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Canada

# **Audit of the Expenditure Management Component System**

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# Audit of the Expenditure Management Component System

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Internal Audit and Evaluation Bureau

Final Report

Approved: December 3, 2014

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# Statement of Conformance

The Internal Audit and Evaluation Bureau has completed an audit of the Expenditure Management Component System. This audit conforms with the [\*Internal Auditing Standards for the Government of Canada\*](#), as supported by the results of the Bureau's quality assurance and improvement program.

## Executive Summary

### Background

The Treasury Board of Canada Secretariat's (the Secretariat's) Expenditure Management Sector (EMS) supports various budget office functions, including provision of a government-wide view of expenditure management data to the annual budget process, provision of advice on reserve management, preparation of the government's Main Estimates and Supplementary Estimates for tabling in the House of Commons, and management of the process of obtaining Governor General Special Warrants. <sup>1</sup>

Prior to 2012, the EMS used several information technology (IT) systems to capture the information needed to support the budget office functions. These systems were not integrated, were difficult to maintain, and did not support the changing requirements of the budget office role. The annual cost of maintaining these systems was estimated at \$1.55 million. A replacement system was expected to reduce the cost to \$0.785 million per year.

As a result, between September 2010 and June 2013, the Expenditure Management Component (EMC), an integrated IT system, was designed and implemented by the Secretariat. The EMC was implemented using the SAP Enterprise Resource Planning system. The system was designed to support the full EMS "budget model," encompassing the concept of "framework-to-allotments," which includes the entry, management and reporting of funding authorities, sources of funds, reference levels, Treasury Board submissions, Estimates, supply, allotments and Governor General Special Warrants. The EMC system went into production as planned in May 2012, allowing the EMS to use the system to meet the mandated deadlines for the production of the 2013–14 Main Estimates.

Given that the EMC system is central to the Secretariat's core budget office mandate and the scrutiny of previous audits on the legacy systems, an audit of the system was included in the Secretariat's *Risk-Based Audit Plan 2012–15*.

## Objectives and Scope

The audit objectives were to assess the adequacy of the system design and effectiveness of implementation to support business requirements, as well as to assess the adequacy and effectiveness of data conversion activities. Specifically, the audit focused on the following elements:

- Key project deliverables, including the definition of business requirements and the process used to modify scope or business requirements;
- System functionality to support defined business requirements;
- Data conversion activities to transfer required data into the EMC system;
- Required business reporting; and
- Archived information from the legacy systems to support future information needs.

The audit covered the period of the system implementation project, from September 2010 to June 2013. Operational and system documentation that was available as of July 2013 was also reviewed.

The examination of project management activities was excluded. During the audit planning phase, the audit team reviewed project management documentation and found evidence that addressed issues identified in previous audits. In the opinion of the audit team, a more detailed examination of this would not have added value to the Secretariat.

## Key Findings and Conclusion

The audit concluded, with a reasonable level of assurance, that the design of the EMC system was adequate and aligned with the defined business requirements. The system was also effectively implemented.

The key findings were as follows:

- Standard methodologies used in the IT industry, including the Secretariat's [\*A Guide to Project Gating for IT-Enabled Projects\*](#), were used to guide the configuration and implementation of the EMC system.
- EMS end-users were involved throughout the development process to validate that their needs were met.
- Business requirements were defined, articulated and translated to high-level design documentation according to a structured approach.
- Training documentation was developed, and EMS end-users received sufficient training to use the EMC system to achieve business objectives.

Although the audit results were positive overall, a number of documentation weaknesses were noted. Specifically,

- System project files were kept in a distributed fashion across several server locations, GCDocs and various individuals' email files. A number of key deliverable documents were not retained.
- Data conversion planning documentation lacked detail and did not address some key required elements. The limitation in documentation prevented the audit team from providing assurance on the adequacy and effectiveness of data conversion activities. However, after considering the numerous mitigating factors in place, the audit team did not have concerns with the accuracy of the data that were converted.

Two recommendations have been made to mitigate risks in the current system and to support future system development efforts.

## **Management Response**

The Secretariat has developed a management response and action plan, which is included in [Appendix A](#). The Internal Audit and Evaluation Bureau is satisfied that if these measures are implemented, the issues identified will be addressed.

## **1. Introduction**

The Treasury Board of Canada Secretariat's (the Secretariat's) Expenditure Management Sector (EMS) supports various budget office functions, including provision of a government-wide view of expenditure management data to the annual budget process, provision of advice on reserve management, preparation of the government's Main Estimates and Supplementary Estimates for tabling in the House of Commons, and management of the process of obtaining Governor General Special Warrants.

