



U.S. CONSUMER PRODUCT SAFETY COMMISSION
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Date: October 15, 2010

TO : Inez M. Tenenbaum
Chairman

FROM : Christopher W. Dentel
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SUBJECT : Audit of the CPSC's Information Technology Investment Maturity

The Consumer Product Safety Improvement Act (CPSIA) calls for upgrades of the Commission's information technology architecture and systems and the development of a database of publicly available information on incidents involving injury or death required under section 6A of the Consumer Product Safety Act, as added by section 212 of the CPSIA. It also calls for the Office of Inspector General to review the agency's efforts in these areas.

In order to objectively assess the current status of the CPSC's efforts in this area and to help provide the agency with a road map to meet the goals set out in the CPSIA this office chose to employ the Government Accountability Office's (GAO) Information Technology Investment Maturity (ITIM) model framework. The ITIM framework is a maturity model composed of five progressive stages of maturity that an agency can achieve in its IT investment management capabilities. The maturity stages are cumulative; that is in order to attain a higher stage of maturity, the agency must have institutionalized all of the requirements for that stage in addition to those for all of the lower stages. The framework can be used to assess the maturity of an agency's investment management processes as a tool for organizational improvement.


GAO's ITIM maturity model framework offers organizations a road map for improving their IT investment management processes in a systematic and organized manner. These process improvements are intended to: improve the likelihood that investments will be completed on time, within budget, and with the expected functionality; promote better understanding and management of related risks; ensure that investments are selected based on their merits by a well-informed decision-making body; implement ideas and innovations to improve process management; and increase the business value and mission performance of investments.

Attached please find the Performance Audit of the Information Technology Investment Maturity of the Consumer Product Safety Commission. Under a contract monitored by the Office of Inspector General, Withum, Smith & Brown (WS&B), an independent certified public accounting firm, performed an audit of the CPSC's Information Technology (IT) investment management processes, using the Government Accountability Office's (GAO) Information Technology Investment Management (ITIM) framework. The contract required that the audit be performed in accordance with generally accepted government auditing standards.

According to WS&B's findings, the current condition of CPSC's ITIM processes are primarily a function of the length of time the CPSC has been working to fully develop and implement these processes. In the past year, the CPSC has aggressively begun implementing a structured IT investment management process. The CPSC has taken several key steps, including the creation of the Investment Review Board (IRB) and the adoption of its charter, the development of an IT investment portfolio, the creation of a Capital Planning and Investment Control Guide, the creation of a System Development Life Cycle Guide (SDLC), and the implementation of IT Investment Classification Guidance. As a result of these and other activities, WS&B concluded that the CPSC has reached Stage 1 of the five-stage IT investment maturity model as defined by GAO. The CPSC has already implemented several of the key practices and critical processes that constitute Stage 2. WS&B have outlined 11 specific actions in the Observations section of their report that the CPSC needs to perform to achieve maturity Stage 2.

In connection with the contract, we reviewed WS&B's reports and related documentation and inquired of its representatives. Our review, as differentiated from an audit in accordance with generally accepted government auditing standards, was not intended to enable us to express, and we do not express, an opinion on the matters contained in the report. However, our review disclosed no instances where WS&B did not comply, in all material respects, with generally accepted government auditing standards.

Should you have any questions, please contact me at (301) 504-7644.


Christopher W. Dentel
Inspector General

Attached: Audit Report



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Certified Public Accountants and Consultants

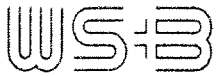
U.S. CONSUMER PRODUCT SAFETY COMMISSION

**Performance Audit of
Information Technology Investment Management**

August 28, 2010

Table of Contents

Executive Summary	1-2
Observations	3-6
Recommendation	7
Appendices	8
Appendix A - Background	9
Appendix B – Objectives, Scope, Methodology, and Criteria	10-11
Appendix C – Acronyms and Abbreviations	12
Appendix D – CPSC Response	13



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August 28, 2010

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EXECUTIVE SUMMARY

We were engaged by the Consumer Product Safety Commission (CPSC), Office of Inspector General (OIG), to conduct a performance audit relative of CPSC's Information Technology (IT) investment management processes, using the Government Accountability Office's (GAO) Information Technology Investment Management (ITIM) framework. The ITIM framework is a maturity model composed of five progressive stages of maturity that an agency can achieve in its IT investment management capabilities. The maturity stages are cumulative; that is in order to attain a higher stage of maturity, the agency must have institutionalized all of the requirements for that stage in addition to those for all of the lower stages. The framework can be used to assess the maturity of an agency's investment management processes as a tool for organizational improvement. For each maturity stage, the ITIM describes a set of critical processes that must be in place for the agency to achieve that stage.

