to monitor IT projects and IT system tasks via performance dashboards. On at least a quarterly basis, the information was summarized and presented to management via the Information Technology Investment Review Board (ITIRB) meeting.

MCC management stated earned value management for IT projects is conducted through the

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[4] Former Recommendations 8 and 9.

ITIRB process. Within the ITIRB presentations, project costs (budget, actual spent, and remaining funds), activities performed, functionality provided and project schedules are documented. Although the MCC MIS project[5] met the value threshold for requiring an EVMS, MCC only partially implemented EVMS via IT project performance dashboards and quarterly presentations to the ITIRB. MCC did not fully implement the earned value management process as described in the COM including IBRs, monthly EVM reports and ANSI/EIA Standard 748 requirements. MCC management was not aware of the detailed requirements in the COM pertaining to EVMS. Lack of effective cost management of IT investment projects increases the risk that return on investment may not be optimized, resulting in a negative impact on MCC's budget management process. Additionally, if a process is not in place to monitor the benefits of IT acquisition projects, opportunities for improvement in investment decisions and IT budgets may not be apparent. Therefore, we make the following recommendations.

> **Recommendation 1:** *We recommend that the Millennium Challenge Corporation Deputy Chief Financial Officer revise the written budget policy and procedures to account for the change from line item budgeting to project budgeting.*

> **Recommendation 2:** *We recommend that the Millennium Challenge Corporation Chief Information Officer work with the Acquisitions/Contracting Office to develop and implement a written process to monitor projects requiring earn value management in accordance with Millennium Challenge Corporation policies and procedures, including identifying those projects and determining their earned value.*

2. MCC Needs To Consistently Monitor Project Risk

NIST SP 800-39, *Managing Information Security Risk, Organization, Mission, and Information System View*, states incorporating risk management into the system development life cycle ensures that the risk management process is not isolated from the other management processes employed by the organization to develop, acquire, implement, operate, and maintain the information systems supporting organizational missions and business functions. To support system development life cycle integration, risk management (including information security considerations) is also incorporated into program, planning, and budgeting activities to help ensure that appropriate resources are available when needed, thus facilitating the completion of program and project milestones established by organizations.

During the 2011 review, we noted that MCC used a portfolio tracker to monitor the status of major IT projects. However, MCC did not have a project governance structure in place with established elements such as a project office, project manager, project sponsors, or steering committee for each project to ensure a disciplined project management process. Additionally, all IT projects did not have the benefit of an assigned sponsor with sufficient authority to own the execution of the project within the overall strategic program. Responsibilities, relationships, authorities, and performance criteria of project team members were not defined and the basis for acquiring and assigning competent staff members and/or contractors to projects was not specified.

In addition, the initiation of each major project phase was not approved. There was no review or acceptance of deliverables of the previous phase, nor an approval of an updated business case

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[5] The purpose of the MCC MIS project was to establish a single authoritative repository for the integration of MCC's financial, procurement and performance data to enable accurate internal and external reporting.

at the next major review of the project. This was the result of the lack of consistent project communication with all stakeholders. Although MCC tracked the status of specific milestones on the portfolio tracker, project stakeholders were not required to ascertain whether the project delivered the planned results and benefits. The lack of a formal project management structure, including planning, identifying, analyzing, responding to, monitoring and controlling risk, lead to inconsistent application of management practices for IT projects. Therefore, we recommended that MCC implement a process to incorporate key elements into its projects including a project governance structure, project sponsors and project risk management [6]

During our follow-up review, we determined that MCC developed a process to incorporate project governance, project sponsors and project risk management into managing IT projects. Project charters are now required for all IT projects that document the following:

- Project Sponsor;
- Project Manager;
- Business Need;
- Project Objectives;
- Alignment;
- Vision;
- Scope and Boundaries;
- Costs;
- Schedules:
- Risks;
- Deliverables, Responsibilities, and Actions;
- Charter Approval; and
- Charter Effective date.

In addition, the COM addressed risk management requirements for IT acquisitions including contractor risk management plans and regular risk management status reports. Project risk management and change management are handled through usage of MCC's PM Central website. However, PM Central was not consistently organized, increasing the risk that artifacts/deliverables will be misplaced and/or lost. For example, multiple artifacts for the Office 365 project, such as the security assessment and risk management plan, and the MCC MIS (formerly MIDAS 2.0) risk management plan were not present. We also discovered that project charters were not consistently documented as the project charter for the Office 365 project was not provided.[7] Project managers did not follow a consistent process when managing IT investment projects for ensuring project deliverables were documented and maintained.

Inconsistent project management of IT investments may increase the risk that projects are over budget, not completed on time and do not meet business requirements and quality standards. Therefore, we make the following recommendations.

> **Recommendation 3:** *We recommend that the Millennium Challenge Corporation Chief Information Officer develop and implement a written process to ensure consistent documentation of project charters.*

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[6] Former Recommendation 12

[7] The purpose of the Microsoft Office 365 project was to move MCC from an in-house email system to a cloud-based email solution.

Recommendation 4: We recommend that the Millennium Challenge Corporation Chief Information Officer develop and implement a written process to consistently develop, store and organize project management artifacts on the Project Management Central website.

3. MCC Needs To Finalize Its System Development Life Cycle Plan

National Institute of Standards and Technology, Special Publication 800-64, Revision 2, *Security Considerations in the System Development Life Cycle* states that each agency should have a documented and repeatable SDLC policy and guideline that supports its business needs and complements its unique culture.

During our previous review, we noted that the integration of software into the current infrastructure was not consistently planned and executed. Therefore, we recommended that MCC finalize and implement the System Development Life Cycle.[8]

Since our previous review, the SDLC plan was updated to address integration of software into the existing infrastructure. The detailed software design is required to be reviewed to ensure external consistency with the architectural design, and a top-level design for the interfaces external to the software are required to be developed and documented. The software configuration items are required to be integrated with the hardware configuration items, manual operations, and other systems as necessary and the integration and test results are to be documented. Furthermore, system qualification testing is required to ensure the system is ready for delivery. Testing and end user training was performed for the three IT projects we tested.

