



U.S. CONSUMER PRODUCT SAFETY COMMISSION  
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Date: December 4, 2012

TO : Chairman Inez M. Tenenbaum  
Commissioner Robert S. Adler  
Commissioner Nancy A. Nord

FROM : Christopher W. Dentel  
Inspector General

SUBJECT : Follow-Up 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 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.

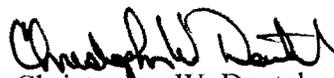
GAO's ITIM maturity model framework offers organizations a road map for improving their IT investment management processes in a systematic and organized manner. These process improvements are intended to: improve the likelihood that investments will be completed on time, within budget, and with the expected 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.

In fiscal year 2011, under a contract monitored by the Office of Inspector General, Withum, Smith & Brown (WS+B), an independent certified public accounting firm, issued an audit report regarding 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. This initial ITIM audit found that the CPSC had reached stage 1 of the five-stage IT investment maturity model. WS+B outlined 11 specific actions that in their opinion the CPSC would need to accomplish to achieve maturity Stage 2.

Attached please find the Follow-up Performance Audit of the Information Technology Investment Maturity of the Consumer Product Safety Commission. This audit was also performed by WS+B under a contract monitored by the Office of Inspector General. In connection with the contract, we reviewed WS&B's report 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. WS&B is responsible for the attached auditor's report. However, our review disclosed no instances where WS&B did not comply, in all material respects, with U.S. generally accepted government auditing standards.

WS+B found that the CPSC was still at Stage 1 of the five-stage IT investment maturity model as defined by the GAO. They also found that the CPSC had implemented most of the key practices and critical processes that constitute Stage 2. Based on their assessment, they outlined two specific actions in the Observations section of their report that in their opinion the CPSC needs to perform to achieve maturity Stage 2.

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

  
Christopher W. Dentel  
Inspector General

Attached: Audit Report



**WithumSmith+Brown**  
**A Professional Corporation**  
**Certified Public Accountants and Consultants**

**U.S. CONSUMER PRODUCT SAFETY COMMISSION**

**Performance Audit of  
Information Technology Investment Management**

**September 30, 2012**

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September 30, 2012

Ms. Inez Moore Tenenbaum  
Chairman, Consumer Product Safety Commission  
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## EXECUTIVE SUMMARY

We were engaged by the Consumer Product Safety Commission (CPSC), Office of Inspector General (OIG), to conduct a follow-on 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. We previously reported on our assessment of CPSC's ITIM maturity in August 2010. In that report we concluded that CPSC had achieved Stage 1, and outlined 11 specific steps for achieving Stage 2, and we recommended the Chairman of the CPSC direct the Chief Information Office to develop a plan of action and milestones for the completion of the remaining stage 2 processes and subsequent stages.

The ITIM framework is a maturity model composed of five progressive stages of maturity that an agency can achieve in its information technology 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 continued to take steps to mature its IT investment management processes, and has completed substantially all of the critical practices and key processes described in Stage 2 of GAO's ITIM hierarchy.

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 most of the key practices and critical processes that constitute Stage 2. Based on our assessment, we outlined two specific actions in the Observations section of our report that CPSC needs to perform to achieve maturity Stage 2.

Our work was performed during the period September 2011 to July 2012. 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.

Subsequent to our audit fieldwork in August 2012, CPSC lost one of its key personnel related to IT investment management, to another agency. Our audit does not reflect the impact, if any, this loss will have on the IT investment management practices at CPSC, as we have not performed any procedures to evaluate CPSC's responses to this loss. Therefore, there is the risk that this loss could materially affect CPSC IT investment management posture.

CPSC management has indicated it has already begun taking steps to address our recommendations and is developing plans to further mature certain practices identified in our report.

## OBSERVATIONS

### Prior Assessment of CPSC

In our August 2010 report “Performance Audit of Information Technology Investment Management”, WS+B reported that CPSC had reached Stage 1 of the five stage investment maturity model as defined by the GAO, and that it had implemented several of the key practices and critical processes that constitute Stage 2. We outlined 11 specific actions that CPSC need to perform to achieve Stage 2. We recommended the Chairman of CPSC direct the CIO to develop a Plan of Action and Milestones (POA&M) to achieve the remaining Stage 2 processes as well as subsequent stages.