Prior to 2012, the EMS used several information technology (IT) systems to capture the information needed to support the budget office functions. These systems were not integrated, were difficult to maintain, and did not support the changing requirements of the budget office role. As a result, between September 2010 and June 2013, the Expenditure Management Component (EMC), an integrated IT system, was designed and implemented by the Secretariat.

### **1.1 Organizations**

Two key groups were involved in the development and implementation of the EMC system. The EMS is the business end-user of the EMC system, and the Information Management and Technology Directorate of Corporate Services Sector (IT-CSS) was responsible for working with the EMS to design and implement the EMC system.

A core EMC project team consisted of members from both groups.

## **EMS End-Users**

The EMS provides a central focus for the functions that support and strengthen the Secretariat's role as Budget Office, including responsibility for the government's broader expenditure management system.

Within the EMS, the Expenditure Strategies and Estimates Division supports the budget office role in the following areas:

- Provision of a government-wide view of expenditure management data to the annual budget process;
- Provision of advice on reserve management;
- Preparation of the government's Main Estimates and Supplementary Estimates for tabling in the House of Commons; and
- Management of the process of obtaining Governor General Special Warrants.

The Policy and Systems group of the Expenditure Strategies and Estimates Division was the key representative of the EMS end-users for the EMC project. The group served as the mechanism to review the project work, provided qualitative information about issues, and participated in the discussions and approval of any changes to the business functionality requirements. The Policy and Systems group was responsible for the development of training material and provided training to the EMS end-users of the EMC system.

## **System Developers**

The Application Development and Data and Database Administration Division of IT-CSS was the group responsible for working with the EMS on the design and implementation of the EMC system. Members of this division were experienced in supporting and maintaining the previous legacy systems and therefore had relevant expertise regarding the business requirements of the EMS. Their knowledge and skills facilitated the design of the application functionality and reports.

Continued support of the EMC system remains the responsibility of IT-CSS.

## **1.2 Expenditure Management Component System**

The EMC is an integrated IT system that uses the SAP Enterprise Resource Planning (ERP) system to support the EMS end-users' budget office responsibilities. Implementing version 6.0 of the SAP ERP system has allowed for a full integration of the EMS "budget model," encompassing the concept of "framework-to-allotments," which includes the entry, management and reporting of funding authorities, sources of funds, reference levels, Treasury Board submissions, Estimates, supply, allotments and Governor General Special Warrants.

The EMC system replaces the following non-integrated legacy systems: the Expenditure Management Information System (EMIS), and the XPONENT systems.

The XPONENT legacy systems had automated Supplementary Estimates, the Expenditure Status Report, allotment control and Governor General Warrants. The XPONENT legacy systems were designed approximately 20 years ago, had become critically unstable, and were difficult to maintain. These factors, coupled with the changing requirements of the Secretariat's Budget Office, and the understanding that vendor support for the version of SAP used to implement the EMIS was to end in 2013, provided the rationale for implementing the EMC system. To develop and implement the new system, the Secretariat launched the EMC project. It was intended to do the following:

- Deliver the functionality identified by the EMS and was required to support the Secretariat's budget office responsibilities;
- Reduce ongoing operating and maintenance costs; and
- Move to a vendor-supported version of the SAP solution.

The EMC project had a budget of \$2.9 million over a three-year period, to deliver the required business requirements and system functionality. The project proposal estimated the annual maintenance cost would be reduced from \$1.55 million to \$0.785 million, once the legacy systems were shut down, the EMC system was operational, and the supporting infrastructure was centralized in IT-CSS.

Both the EMS and IT-CSS viewed this to be a successful project in terms of functionality, implementation and staying within the budget. Both groups also indicated that the cost savings exceeded the estimated amount that was forecast.

## **2. Audit Details**

### **2.1 Authority**



The audit of the EMC system is part of the Secretariat's approved *Risk-Based Audit Plan 2012–15*.

## 2.2 Objectives and Scope

The audit objectives were as follows:

- To assess the adequacy of the system design and effectiveness of implementation to support business requirements; and
- To assess the adequacy and effectiveness of data conversion activities.

The audit examined the following specific activities of the EMC project:

- Key project deliverables, including the definition of business requirements and the process used to modify scope or business requirements;
- System functionality to support defined business requirements;
- Data conversion activities to transfer required data into the EMC system;
- Required business reporting; and
- Archived information from the legacy systems to support future information needs.