However, MCC did not consistently create and/or maintain each deliverable required under the current SDLC process. Moreover, MCC did not document the rationale for not developing or maintaining SDLC artifacts. Therefore the integration of software into the existing infrastructure was not consistently planned and executed. MCC indicated that the SDLC is in the process of being updated as management has shifted to an agile SDLC methodology. The agile methodology allows project deliverables to be customized based on the type of project.

Without following a standard SDLC, MCC systems may not be developed in accordance with business and quality requirements in a timely and cost effective manner. Therefore, we make the following recommendations.

Recommendation 5: We recommend that the Millennium Challenge Corporation Chief Information Officer finalize and implement the written systems development life cycle plan to address the Corporation's agile methodology, including the justification for any deliverables or requirements that are not deemed applicable or critical to the project.

Recommendation 6: We recommend that the Millennium Challenge Corporation Chief Information Officer develop and implement a written process to monitor that the Corporation's systems development life cycle methodology is followed.

4. MCC Needs To Ensure Acquisition Plans Are Consistently Documented and Reviewed

The *Federal Acquisition Regulation*, March 2005, states appropriate techniques should be applied to manage and mitigate risk during the acquisition of information technology.

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[8] Former Recommendation 14

Techniques include, but are not limited to: prudent project management; use of modular contracting; thorough acquisition planning tied to budget planning by the program, finance and contracting offices; continuous collection and evaluation of risk-based assessment data; prototyping prior to implementation; post implementation reviews to determine actual project cost, benefits and returns; and focusing on risks and returns using quantifiable measures. "Acquisition planning" means the process by which the efforts of all personnel responsible for an acquisition are coordinated and integrated through a comprehensive plan for fulfilling the agency need in a timely manner and at a reasonable cost. It includes developing the overall strategy for managing the acquisition.

During the 2011 review, we noted that MCC relied largely on contractors for systems development projects. Although the FAR and COM were utilized to guide IT acquisition, MCC did not have a formalized process in place to determine whether all components of IT acquisition were considered. Further, MCC did not have a process in place to ensure compliance with policies and procedures for IT acquisition prior to reviews conducted by appropriate parties, such as the Legal Department. Therefore, we recommended that MCC develop and implement information technology acquisition instructions that provide a methodology to evaluate the components of IT acquisition contracts. In addition, we suggested that MCC develop and implement a process for ensuring compliance with policies and procedures for IT acquisitions.[9]

During our follow-up review, we found that MCC developed the *MCC Acquisition Plan Preparation Guide* in July 2013 to formally document the process to evaluate components of IT acquisitions. That guide requires program offices to complete formal acquisition plans in accordance with the written format prescribed in the Federal Acquisition Regulation 7.105. The Managing Director of the Contracts and Grants Management Division, or designee, is required to review and approve the acquisition plans. This review process allows for the anticipation of problems in advance, and to devise plans to circumvent and mitigate their impact. However, acquisition plans were not consistently completed and submitted for review and approval. For example, evidence was not provided to validate that the acquisition plan for the infrastructure support contract was completed and submitted for approval. MCC management did not have a process in place to monitor compliance with the requirement to complete acquisition plans. The lack of consistently documenting and reviewing acquisition plans increases the risk that projects are initiated without stakeholder commitment or involvement of senior management. Additionally, the risk is increased that problems will not be anticipated in advance and strategies will not be formulated to lessen their impact. Therefore, we make the following recommendation.

> **Recommendation 7:** *We recommend that the Millennium Challenge Corporation Managing Director of the Contracts and Grants Management Division design and implement a written process to monitor compliance with the requirement for program offices to complete, submit and obtain approval for acquisition plans.*

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[9] Former Recommendation 17 and Suggestion 8

EVALUATION OF MANAGEMENT COMMENTS

In response to the draft report, the Millennium Challenge Corporation (MCC) outlined its plans to address all seven recommendations and described planned actions to address the recommendations. MCC's comments are included in their entirety in Appendix II.

Based on our evaluation of management comments and documentation provided, we acknowledge management decisions on all recommendations.

APPENDIX I - SCOPE AND METHODOLOGY

Scope

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

The audit was designed to determine whether MCC corrected the weaknesses identified in the *Risk Assessment of the Millennium Challenge Corporation's Information Technology Governance Over Its Information Technology Investments (OIG Report No. M-000-11-001-O, June 1, 2011).*

The audit included follow up to determine what actions MCC took and whether the actions taken corrected the weaknesses identified for the 23 recommendations and 17 suggestions in the 2011 report.[10] For this audit, we reviewed the following information technology projects: (1) MCC MIS; (2) Mobility; and (3) MCC Office 365. The audit fieldwork was performed at the MCC's headquarters in Washington, D.C., from September 12, 2014 to March 9, 2015.

Methodology

The guidance used for this risk assessment was the Information Technology Governance Institute's COBIT framework version 4.1. In the absence of specific federal guidance solely focused on governance over IT investments, we believe Information Technology Governance Institute's COBIT provides best practices in helping organizations assess their governance controls. However, since MCC must comply with federal laws and regulations we also included applicable NIST guidance.

To determine if each of the recommendations and suggestions were implemented, we conducted interviews with MCC personnel responsible for the remediation of each of the 23 recommendations and 17 suggestions to gain an understanding of the actions taken to correct the weaknesses identified. We also reviewed evidence supporting the remediation of the observed weaknesses. These documents included, but were not limited to, MCC's:

- Information Technology Strategic Plan;
- COM;
- Information Technology Investment Management and Governance Policy;
- Enterprise Architecture Governance Strategy;
- ITIRB Charter, presentations and meeting minutes;
- IT Risk Management process;
- Project Charters;
- SDLC Plan;

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[10] *Risk Assessment of the Millennium Challenge Corporation's Information Technology Governance Over Its Information Technology Investments* (Report No. M-000-11-001-O).