GAO’s ITIM maturity model framework<sup>1</sup> 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 maturity stages are as follows:

- Stage 1 – Creating investment awareness
- Stage 2 – Building the investment foundation
- Stage 3 – Developing a complete investment portfolio
- Stage 4 – Improving the investment process
- Stage 5 – Leveraging IT for strategic outcomes

Stage 2 of the ITIM Maturity includes five critical processes:

- 1) Instituting the Investment Board
- 2) Meeting Business Needs
- 3) Selecting an Investment
- 4) Providing Investment Oversight
- 5) Capturing Investment Information

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<sup>1</sup> GAO’s Information Technology Investment Management (ITIM): *A Framework for Assessing and Improving Process Maturity* (GAO-03-394G)

CPSC's IT investment portfolio includes seven investments, of which four have been defined as Major and three as Non-Major. Below is a summary of funding for these seven investments:

	FY 2010	FY 2011	FY 2012	Total
Planning, Development, Capital Spending	\$11,795,000	\$ 9,908,000	\$ 6,711,000	\$28,414,000
Operations and Maintenance	12,678,000	12,289,000	14,061,000	39,028,000
Total	\$24,473,000	\$22,197,000	\$20,772,000	\$67,442,000

The seven investments consist of approximately 24 separate projects.

Current Assessment of CPSC

We performed a follow-up independent assessment of CPSC's ITIM maturity under contract with CPSC's Office of Inspector General (OIG). We found that CPSC had accomplished almost all of the additional key practices and critical processes of Stage 2. Some of the key new investment management activities we found during our review that CPSC has implemented include:

1. A full business case per OMB requirement developed for the CPRMS investment and a new investment, CPSC International Trade Data System (ITDS).
2. The Investment Review Board (IRB) was trained on IRB's portfolio decision making and budgeting processes in April and May 2011, as part of the IT portfolio "Rating and Ranking" processing, leading to the finalization of the agency's FY 2012 IT portfolio.
3. Approved changes to the IRB membership in December 2011 based on CPSC organization changes in July 2011.
4. CPSC has formally documented its IT investment process in the CPIC Guide, which includes policies and procedures for selecting new IT proposals.

Based on our assessment, we noted that CPSC had satisfactorily completed Stage 1 and had implemented 37 of the 38 key practices within the five critical processes defined as Stage 2. There is one key practice that CPSC had not fully implemented:

- 1) Meeting Business Needs  
Integrated Project Teams (IPT) including representative end-users have been implemented on the ITDS, CPRMS, and CPSC.gov Redesign Projects. However, we noted that CPSC has not yet included end users on all projects within the remaining major investments including Infrastructure and CIS.

The following table summarizes our evaluation of the status of CPSC's achievement of the five critical processes representing maturity stage two:

Table 1: Summary of Maturity Stage Two Critical Process Ratings				
Critical Process	Rating	Key Practices	Key Practices Executed	%
Instituting the Investment Board	Implemented	8	8	100%
Meeting Business Needs	Not implemented, but improvements underway	7	6	86%
Selecting an Investment	Implemented	10	10	100%
Providing Investment Oversight	Implemented	7	7	100%
Capturing Investment Information	Implemented	6	6	100%
<b>Total</b>		<b>38</b>	<b>37</b>	<b>97%</b>

CPSC continued to make improvements in its investment management processes during FY 2011 and through the date of our fieldwork, demonstrating execution of an additional 15 of the 38 Stage 2 key practices since our last report in August 2012. 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 almost all of the key practices and critical processes that constitute Stage 2, and many of those in Stage 3.

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.

Observations on Stage 3

Although CPSC has not achieved Stage 2, during our fieldwork, we did perform some preliminary analysis of Stage 3 for the purposes of developing additional recommendations and to lay the foundation of gathering evidence for an analysis of Stage 3. Based on this limited work, once Stage 2 is achieved, we believe CPSC will be able to demonstrate significant progress toward achieving Stage 3. However, because of the cumulative nature of the ITIM maturity framework, we did not perform a complete analysis of Stage 3 since Stage 2 had not been achieved. Therefore, we are not proposing a detailed roadmap for achieving Stage 3 at this time.