This report presents the results of our work conducted to address the performance audit objectives as specified by the OIG. Our audit objectives were to perform a rigorous evaluation of CPSC's IT investment management processes in order to determine which of the five progressive stages of maturity in IT investment management capabilities most accurately describes the CPSC's ITIM framework, and to provide a road map that CPSC can follow to improve its processes. As our report further describes, we identified the following as a result of the work we performed:

CPSC has aggressively begun implementing a structured IT investment management process. CPSC has taken several key steps, including the creation of the Investment Review Board and the adoption of its charter, the development of an IT investment portfolio, the creation of a Capital Planning and Investment Control Guide, the creation of a System Development Life Cycle Guide (SDLC), and the implementation of IT Investment Classification Guidance. CPSC also completed its own internal ITIM assessment.

As a result of these and other activities, we have concluded that CPSC has reached Stage 1 of the five-stage IT investment maturity model as defined by GAO. CPSC has implemented several of the key practices and critical processes that constitute Stage 2. Based on our assessment, we outlined 11 specific actions in the Observations section of our report that CPSC needs to perform to achieve maturity Stage 2.

The Consumer Product Safety Risk Management System (CPSRMS) project is currently in development and planned to be implemented in early 2011, and represents the largest portion of CPSC's IT investment portfolio. This creates increased urgency in the development of CPSC's IT investment management processes. Therefore, we recommended that the Chairman of the Consumer Product Safety Commission direct the Chief Information Officer to develop a Plan of Action and Milestones (POA&M) to achieve the remaining Stage 2 processes as well as subsequent stages.

Our work was performed during the period September 2009 to July 2010. We conducted this performance 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 objectives.

CPSC has performed additional activities and continued to develop and refine key practices since our assessments were substantially completed in July 2010. We have obtained an understanding these additional activities through the date of our report, but have not validated any of these additional activities. We do not believe these additional activities materially affect our assessment.

CPSC agreed with our observations and recommendation and plans to complete its POA&M in the first quarter of FY 2011.

OBSERVATIONS

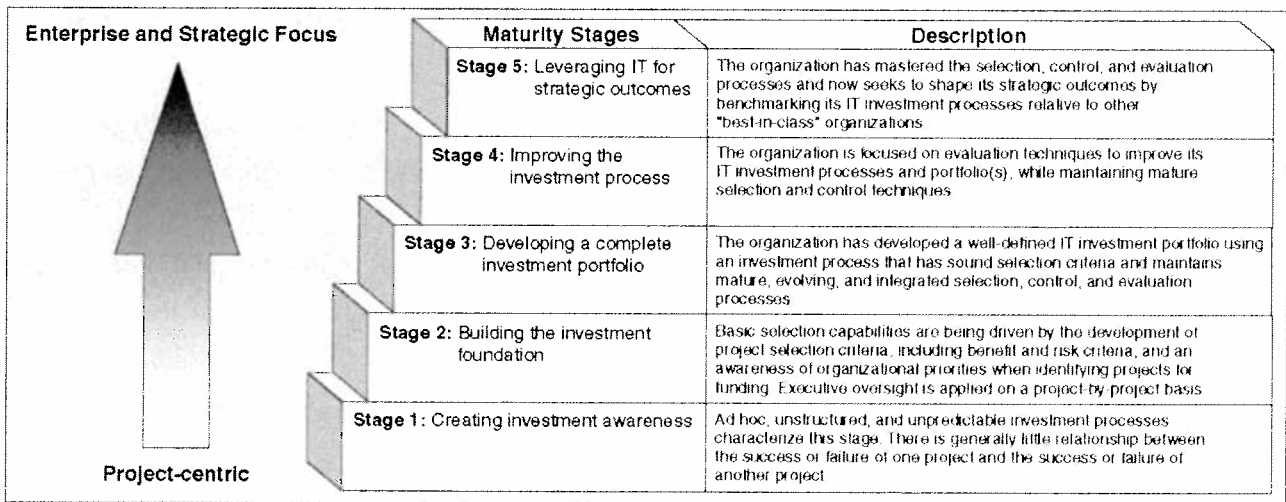
Introduction

The Government Accountability Office's (GAO) ITIM maturity model framework¹ offers organizations a road map for improving their IT investment management processes in a systematic and organized manner. These process improvements are intended to:

- improve the likelihood that investments will be completed on time, within budget, and with the expected functionality;
- promote better understanding and management of related risks;
- ensure that investments are selected based on their merits by a well-informed decision-making body;
- implement ideas and innovations to improve process management; and
- increase the business value and mission performance of investments.

GAO's ITIM is subdivided into a hierarchy. Each maturity stage consists of critical processes that are composed of a number of key practices. Each of the four maturity stages beyond Stage 1 is a plateau of well defined critical processes. Each stage builds upon the lower stages and enhances an organization's ability to manage its IT investments. The five maturity stages represent the steps toward achieving a mature, comprehensive ITIM process. Each critical process contains a set of key practices that, when fulfilled, implement the critical process needed to attain a given maturity stage. The key practices are the tasks that must be performed in order to implement and institutionalize a critical process effectively.

The five stages of maturity within ITIM include:



Source: GAO

Stage 1 is different from the other maturity stages because there are no critical processes associated with Stage 1, and this stage is typified by the absence of organized IT investment management processes. Stage 1 organizations generally have ad hoc or undisciplined investment management processes, lack of focus on value, risk, performance, and costs and schedule overruns, inconsistent IT investment management controls, and lack of current investment information.

¹ GAO's Information Technology Investment Management (ITIM): A Framework for Assessing and Improving Process Maturity (GAO-03-394G)

Stage 2, Building the Investment Foundation, is characterized by basic selection capabilities that are driven by the development of project selection criteria, including benefit and risk criteria, and an awareness of organizational priority when identifying projects for funding.

The critical processes defined for Stage 2 include:

- Instituting the investment board – the process for creating and defining the membership, guiding policies, operations, roles, responsibilities and authorities for one or more IT investment boards within the organization;
- Meeting business needs - the process for developing a business case that identifies the key executive sponsor and business customers (or end users) and the business needs that the IT project will support;
- Selecting an investment – introduces a defined process that an organization can use to select new IT project proposals and reselect ongoing projects;
- Providing investment oversight – a pivotal process whereby the organization monitors projects against cost and schedule expectations as well as anticipated benefits and risk exposure; and
- Capturing investment information – the process by which specific details about a particular investment are captured and maintained to provide asset-tracking data to executive decision makers.

Assessment of CPSC

In October 2009, CPSC developed a Capital Planning and Investment Control (CPIC) IT Investment Classification Guidance document, which provides for three types of investment classifications: (1) Major, (2) Non-Major, and (3) Small and Other. For each of these three classifications, this document provides the classification characteristics, the earned value management (EVM) requirements, the project management requirements, the management approvals, and the business case requirements. The CPIC manager will make classification recommendations to the Chief Information Officer (CIO), who has the authority to modify the classifications based on the CIO's judgment.

CPSC developed an IT investment portfolio during FY 2010. CPSC's IT investment portfolio includes approximately twenty-three projects, of which thirteen have been defined as Major, one as Non-Major, and nine as Small and Other. Eleven of the twenty-three projects were new projects that did not receive any funding in FY 2009 or FY 2010. Eleven of the projects are steady-state, and received approximately \$10 million in FY 2009 and FY 2010 combined. The remaining one project is the new CPSRMS database project, which has approximately \$20 million in funding for FY 2009 and FY 2010 combined.

In February 2010, CPSC established the Investment Review Board (IRB) and adopted the charter. This charter defines the mission and responsibilities of the IRB. It also defines the voting and non-voting members of the IRB, and provides for the CIO to appoint the Chair of the IRB. The IRB is required to meet monthly, with the initial meeting occurring in February 2010.

In March 2010, the IRB approved CPSC's final version (dated December 2009) of the SDLC Guide. The purpose of this guide is to establish the processes and activities necessary to ensure that IT investments established in the CPSC Capital Planning and Control (CPIC) process become IT projects that are properly planned and managed, controllable, cost-effective, and support the mission and business goals of the organization. This guide also defines the eight phases that constitute CPSC's flow of system development activities.