- Service Level Agreements (SLAs); and
- Project Management Dashboards.

In testing for the adequacy and effectiveness of governance practices over MCC's IT investments, we concluded on the overall risk exposure related to each prior recommendation and suggestion.

We did not retest all of the best practices within each COBIT IT governance area previously assessed to make sure none of the controls that were in place had degraded since the 2011 risk assessment; therefore, we did not rate MCC on maturity levels of each of the IT governance programs using COBIT's maturity model. However, we measured how well developed management processes were in relation to accepted industry standards based on the descriptions provided for each COBIT control objective related to the recommendations and suggestions tested.

APPENDIX II - MANAGEMENT COMMENTS

MEMORANDUM

Date: **June 11, 2015**

To: Alvin Brown
          Deputy Assistant Inspector General
          Office of the Inspector General
          Millennium Challenge Corporation

          Lisa Banks
          Auditor
          Office of the Inspector General
          Millennium Challenge Corporation

From: Christina Handley
          Chief Information Officer
          Office of the Chief Information Office
          Millennium Challenge Corporation

          James R. Blades
          Managing Director, Contract and Grants Management Division
          Millennium Challenge Corporation

          Mahmoud Bah
          Deputy Chief Financial Officer
          Millennium Challenge Corporation

Subject: MCC Response to The Draft Audit Report on The *Follow-up on the Risk
          Assessment of the Millennium Challenge Corporation's Information Technology
          Governance for its Information Technology Investments* (Report No. A-MCC-15-
          00X-P).

MCC is in receipt of the United States Agency for International Development (USAID) Office of
the Inspector General's (OIG) draft report titled the *Follow-up on the Risk Assessment of the*

*Millennium Challenge Corporation's Information Technology Governance for its Information
Technology Investments,* and have included in this transmittal its revisions/comments.

Recommendation 1: We recommend that the Millennium Challenge Corporation's Deputy Chief
Financial Officer revise the written budget policy and procedures to account for the change from
line item budgeting to project budgeting.

      MCC Management Response: The MCC Deputy Chief Financial Officer has developed
revised language for the Budget Execution and Funds Control Procedure Manual to account for
the change from line item budgeting to project budgeting. The change will be adopted and
effective February 2016.

Recommendation 2: We recommend that the Millennium Challenge Corporation's Chief
Information Officer work with the Acquisitions/Contracting Office to develop and implement a
written process to monitor projects requiring earned value management in accordance with
Millennium Challenge Corporation policies and procedures, including identifying those projects
and determining their earned value.

      MCC Management Response: The MCC Chief Information Officer (CIO) believes that
there is no need to develop a separate written process to clarify, enforce, and monitor earned
value management (EVM) requirements. MCC CIO will coordinate with CGM who will revise
current CGM Acquisition Planning procedures 7-1 to include thresholds and conditions for
applicability to EVM by September 30, 2015.

Recommendation 3: We recommend that the Millennium Challenge Corporation's Chief
Information Officer develop and implement a written process to document project charters
consistently.

      MCC Management Response: The MCC Chief Information Officer has provided the
MCC Systems Development Life Cycle Implementation Guide, dated Oct 25, 2011 that
describes the written process to document project charters consistently, see pages 10 and 11 for
the relevant sections. MCC CIO will ensure consistent implementation of the process through
staff development by November 30, 2015.

Recommendation 4: We recommend that the Millennium Challenge Corporation's Chief
Information Officer develop and implement a written process to consistently develop, store, and
organize project management artifacts on the corporation's Project Management Central Web
site.

      MCC Management Response: The MCC Chief Information Officer will develop and
implement a written process to develop, store, and organize project management artifacts by
November 30, 2015.

Recommendation 5: We recommend that the Millennium Challenge Corporations Chief
Information Officer finalize and implement the written systems development life cycle plan to

address the corporation's agile methodology, including the justification for any deliverables or requirements that are not deemed applicable or critical to the project.

MCC Management Response: The MCC Chief Information Officer has in place a systems development life cycle plan to address the Corporation's agile methodology, see page 21 of the MCC Systems Development Life Cycle Implementation Guide. MCC will update the guide to include justification for any deliverable or requirement that is deemed not applicable or critical to the project by February 25, 2016.

Recommendation 6: We recommend that the Millennium Challenge Corporation's Chief Information Officer develop and implement a written process to monitor whether the corporation's systems development life cycle methodology is followed.

MCC Management Response: The MCC Chief Information Officer will develop and implement a written process that ensures compliance to MCC's systems development lifecycle by February 25, 2016.

Recommendation 7: We recommend that the Millennium Challenge Corporation's Managing Director, Contracts and Grants Management Division, design and implement a written process to monitor compliance with the requirement for program offices to complete, submit, and obtain approval for acquisition plans.

MCC Management Response: The MCC Managing Director, Contract and Grants Management Division will enforce existing policy and procedures by clarifying the compliance requirements for acquisition plans. MCC currently has multiple levels in place to review and monitor acquisition plan compliance, i.e., 1.) The CGM Contracting Officer, 2.) The Office of General Counsel, 3.) The Managing Director of CGM, and 4.) For A&F requirements, the VP of A&F. Clarification and reiteration of current policies and procedures will enforce the Audit Recommendation. MCC CGM will ensure communication of current policies and procedures NLT 30 September 2015.

If you have any questions and or require any additional information, please contact Mahmoud Bah, Deputy Chief Financial Officer or Karla L. Chryar, Internal Controls and Audit Compliance (ICAC), at 202-772-6805 or chryarkl@mcc.gov.