Additionally, it would be premature to perform an analysis of or propose a roadmap for Stages 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 the remaining Stage 2 key practices and critical processes are executed timely and CPSC's investment management capability is strengthened, we recommend the Chairman of the Consumer Product Safety Commission direct the Chief Information Officer:

1. Establish procedures to ensure that users participate in project management throughout an IT project's life cycle for all major investments. We recommend that CPSC provide additional resources to enable formation of an IPT or designated liaison within the program area to facilitate understanding of business needs for all projects within the Infrastructure and CIS investments. Internal user signoffs should be formally documented to evidence participation of the user departments.
2. Establish periodic business alignment review discussion for ongoing IT projects as part of regular IRB operations (from Management's self assessment).

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

Sincerely,



# Appendices

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## Appendix A

### Background

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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 Rockville, 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.”

## Appendix B

### Objectives, Scope, Methodology, and Criteria

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#### Objectives

The objectives of our audit were to determine which of the five stages ITIM maturity most accurately describes CPSC's ITIM framework; conduct a rigorous evaluation of the CPSC's IT investment management process; report the results of our assessment that can be easily understood; and develop recommendations for CPSC for improving its process.

#### 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 2011 and July 2012.

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. We also reviewed GAO's 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 certain key processes for testing, and evaluated the audit evidence supporting the execution of the key process.

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

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#### 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
- OMB Circular A-130 Revised, "Management of Federal Information Resources".
- OMB Circular A-123, "Management Accountability and Control"

**Appendix C**

**Acronyms and Abbreviations**

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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
IPT	Integrated Project Team
IT	Information Technology
ITDS	International Trade Data System
ITIM	Information Technology Investment Management
IRB	Investment Review Board
OIG	Office of Inspector General
OMB	Office of Management and Budget

**Appendix D**

**Consumer Product Safety Commission Response**

CPSC staff has reviewed the *Performance Audit: Information Technology Investment Management (ITIM) Assessment Notification of Findings and Recommendations (NFR)* dated July 26, 2012, and appreciates the acknowledgement of its accomplishments over the past year, as well as the recommendations for improvement in the year ahead.

The Commission has been working diligently to further mature its ITIM processes and has begun addressing deficiencies associated with the specific recommendations contained in the NFR:

1. Establish procedures to ensure that users participate in project management throughout an IT project's life cycle for all major investments.

CPSC staff has updated its systems development lifecycle (SDLC) guide to further require projects to involve business users throughout the system lifecycle, from initiation phase into operations and maintenance, and through disposition. The acknowledgement of a need for an integrated project team (IPT) has been adopted into standard operating procedures. Business users, including project leads or other stakeholders, now have full transparency into the projects by receiving periodic status.

Currently, all projects require business users to participate in the project lifecycle events including initiation and business goal definition. Business representatives routinely partake in tactical design reviews and UAT, which demonstrate how business needs map to functional and nonfunctional requirement specifications. In the instance of projects on the CIS investment, users define needs to transition to the new solution; prioritize and validate requirements; provide input regarding the “bundling” of functionality; and approve and sign-off on requirements and project completion.

In order to further bolster user participation and ensure business user requirements are reflected in smaller, more tactical projects found in the Infrastructure investment (such as, networking hardware implementation and acquisitions of network switches), CPSC staff will modify its project initiation form to include a project health checkpoint and a project closeout component. The Project Management Office (PMO) will oversee adherence to the process and report to IT Management and the Investment Review Board (IRB) user involvement throughout the project lifecycle.

2. Establish periodic business alignment review discussion for ongoing IT projects as part of regular IRB operations.

CPSC staff holds weekly project portfolio intake reviews where IT Management weighs the portfolio of work against stated business objectives and resources, thus supporting the IRB in effectively managing information technology as a strategic resource and business process enabler.

In order to mature this practice even further, CPSC staff will modify its project dashboard to include notations on the IT project's alignment to CPSC's business needs. The dashboard is provided to IRB members for their regularly scheduled meetings, and an agenda item will be added with dedicated time to review and discuss whether the projects are in alignment or if modifications to the portfolio are appropriate.