The audit covered the period of the system implementation activities, from September 2010 to June 2013. Operational and system documentation that was available as of July 2013 was also reviewed.

### Scope Exclusions

The audit excluded the following:

#### Project management

During the planning phase, the audit team reviewed documentation related to the EMC project, such as those documents pertaining to project management (including the project proposal, project charter, project development frameworks, project plans, status reports and issues tracking). The review indicated that project management activities addressed weaknesses identified in previous audits of project management and the EMIS. <sup>2</sup> In the opinion of the audit team, a review of the project management activities would not have added value to the Secretariat.

#### Disaster recovery

At the time of the planning phase for this audit, an assessment of IT Security and Disaster Recovery Controls was being conducted as a joint project under the lead of Shared Services Canada, which owns the servers used by the Secretariat and is responsible for

the disaster recovery plans. This assessment, which examined the risk related to disaster recovery, was subsequently superseded by a coordinated internal audit between the Secretariat and Shared Services Canada on IT security. The coordinated audit was launched July 11, 2014, and the internal controls over disaster recovery are being considered as part of its planning phase.

### **Post-implementation support of EMC**

The EMC system was implemented for use in a production environment in May 2012. The audit team considered the number of change requests for system functionality, submitted since May 2012, as an indication of whether the original business requirements had been met. However, the ongoing support of the EMC production environment was considered to be outside the scope of the audit.

## **2.3 Approach and Methodology**

The audit approach and methodology were risk-based and conformed with the [Internal Auditing Standards for the Government of Canada](#). These standards require that the audit be planned and performed in such a way as to obtain reasonable assurance that the audit objectives were achieved.

The audit included various tests and procedures considered necessary to provide such assurance, including the following:

- Review of applicable legislation, policies, procedures and other information related to key deliverables on IT application implementation processes;
- Review of project documentation, approvals, user acceptance documentation and training material related to the business functional requirements and the system technical requirements;
- Interviews with management and staff of the key stakeholder groups within the EMS and IT-CSS; and
- Walk-throughs 3 to observe the processes and controls for configuration, testing and implementing the application in the production environment.

The examination phase was conducted from June 2013 to February, 2014.

## **2.4 Lines of Enquiry**

The audit had two lines of enquiry:

- The design and implementation of the EMC system aligns with defined business requirements and meets users' needs; and

- Data integrity was maintained during conversion activities from the EMIS to the EMC system.

The audit criteria were derived from the *Control Objectives for Information and Related Technology*, version 4.1 (COBIT 4.1) as well as the *Office of the Comptroller General Audit Criteria Related to the Management Accountability Framework: A Tool for Internal Auditors*.

The audit criteria used to assess each line of enquiry are presented in [Appendix B](#).

## 3. Audit Results

To facilitate the presentation of findings related to multiple criteria identified in the lines of enquiry, this report categorizes and presents the audit results using a thematic approach. Four themes represent strengths on how the EMC system was implemented, and two themes represent opportunities for improvement. The findings for all the criteria included in the audit have been addressed within the themes and are referenced in footnotes linked to each theme.

### 3.1 Strengths

#### 3.1.1 Use of standardized methodologies

Standard methodologies used in the IT industry, including the Secretariat's *A Guide to Project Gating for IT-Enabled Projects*, were used to guide the EMC configuration and implementation.

The audit team expected that the project would use standard methodologies for the IT industry to guide the EMC system implementation to ensure that:

- The project met the requirements of the EMS end-user;
- Approvals were obtained for key decisions and deliverables; and
- The system was configured according to best practices and in conformance with internal architecture standards.

The Accelerated SAP (ASAP) methodology, which is the standard methodology, developed for implementing the SAP system, was used. It assisted the project team in implementing SAP effectively because it ensured that key development steps were followed and that the EMS end-users were involved. This methodology included the use

of templates that helped maintain an end-user focus and promoted frequent communication between the EMS end-user group and IT-CSS. The use of standard templates also enabled consistency, increased overall document quality, and reduced the complexity, time and cost of document creation.

Using the ASAP methodology, business requirements were validated at the beginning of the project. Although a process for change management had been defined, there were no required changes to the business requirements during the implementation.

The Secretariat's *A Guide to Project Gating for IT-Enabled Projects*, a gating model which maintains alignments with internal architecture standards, was used to monitor the progress of the project.