APPENDIX III – DETAILED RESULTS BY IT GOVERNANCE DOMAIN

The results are grouped by the COBIT domains. Within each section, background information from the previous review is provided along with a discussion of improvements MCC made and additional opportunities for improvement.

Plan and Organize (PO)

This domain addresses the strategy for IT to best support the accomplishment of the business goals.

Strategic Planning	
2011 Review Results	**2015 Review Results**
An IT Strategic Plan had been developed which focused on realigning performance goals and resources to support a business centric, portfolio management approach. However, the plan was not properly aligned with core business requirements since those requirements changed over the life of the document. Additionally, the strategic planning process did not include the development of long range plans as the basis for building the IT Strategic Plan. Furthermore, the IT Strategic Plan did not incorporate tactical planning into the strategic planning process by breaking the strategic plan down into short term actions and plans.	The Information Technology Strategic Plan covered a three year period and aligned with current enterprise strategic goals communicated in the MCC Strategic Plan, the Corporate Sustainability Plan and Corporate Goals. Tactical plans for achieving enterprise strategic goals were documented and monitored via individual performance plans.
MCC had not developed and implemented a formal process for managing risk and updating the strategic plan accordingly. A Senior Investment and Risk Officer had been hired to focus on risks associated with the program functions. While this person was not a member of the Enterprise Architecture Steering Committee (EASC), increased focus on risk management by the EASC had begun through the leveraging of the risk methodology established by the Risk Office.	Managing risk for IT investments is now addressed in the COM and overseen through the ITIRB which replaced the EASC in January 2014. During the initial stages of requirements definition and acquisition planning, risks, benefits and costs are required to be identified. Furthermore, risk management is required in the source selection process and post-award contract administration with the implementation of a risk management plan and risk monitoring. The ITIRB Charter requires that IT investments follow a structured Capital Planning and Investment Control (CPIC) process for making IT investment decisions, managing IT investments, and evaluating the performance and risks of IT

Strategic Planning	
2011 Review Results	**2015 Review Results**
	projects. The ITIRB is responsible for reviewing the risks and progress of acquisitions, existing systems and ongoing IT projects. In addition, the Senior Investment Risk Officer is now a voting member of the ITIRB. Moreover, the IT Strategic Plan addresses strong governance by providing decision support to the ITIRB regarding CPIC, strengthening IT program management, reducing risk and adhering to federal statutes and policies.

Defining the Information Architecture	
2011 Review Results	**2015 Review Results**
MCC was constructing the basic framework of an enterprise architecture lifecycle. The enterprise information architecture project would assist MCC in aligning resources to increase business performance and facilitate MCC carrying out its mission.	MCC implemented an enterprise architecture initiative. Outcomes of the initiative include a target vision and a documented transition plan to support subsequent MCC business and IT strategic and budgeting activities. Additionally, MCC mapped their key services to as-is and to-be systems and the benefits of the to-be alternatives have been documented. This will guide MCC in selecting and prioritizing future IT investment projects.
A methodology for leveraging information through data warehouse and data mining technologies had been determined but not implemented.	MCC implemented MCC Management Information System (MIS) as a single authoritative repository for the integration of MCC's financial, procurement and performance data that integrates data across all business functions to enable accurate internal and external reporting. As part of this project, MCC catalogued data sources by description, source and owner.

IT Processes, Organization and Relationships	
2011 Review Results	**2015 Review Results**
Although the EASC provided oversight for major information technology investments, a formal process was not in place for the	MCC implemented a process for prioritizing IT investment programs in 2013. In August 2014, MCC documented the

IT Processes, Organization and Relationships	
2011 Review Results	**2015 Review Results**
EASC to prioritize IT-enabled investment programs.	*Information Technology Investment Management and Governance Policy*, which states the ITIRB is responsible for prioritizing and funding IT investments based on their benefit to the enterprise, and making strategic and funding recommendations regarding MCC's IT investment portfolio to the Chief Executive Officer. The Chief Information Officer (CIO) is responsible for prioritizing MCC IT investments against MCC's mission and goals in accordance with IT investment prioritization criteria, and Business Executive Sponsors are responsible for prioritizing IT investments in their business area according to the criticality of the business needs relative to other component needs. Candidate IT projects are presented to the ITIRB based on the criteria described in the *Information Technology Investment Management and Governance Policy*.
The MCC IT function did not have sufficient resources to adequately support the business goals and objectives. The CIO conducted a benchmarking study to determine the appropriate levels of funding within the IT budget related to the appropriate level of IT staff needed. The benchmarking study indicated that MCC was on the low end of IT spending.	In October 2013, the CIO documented a restructuring and workforce plan. The purpose of the plan was to map the IT workforce to the functional architecture for information and information technology management, examine the demand for IT services driven by funding approved investments and identify skills gaps in order to request any required positions. The CIO presented the plan to the Vice President of Administration and Finance and the Chief of Staff and made a hiring request for additional positions based on workload demands, alignment of resources, workforce gaps and succession plans.
Skill inventories of both IT and business resources available to support staffing for IT projects were not documented. Skill inventories would allow project managers to staff projects with the most appropriate subject matter experts throughout the organization.	Skill inventories for IT subject matter experts are now documented as well as skills and responsibilities of the business resources providing subject management expertise to the Integrated Project Teams responsible for the IT investment projects plans.