During December 2009, CPSC conducted its own internal ITIM assessment. We analyzed the assessment that CPSC performed and found that generally our assessment was in agreement with CPSC's assessment. In several instances, our assessment resulted in a higher rating than CPSC's assessment, due to the timing differences between when CPSC's assessment was performed and additional activities occurring after that assessment.

The following table summarizes our evaluation of the status of CPSC’s achievement of the five critical processes representing maturity Stage 2:

Table 1: Summary of Maturity Stage Two Critical Process Ratings

Critical Process	Rating	Key		%
		Practices	Practices Executed	
Instituting the Investment Board	Not implemented, but improvements underway	8	5	63%
Meeting Business Needs	Not implemented, but improvements underway	7	5	71%
Selecting an Investment	Not implemented, but improvements underway	10	6	60%
Providing Investment Oversight	Not implemented	7	1	14%
Capturing Investment Information	Not implemented, but improvements underway	6	5	83%
Total		38	22	58%

Because of the cumulative nature of the ITIM framework, we did not evaluate any Stage 3, 4, or 5 critical processes or key practices since we concluded that CPSC has not executed all State 2 critical processes.

The current condition of CPSC’s ITIM processes are primarily a function of the length of time CPSC has been working to fully develop and implement these processes. The passage of the Consumer Product Safety Improvement Act of 2008 (CPSIA) in August 2008 served as an impetus for CPSC to upgrade its ITIM processes. In order to provide funding for the CPRMS project, CPSC was required to submit to OMB Exhibit 300², which it submitted in September 2008 as well as several updates since then. As a result of the passage of the CPSIA, CPSC received a mandate to:

- Establish and maintain a database on the safety of consumer products that is publicly available, searchable, and accessible through the internet;
- Provide a detailed plan for establishing and maintaining the database, including plans for the operation, content, maintenance, and functionality of the database and details on the integration of the database into the Commission’s overall information technology improvement objectives and plans; and
- Expedite efforts to upgrade and improve the information technology systems in use by the Commission.

CPSC has been working since the passage of CPSIA to improve its ITIM practices. A year after passage of CPSIA, CPSC brought in a Capital Planning Manager from another Federal agency, who is also serving as the IRB chair. Because ITIM maturity stages are cumulative where each stage is dependent upon completion of the previous stage, CPSC has not been able to fully implement all the Stage 2 critical processes and key practices.

As a result of these and other activities, we have concluded that CPSC has reached Stage 1 of the five-stage ITIM model as defined by the GAO. CPSC has implemented several of the key practices and critical processes that constitute Stage 2. However, without adequate ITIM practices and procedures in place, CPSC may not be able to minimize risk and maximize investment return and thus it increases the chances that investments may not meet mission needs in the most cost-effective and efficient manner. This takes on increased importance and urgency because the CPRMS project is scheduled for implementation in 2011 and is CPSC’s most costly project currently in its portfolio.

CPSC has performed additional activities and continued to develop and refine key practices since our assessments were substantially completed in July 2010. We have obtained an understanding these additional activities through the date of our report, but have not validated any of these additional activities. We do not believe these additional activities materially affect our assessment.

² Exhibit 300 provides summary information and justification, summary of funding, acquisition and contract strategy, earned value management, performance information, security, and enterprise architecture information related to capital investments.

Roadmap for Achieving Stage 2

Based on our assessment, we have determined that the following specific items would need to be achieved in order for CPSC to reach Stage 2 of ITIM maturity:

- A. Ensure that the Investment Review Board has adequate resources, people, funding and tools to support its operations, and that these resources are identified and dedicated. The CPIC Manager should identify the resources required for the effective operation of the IRB, and CPSC should ensure that the same is made available for investment execution and management.
- B. Ensure that Board members understand CPSC's IT investment management policies and procedures as well as tools and techniques. CPSC should organize a formal orientation session for its board members in areas such as economic evaluation techniques, capital budgeting methods, performance measurement strategies and risk management approaches. CPSC should provide training to the IRB on the CPIC guide with a focus on the policy and criteria for identification and selection of IT projects.
- C. Implement project management procedures for all projects and systems, such as providing a dedicated project management office (PMO), as has been done with CPSRMS, although the extent of management procedures can vary depending on the classification of the project. CPSC staff should continue to use the PMO dashboard as a tool to provide oversight and monitoring functions to ensure that projects receive the oversight necessary based on the investment size and classification.
- D. Establish procedures to ensure that users participate in project management throughout an IT project's life cycle, as has been done for CPSRMS. We recommend that CPSC provide additional resources to enable formation of an integrated Program Team or designated liaison within the program area to facilitate understanding of business needs. Internal user signoffs should be formally documented to evidence participation of the user departments.
- E. Facilitate and enforce the use of the Classification Guide and the selection process for IT investments as defined in the CPIC Guide for all projects.
- F. Develop procedures to ensure that funding decisions are aligned with selection decisions, and that the IRB's IT portfolio recommendations are more closely integrated in CPSC's budget process.
- G. Develop procedures to ensure that all IT investment expenditures and acquisitions are brought in under the ITIM framework.
- H. Ensure that CPSC's IT projects and systems including those in steady-state (operations and maintenance) are identified, and the required documents are collected as per CPIC Guide (including expected cost and schedule milestones, measurable benefit and risk expectations) to support decisions. These documents should be made available on the CPSC portal and updated as necessary.
- I. Ensure that data on actual performance utilizing dashboards (including cost, schedule, benefit and risk performance) are made available to IRB and regularly reviewed.
- J. For each underperforming IT project or system, ensure that appropriate actions are taken to correct or terminate the project or system in accordance with defined criteria and the documented policies and procedures for IRB oversight.
- K. Ensure that the IRB regularly tracks the implementation of corrective actions for each underperforming project until the actions are completed.

Because of the cumulative nature of the ITIM maturity framework, Stages 3, 4 and 5 cannot be achieved until all of the critical processes in Stage 2 have been achieved. Therefore, it would be premature to propose a roadmap for Stages 3, 4 and 5. GAO research has shown that agency efforts to improve investment management capabilities should focus on implementing all lower stage practices before addressing the higher stage practices.

Recommendation

In order to ensure that CPSC has the appropriate investment management processes in place for the implementation of the CPRMS project, and to improve its IT investment management processes over its entire investment portfolio, we recommend the Chairman of the Consumer Product Safety Commission direct the Chief Information Officer to:

- 1) Develop a Plan of Action and Milestones (POA&M) to include timeframes for the completion of the remaining Stage 2 processes, as well as the subsequent stages.

We appreciate the cooperation and courtesies that CPSC personnel extended to us during this audit.

Sincerely,

Withum Smith + Brown, PC

Appendices

Appendix A

Background

The Consumer Product Safety Commission was created in 1972 as an Independent Federal Regulatory Agency, whose mission is to protect the public from unreasonable risks of serious injury or death from thousands of types of consumer products under the agency's jurisdiction. CPSC has jurisdiction over more than 15,000 kinds of consumer products. CPSC recalls products that present a significant risk to consumers either because the product may be defective or violates a mandatory standard issued by CPSC.

CPSC is headed by five Commissioners, one of which serves as Chairman of the Commission, who are assisted by an Executive Director and various other executive officials, including a Chief Information Officer (Director of Technology Services), and a Chief Financial Officer (Director of Financial Management, Planning, and Evaluation). CPSC, with approximately 500 employees, is headquartered in Bethesda, Maryland and has laboratories in Gaithersburg, Maryland, as well as about 100 investigators, compliance officers, and consumer information specialists spread throughout the country.

The Consumer Product Safety Improvement Act of 2008 requires, that "the Inspector General of the Commission "conduct reviews and audits to assess . . .the Commission's capital improvement efforts, including improvements and upgrades of the Commission's information technology architecture and systems and the development of the database of publicly available information on incidents involving injury or death."

CPSC received funding for the development of the database project totaling \$10.8 million in FY 2009, and \$9.2 million in FY 2010. This project, the CPSRMS is currently in the acquisition stage, and is planned to be released in March 2011.

Appendix B

Objectives, Scope, Methodology, and Criteria

Objectives

The objective of our audit was to perform a rigorous evaluation of CPSC's IT investment management processes in order to determine which of the five progressive stages of maturity most accurately describes the CPSC's ITIM framework, and to provide recommendations for improving CPSC's processes.