Managing the IT Investment	
2011 Review Results	**2015 Review Results**
MCC established a detailed manual for IT budget formulation policy and procedures and a budget for IT projects had been established. At the time of the review, the MCC budgeting process was modified from line item budgeting to a project based approach; however, the budget policy and procedures manual did not reflect the change.	MCC management had not updated the budget policies and procedures to account for the change from line item budgeting to project budgeting. See recommendation in Finding 1.
There was no clear line of site between budgeting for IT projects and monitoring of project plans in order to determine earned value and provide early warning of performance issues impacting project budgets.	Section 39.14, "Earned Value Management" of the COM requires an Earned Value Management System (EVMS) for non fixed-price type contracts, orders, or blank purchase agreement calls containing software development requirements, either as part of the overall requirements or the entire requirement, where the software development component of the requirement is valued at $1,000,000 or more through the life of a contract. The COM states implementation of EVMS systems should consist of the following elements at a minimum: a. Compliance with the American National Standards Institute/Electronics Industries Alliance Standard-748, EVMS b. Integrated Baseline Reviews in accordance with Federal Acquisition Regulation 34.202(c) c. Monthly EVM reports. A Program Management website was used to monitor IT projects and IT system tasks via performance dashboards. Examples of project items tracked included: • Project Objective; • Project Team; • Tasks due current week; • Upcoming events; and • High level indicators (Green/ red marks) for the following: o Issue Status;

Managing the IT Investment	
2011 Review Results	**2015 Review Results**

	o Risk Status;
	  o Schedule Status;
	  o Budget work status; and
	  o Budget Cost Status.
	
	On at least a quarterly basis, the information was summarized and presented to management via the ITIRB meeting.
	
	MCC management stated earned value management for IT projects is conducted through the ITIRB process. Within the ITIRB presentations, project costs (budget, actual spent, and remaining funds), activities performed, functionality provided and project schedules are documented. Although the MCC MIS project met the value threshold for requiring an EVMS, MCC only partially implemented EVMS via IT project performance dashboards and quarterly presentations to the ITIRB. MCC did not fully implement the earned value management process as described in the COM including IBRs, monthly EVM reports and ANSI/EIA Standard 748 requirements. MCC management was not aware of the detailed requirements in the COM pertaining to EVMS. Lack of effective cost management of IT investment projects increases the risk that return on investment may not be optimized, resulting in a negative impact on MCC's budget management process. Additionally, if a process is not in place to monitor the benefits of IT acquisition projects, opportunities for improvement in investment decisions and IT budgets may not be apparent. See recommendation in Finding 1.

Managing Quality	
2011 Review Results	**2015 Review Results**
The quality of IT services provided at MCC was tracked through an informal quality management process. MCC utilized quality satisfaction surveys which resulted in improvement if issues arose. A Quality Management System that identified quality requirements and criteria, and monitored performance against these requirements and criteria for continuous improvement of IT services was not in place.	Procedures, processes and requirements for quality of IT services are built into the MCC SDLC plan and SLAs with MCC contractors. Specific quality characteristic specifications are required for each software development phase. System qualification testing was conducted to ensure the implementation of each system requirement is tested for compliance and the system was ready for delivery. Additionally, quality control activities were built into the operations and maintenance phase in order to ensure user's needs were met and the system continued to perform as specified in the operational environment.
MCC had not documented standards, procedures and practices for key IT processes.	Quality measurements were documented in the SLAs with the contractors responsible for the operations and maintenance of MCC systems and the quality requirements were monitored via monthly SLA reports.

Managing Projects	
2011 Review Results	**2015 Review Results**
MCC used a portfolio tracker to monitor the status of major IT projects.. However, MCC did not have a project governance structure in place with established elements such as a project office, project manager, project sponsors, or steering committee for each project to ensure a disciplined project management process. Additionally, all IT projects did not have the benefit of an assigned sponsor with sufficient authority to own the execution of the project within the overall strategic program. Responsibilities, relationships, authorities, and performance criteria of project team members were not defined and the basis for acquiring and assigning competent staff members and/or contractors to projects was not specified. In addition, the initiation of each major project phase was not	MCC developed a process to incorporate project governance, project sponsors and project risk management into managing IT projects. Project charters are now required for all IT projects that document the following: • Project Sponsor; • Project Manager; • Business Need; • Project Objectives; • Alignment; • Vision; • Scope and Boundaries;

Managing Projects	
2011 Review Results	**2015 Review Results**
approved. There was no review or acceptance of deliverables of the previous phase, nor an approval of an updated business case at the next major review of the project. This was the result of the lack of consistent project communication with all stakeholders. Although MCC tracked the status of specific milestones on the portfolio tracker, project stakeholders were not required to ascertain whether the project delivered the planned results and benefits. The lack of a formal project management structure, including planning, identifying, analyzing, responding to, monitoring and controlling risk, lead to inconsistent application of management practices for IT projects.	- Costs; - Schedules: - Risks; - Deliverables, Responsibilities, and Actions; - Charter Approval; and - Charter Effective date. In addition, the COM addressed risk management requirements for IT acquisitions including contractor risk management plans and regular risk management status reports. Project risk management and change management are handled through usage of the PM Central website. However, PM Central was not consistently organized, increasing the risk that artifacts/deliverables will be misplaced and/or lost. For example, multiple artifacts for the Office 365 project, such as the security risk assessment and risk management plan, and the MCC MIS (formerly MIDAS 2.0) risk management plan were not present. We also discovered that project charters were not consistently documented as the project charter for the Office 365 project was not provided. Project managers did not follow a consistent process when managing IT investment projects for ensuring project deliverables were documented and maintained. Inconsistent project management of IT investments may increase the risk that projects are over budget, not completed on time and do not meet business requirements and quality standards. See recommendations in Finding #2.

Acquire and Implement (AI)

This domain addresses the need to for IT solutions to be developed and implemented to meet business objectives.

Acquiring Application Software and Technology Infrastructure	
2011 Review Results	**2015 Review Results**
Acquisition of the technological infrastructure was not consistently in line with the established business functional and technical requirements due to the IT Strategic Plan not being updated to align with MCC's strategy.	MCC has updated the strategic plan to align with current enterprise strategic goals and initiated project charters for documenting project objectives, business needs and alignment of the project to MCC's strategic goals.
MCC drafted a SDLC plan to guide development projects and help ensure the applications developed met desired business needs. However, the SDLC was not implemented. In addition, MCC had not developed and implemented a policy to address the need to automate controls in procured software.	MCC finalized and implemented the SDLC plan that included ensuring automated interface requirements are addressed in the software requirements analysis phase.
Detailed policies and procedures regarding how application security, availability, and risks are managed when procuring an IT asset were not documented.	MCC developed the *MCC Acquisition Plan Preparation Guide* in July 2013. The guide requires a description of all security considerations and the Certification and Accreditation process for acquired systems. Furthermore the COM was updated to require the appropriate information technology security policies and requirements, including use of common security configurations available from the NIST website when acquiring information technology. The COM was also updated to address managing risk for IT investments. All major IT acquisitions to include services, products, and systems valued at $5,000,000 or more, or $1,000,000 or more if the requirement is for software/system development, including the base value of the contract plus all potential options, require that risk be considered and risk management integrated into the process as part of requirements definition, acquisition planning, source selection, and post-award administration.

Installing and Accrediting Solutions	
2011 Review Results	**2015 Review Results**
The integration of software into the current infrastructure was not consistently planned and executed.	The SDLC plan was updated to address integration of software into the existing infrastructure. The detailed software design is required to be reviewed to ensure external consistency with the architectural design, and a top-level design for the interfaces external to the software are required to be developed and documented. The software configuration items are required to be integrated with the hardware configuration items, manual operations, and other systems as necessary and the integration and test results are to be documented. Furthermore, system qualification testing is required to ensure the system is ready for delivery. Testing and end user training was performed for the three IT projects we tested. However, MCC did not consistently create and/or maintain each deliverable required under the current SDLC process. Moreover, MCC did not document the rationale for not developing or maintaining SDLC artifacts. Therefore the integration of software into the existing infrastructure was not consistently planned and executed. MCC indicated that the SDLC is in the process of being updated as management has shifted to an agile SDLC methodology. The agile methodology allows project deliverables to be customized based on the type of project. Without following a standard SDLC, MCC systems may not be developed in accordance with business and quality requirements in a timely and cost effective manner. See recommendations in Finding #3.

Application and Technology Infrastructure Maintenance	
2011 Review Results	**2015 Review Results**
MCC did not have a strategy in place to fully address the maintenance of software applications.	Maintenance of software applications is now addressed in the Operations and Maintenance Phase of the SDLC plan to ensure that MCC systems and networks are running and available during the defined hours of operations.

Procuring IT Resources	
2011 Review Results	**2015 Review Results**
MCC relied largely on contractors for systems development projects. Although the FAR and COM were utilized to guide IT acquisition, MCC did not have a formalized process in place to determine whether all components of IT acquisition were considered. Further, MCC did not have a process in place to ensure compliance with policies and procedures for IT acquisition prior to reviews conducted by appropriate parties, such as the Legal Department.	MCC developed the *MCC Acquisition Plan Preparation Guide* in July 2013 to formally document the process to evaluate components of IT acquisitions. That guide requires program offices to complete formal acquisition plans in accordance with the written format prescribed in the Federal Acquisition Regulation 7.105. The Managing Director of the Contracts and Grants Management Division, or designee, is required to review and approve the acquisition plans. This review process allows for the anticipation of problems in advance, and to devise plans to circumvent and mitigate their impact. However, acquisition plans were not consistently completed and submitted for review and approval. For example, evidence was not provided to validate that the acquisition plan for the infrastructure support contract was completed and submitted for approval. MCC management did not have a process in place to monitor compliance with the requirement to complete acquisition plans. The lack of consistently documenting and reviewing acquisition plans increases the risk that projects are initiated without stakeholder commitment or involvement of senior management. Additionally, the risk is increased that problems will not be anticipated in advance and strategies will not be formulated to lessen their impact. See recommendation in Finding #4.

Deliver and Support (DS)

This domain addresses the delivery of IT services, information security, continuity of operations, support for users and management of data and facilities.

Defining and Managing Third Party Services	
2011 Review Results	**2015 Review Results**
SLAs were developed for critical IT third party service providers. The monitoring of the SLAs was implemented, with the exception of services provided for the MIDAS application. For one key contract, an award fee/bonus was available in addition to the fixed price schedule. In the case of non-performed or unsatisfactory work, MCC could deduct from the vendor's invoice all amounts associated with such unsatisfactory or non-performed work or allowed the contractor to re-perform the work within a reasonable period subject to the discretion of the Contracting Officer Technical Representative. For other vendors, MCC communicated issues and requested correction; however, there was no connection between service level agreement requirements and compensation. Additionally, MCC did not have formalized procedures for resolving contractor performance shortfalls as was evident with the MIDAS project.	The COM was updated to include requirements for a performance-based acquisition approach for all major IT acquisitions to include services, products, and systems valued at $5,000,000 or more, or $1,000,000 or more if the requirement is for software/system development, including the base value of the contract plus all potential options. This approach incorporates either a Performance Work Statement or a Statement of Objectives and a Quality Assurance Surveillance Plan. If a performance-based acquisition approach is not used, the Contracting Officer is required to complete a Determination and Findings indicating why a performance-based acquisition approach was not used to be approved by both the MCC Chief Information Officer and Vice President of Administration and Finance. Based on our review of vendor contracts, we noted that SLAs were monitored to measure contractor performance. We also noted that MCC uses the Contractor Performance Assessment Rating System (CPARS) to evaluate contractor performance. An evaluation of contractor performance using the CPARS is mandatory for all contract actions exceeding $150,000, but may be conducted for contract actions lower than that amount should significant events occur such as a contract termination or extraordinary contract performance by the contractor. In addition, the COM addressed resolving contractor performance shortfalls by including contract incentives such as award fees or award terms to contracts tied to cost, schedule, or technical objectives associated with identified risks.