Scope

We conducted this performance 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 objectives. We believe that the evidence obtained provided a reasonable basis for our findings and conclusions based on our audit objectives. We conducted our fieldwork at the CPSC Headquarters in Bethesda, Maryland between September 2009 and July 2010.

Our performance audit was not designed to, and we did not, perform a financial audit of the amounts obligated or expended by CPSC.

This performance audit did not constitute an audit of financial statements in accordance with Government Auditing Standards. WS+B was not engaged to, and did not, render an opinion on CPSC's internal controls over financial reporting or over financial management systems (for purposes of OMB's Circular No. A-127, Financial Management Systems). WS+B cautions that projecting the results of our evaluation to future periods is subject to the risks that controls may become inadequate because of changes in conditions or because compliance with controls may deteriorate.

Methodology

To accomplish our audit objectives, we obtained an understanding of the Consumer Product Safety Improvement Act of 2008, which requires the Inspector General of CPSC to conduct reviews and audits to assess CPSC's capital improvement efforts including the IT architecture and systems and also provides the requirements and funding for CPSC to develop a public consumer product safety database. We also reviewed GAO's Information Technology Investment Management (ITIM) Framework for Assessing and Improving Process Maturity. We conducted interviews with CPSC officials from the Office of Information and Technology Services and performed a walkthrough of the relevant processes. Further, we reviewed CPSC investment management documentation, agency information, budgets, and other relevant documents.

We judgmentally selected one project, the CPRMS project, to conduct a more detailed review and analysis to determine how CPSC's applied its investment management methodology to this project. We conducted interviews with the Project Manager and obtained and reviewed relevant documentation relating to this project.

A performance audit includes gaining an understanding of internal controls considered significant to the audit objectives, testing controls, and testing compliance with significant laws, regulations, and other requirements. For this assignment, CPSC's IT investment management controls were considered the specific internal controls to ensure the process works effectively. We evaluated those controls accordingly to determine how well they contribute to carrying out the IT investment management process model.

Appendix B (cont.)

Objectives, Scope, Methodology, and Criteria

Criteria

We used the following criteria to accomplish our audit:

- Consumer Product Safety Improvement Act of 2008
- GAO's Information Technology Investment Management (ITIM): A Framework for Assessing and Improving Process Maturity (GAO-04-394G)
- Office of Management and Budget (OMB) Circular A-11
- Clinger-Cohen Act of 1996, Public Law 104-106
- OMB Circular A-130 Revised, "Management of Federal Information Resources".
- OMB Circular A-123, "Management Accountability and Control"
- Federal Acquisition Regulation – Part 39, "Acquisition of Information Technology".

Appendix C

Acronyms and Abbreviations

CIO	Chief Information Officer
CPIC	Capital Planning and Investment Control
CPSC	Consumer Product Safety Commission
CPSIA	Consumer Product Safety Improvement Act of 2008
CPSRMS	Consumer Product Safety Risk Management System
EA	Enterprise Architecture
EVM	Earned Value Management
GAO	Government Accountability Office
IT	Information Technology
ITIM	Information Technology Investment Management
IRB	Investment Review Board
OIG	Office of Inspector General
OMB	Office of Management and Budget
P.L.	Public Law
PMO	Project Management Office
POA&M	Plan of Action and Milestones
SDLC	System Development Life Cycle

Appendix D

Consumer Product Safety Commission Response

Thank you for giving us the opportunity to respond to the performance audit. Also, thank you for demonstrating flexibility and understanding as we are still fairly early in institutionalizing the IT governance improvements measured by the GAO ITIM framework.

CPSC's IT Policy and Planning division performed an internal GAO ITIM assessment in the first quarter of this fiscal year. We came to the same evaluation, Level 1, with similar observations. We have reviewed and agree with the audit evaluation, Level 1, and generally agree with the observations that support that evaluation.

In August, CPSC awarded a new Capital Planning and Investment Control support contract to help us continue to make IT governance improvements. One of the objectives of the contract is developing an Plan of Action And Milestones (POAM) to increase CPSC's GAO ITIM audit to Level 2 (and beyond). The POAM, which will include timeframes, should be complete in the first quarter of the upcoming fiscal year.

Again, thank you for your time and attention and we look forward to working with you in the future.