Managing Problems	
2011 Review Results	**2015 Review Results**
MCC's problem management process was not a proactive one that could anticipate and prevent problems nor did MCC consistently maintain knowledge regarding patterns of past and future problems through regular contacts with vendors and experts. MCC did not have a process in place to ensure continuous improvement based on analysis of problem management performance measures.	MCC has implemented a problem management improvement process through the use of contractor SLA monthly reports and quality management surveys. For example, SLA monthly reports detail performance measurements related to incident response, desktop support, and resolution of problem calls and email requests.

Monitor and Evaluate (ME)

This domain addresses performance management, monitoring of internal control and regulatory compliance and governance.

Monitoring and Evaluating Performance	
2011 Review Results	**2015 Review Results**
Project performance was inconsistently monitored depending on the priority of the project within the organizational structure of MCC. . In addition, risk management plans and business cases for IT projects were not consistently used to set performance targets/measures.	There is a process in place for prioritizing and monitoring projects through the use of project charters and the ITIRB. However, as noted in Findings #1 and 2, improvements are needed in ensuring full implementation of an earned value management system and consistent documentation of project charters and other project artifacts such as risk management plans.

Ensuring Compliance with External Requirements	
2011 Review Results	**2015 Review Results**
MCC did not have a process in place to review and adjust policies to ensure they comply with external requirements. For example, MCC did not have policies for adapting the FAR Part 39, *Acquisition of Information Technology*, to the agency	The COM has been updated to include policies for adapting the FAR, Part 39X as well as the *MCC Acquisition Plan Preparation Guide*. However as noted in Finding #4, monitoring for compliance with acquisition requirements needs improvement.

Ensuring Compliance with External Requirements	
2011 Review Results	**2015 Review Results**
including assessing, monitoring and controlling risk when selecting projects for investment and during program implementation. Additionally, there was not a program management office to monitor compliance with external requirements.	

Providing IT Governance	
2011 Review Results	**2015 Review Results**
MCC had developed baseline IT governance indicators for example, establishing the EASC and completing and approving risk assessments and business cases for IT projects. Although baseline governance indicators were developed, a process had not been implemented for monitoring and reporting on key governance performance indicators.	Managing risk for IT investments is addressed in the COM and overseen through the ITIRB. Monitoring project risk is handled through IT project performance dashboards and presentations to the ITIRB. As noted in Findings # 1, 2, and 4, improvements are needed in monitoring key governance indicators. For example, project charters, Acquisition Plans, and project management artifacts need to be consistently developed. In addition, earned management needs to be fully implemented in accordance with the COM.

APPENDIX IV - STATUS OF PREVIOUS RECOMMENDATIONS AND SUGGESTIONS

The following table provides the status of the FY 2011 risk assessment of MCC's IT governance over its IT investments audit recommendations.

No.	FY 2011 Audit Recommendation	MCC Status	Auditor's Position on Status
1	We recommend that the MCC CIO update the Information Technology Strategic Plan to reflect current enterprise strategic goals...	Closed	Closed
2	We recommend that the MCC CIO develop and implement a formal process for managing risk and updating the Information Technology Strategic Plan accordingly. Risk management must drive enterprise architecture decisions, providing secure information system environments for critical applications. The plan should be reviewed at a minimum annually and when major events occur that have an impact on strategic goals. When updating the Information Technology Strategic Plan the CIO should verify compliance with the Office of Management and Budget Circular No. A-130, Management of Federal Information Systems, with regard to the capital planning and investment control process which includes the Information Resource Management Strategic Plan and the Information Technology Capital Plan which is required to be updated twice yearly.	Closed	Closed
3	We recommend that the MCC CIO complete the enterprise information architecture planning and implementation project as discussed in the *Executive Level Notional OCIO 2 Year Portfolio* in order to maintain an information architecture that reflects the business requirements.	Closed	Closed
4	We recommend that the MCC CIO develop and implement a project plan for leveraging data as indicated in the authoritative data source process and methodology so as to provide business users access to detailed information to aid in analysis and decision making..	Closed	Closed
5	We recommend that the MCC Chief of Staff develop and implement a formal process for the Enterprise Architecture Steering Committee to prioritize Information Technology-enabled investment programs which must be consistently applied.	Closed	Closed
6	We recommend that the MCC Chief of Staff formally document and implement a process requiring the Enterprise Architecture Steering Committee to consider risk management when discussing strategic direction and approval of information technology investments.	Closed	Closed

Millennium Challenge Corporation: Update of the 2011 Risk Assessment of Information Technology Investment Governance

No.	FY 2011 Audit Recommendation	MCC Status	Auditor's Position on Status
7	We recommend that the MCC CIO (1) conduct an analysis to determine whether the information technology function has sufficient resources to adequately support the business goals and objectives of the organization and (2) through the organization's budgeting process, submit a written request for additional resources to address any shortfalls identified in the analysis..	Closed	Closed
8	We recommend that the MCC Deputy CFO revise the budget policy and procedures to account for the change from line item budgeting to project budgeting.	Closed	Open. Please refer to Finding # 1.
9	We recommend that the MCC CIO develop a process and implement a tool for monitoring project plans and work completed to determine earned value, providing an early warning of performance issues impacting project budgets..	Closed	Open. Please refer to Finding #1.
10	We recommend that the MCC CIO define quality requirements, criteria and key performance indicators for evaluation of quality management for key Information Technology processes.	Closed	Closed
11	We recommend that the MCC CIO identify and document standards, procedures, and practices for key Information Technology processes to guide the Agency in defining and evaluating criteria for quality management.	Closed	Closed
12	We recommend that the MCC CIO implement a process to incorporate the following components into its projects: a. A project governance structure that includes the roles, responsibilities, and accountabilities of various key players in project management. b. Project sponsors assigned for the execution of each project. c. Project office and project manager. d. Elements such as approving the initiation of phases, communicating to all stakeholders the status of projects, establishing an integrated project plan, project quality plan, and defining the responsibilities of project team members. e. Project risk management through the process of planning, identifying, analyzing, responding to, monitoring and controlling risk. f. Project change control. g. Lessons learned.	Closed	Open. Please refer to Finding # 2.
13	We recommend that the MCC CIO implement a process to verify that risk management plans and Exhibit 300 business cases are consistently used, monitored and updated annually for all Information Technology projects as required.	Closed	Open. Please refer to Finding # 2.

**Millennium Challenge Corporation: Update of the 2011 Risk Assessment of
Information Technology Investment Governance**

No.	FY 2011 Audit Recommendation	MCC Status	Auditor's Position on Status
14	We recommend that the MCC CIO finalize and implement the System Development Life Cycle.	Closed	Open. Please refer to Finding # 3.
15	We recommend that the MCC CIO develop and implement a policy to fully address the maintenance of software applications.	Closed	Closed
16	We recommend that the MCC CIO develop and implement a process for ensuring the integration of software into the current infrastructure is properly planned and executed.	Closed	Closed
17	We recommend that the MCC Director of Contracting develop and implement Information Technology Acquisition instructions that provide a methodology to evaluate the components of Information Technology acquisition contracts..	Closed	Closed New issue noted in finding # 4.
18	We recommend that the MCC CIO develop and implement a process to ensure end user testing and evaluation of developed applications.	Closed	Closed
19	We recommend that the MCC CIO develop and implement a process to ensure personnel are trained in the use of developed applications.	Closed	Closed
20	We recommend that the MCC CIO document and implement policies and procedures for data conversion, testing of applications and infrastructure migration .	Closed	Closed
21	We recommend that the MCC Director of Contracting develop and implement a process to enforce the creation of service level agreements for all endeavors requiring contract support.	Closed	Closed
22	We recommend that the MCC Director of Contracting develop and implement a process for periodic review and feedback of performance for all contractors to improve service delivery and support early detection of potential problems.	Closed	Closed
23	We recommend that the MCC CIO develop and implement a monitoring process to ensure that all Information Technology projects are provided a priority level commensurate with the direction and goals of the Agency as a whole, not with the goals of individual leaders within the Agency.	Closed	Closed

Millennium Challenge Corporation: Update of the 2011 Risk Assessment of Information Technology Investment Governance

The following table provides the status of the FY 2011 risk assessment of MCC's IT governance over its IT investments audit suggestions.

No.	FY 2011 Audit Suggestion	MCC Status	Auditor's Position on Status
1	We suggest that the MCC CIO incorporate tactical planning into the strategic planning process by breaking the strategic plan down into short term actions and plans. A tactical plan contains a list of deliverables, a schedule, resources, a budget and a mapping of how it will be completed.	Closed	Closed
2	We suggest that the MCC CIO develop long range plans as the basis for building the Information Technology Strategic Plan.	Closed	Closed
3	We suggest that the MCC CIO and the MCC CFO develop skill inventories to support staffing for Information Technology projects to include both Information Technology and business resources.	Closed	Closed
4	We suggest that the MCC CIO develop a process to consistently implement the decision-making process to prioritize the allocation of Information Technology resources.	Closed	Closed
5	We suggest that the MCC CIO develop and implement a policy to address the need to automate controls in procured software.	Closed	Closed
6	We suggest that the MCC CIO develop and implement a policy for managing application security, availability, and risks when procuring an Information Technology Asset.	Closed	Closed
7	We suggest that the MCC CIO develop and implement a plan for aligning the acquisition, implementation and maintenance of the technological infrastructure with business requirements as defined by the revised Information Technology Strategic Plan..	Closed	Closed
8	We suggest that the MCC Corporation Director of Contracting develop and implement a process for ensuring compliance with policies and procedures for Information Technology acquisition...	Closed	Open. Please refer to Finding # 4.
9	We suggest that the MCC Director of Contracting formalize procedures on resolving performance shortfalls of contractors.	Closed	Closed
10	We suggest that the MCC Director of Contracting verify that all contracts, prior to award include linkage of reporting of service level achievement to compensation. For contracts already in place, we recommend that MCC include linkage of reporting of service level achievement to compensation upon renewal.	Closed	Closed
11	We suggest that the MCC CIO evaluate and update the problem management process to include processes for proactively anticipating and preventing future problems.	Closed	Closed

**Millennium Challenge Corporation: Update of the 2011 Risk Assessment of
Information Technology Investment Governance**

No.	FY 2011 Audit Suggestion	MCC Status	Auditor's Position on Status
12	We suggest that the MCC CIO develop and implement a formal process for maintaining knowledge regarding patterns of past and future problems affecting the Agency through regular contacts with vendors and experts.	Closed	Closed
13	We suggest that the MCC CIO develop and implement a continuous improvement process based on analysis of problem management performance measures..	Closed	Closed
14	We suggest that the MCC CIO develop and implement a review process to verify the use of Information Technology Risk Management Plans and Business cases to ensure that performance targets are established for each Information Technology project.	Closed	Open. Please refer to Finding # 2.
15	We suggest that the MCC Director of Contracting in collaboration with the Chief Information Officer develop and implement a process to review and adjust policies on a regular basis to ensure they comply with external requirements.	Closed	Closed
16	We suggest that the MCC CIO and the MCC Director of Contracting develop and implement a program management program to monitor compliance with external requirements.	Closed	Open. Please refer to Finding # 4.
17	We suggest that the MCC CIO develop and implement a process for monitoring and reporting on baseline performance indicators to assist with continuous process improvement.	Closed	Open. Please refer to Findings # 1, 2, and 4.