IT project management methodology was supported through the use of the IT-CSS JIRA Issue and Project Tracking Tool. This tool allowed the team to track system bugs, supported issues tracking, and helped facilitate the system change management process. The workflow functionality of the tool tracked the completion and approval of the steps for key project activities prior to "go-live." <sup>4</sup> This functionality mitigated the risks that key project tasks were not completed prior to the go-live date.

### 3.1.2 Iterative user involvement

EMS end-users were involved throughout the development process to validate that their needs were met.

The audit team expected that input from the EMS end-users would inform the development of the EMC application, which would contribute to a better alignment of functionality to business requirements and to overall user satisfaction with the end product.

Agile Development, an iterative and incremental application development technique, involving continuous feedback from users, was used during the project. This user-centric approach promoted communications with, and the involvement of, the EMS end-users, ensuring that the application met the defined business requirements. User sessions were organized to validate application functionality at the conceptual level and to obtain feedback on demonstrations of the application's detailed functionality. This approach contributed to active project support from EMS senior management and EMS end-users.

A pre-production environment of the application, known as the "sandbox," allowed EMS end-users to become familiar with the application during the development period. This

environment provided opportunities for valuable feedback on the alignment of system functionality to the detailed business needs and promoted user buy-in.

This user-centric approach focused on involving the EMS end-users and ensuring effective communications with them to maximize the value of the project deliverables. This approach also reduced the risk of unexpected delays or user dissatisfaction with an application that did not meet their business requirements.

### **3.1.3 Identification and implementation of business requirements**

Business requirements were defined, articulated and translated to high-level design documentation according to a structured approach.

It was expected that the business requirements would be defined, articulated and translated to high-level design documents.

Business requirements for the EMC system were listed in a formal business requirements document, which provided an overview of the business processes and details on the requirements of each business process area. A "fit assessment," conducted by the project team, confirmed the extent to which the SAP solution accommodated the business requirements for the functionality required to support the Secretariat's budget office responsibilities.

The audit team found that the design documents demonstrated how the system was configured to support the business requirements. Specifically,

- Business activities were mapped to SAP functionality;
- System usage requirements also identified technical requirements;
- Documents for the decision to deploy the enhancement packages clearly outlined the functional and technical considerations for introducing greater functionality; and
- Documentation of the high-level design of relevant business objects were mapped to SAP objects.

Having clear and structured approaches for identifying and assessing IT solutions is critical to the identification and definition of business requirements, and to the translation of those requirements into an effective and efficient design of automated solutions.

The audit team found that key documents developed to support the project demonstrated how the business requirements were defined and implemented in the design of the EMC system.

### **3.1.4 User training**

Training documentation was developed, and end-users received sufficient training to use the EMC system to achieve business objectives.

It was expected that training documentation would be developed to support EMS end-users in the correct usage of the system. It was also expected that these end-users would receive the appropriate training to allow them to achieve the business objectives.

EMS end-users, who were part of the project team, developed the training material and trained the other EMS end-users in the use of the new EMC system. During the project, approximately 48 documents were developed with detailed steps on how to enter master data, enter transactions, run reports and run queries in the system. These documents were shared with the broader EMS end-user group during training sessions.

Because of the small size of the group of users to be trained, a formal training plan was not developed and user participation in training sessions was not tracked. EMS end-users participated in specific training sessions that were designed to support them in their business function.

The development and maintenance of end-user documentation to ensure that it reflects current processes is critical to supporting the end-user in the correct usage of the system. It also reduces the risk of making errors in data input or setting incorrect parameters on reports used for analysis and to support decisions. Since system implementation, the EMS end-users have indicated that the system procedures are being maintained and enhanced as the system and processes are enhanced. EMS end-users indicated that additional training was provided following the initial training sessions. They also reported that a variety of training methods were implemented, including ad hoc or one-on-one training, weekly Question and Answer sessions, and a refresher session at the beginning of each Estimates exercise.

The audit team found that the training documents were well developed. They were presented in a standard layout and included tables describing data elements to be entered in the system and screen shots with comments inserted to assist the EMS end-users in the use of the EMC system.

## **3.2 Opportunities for Improvement**

### **3.2.1 Project information management**

System project files, which were retained, were kept in a distributed fashion across several server locations, GCDocs and various individuals' email files. A number of key deliverable documents were not retained. There was no central repository for project documentation.

The audit team expected that the documentation to support the definition of requirements, decisions and activities for the development and implementation of the EMC system would be kept in a central location. Once the project was complete, the key documentation considered to be project information resources of business value would be identified and retained in a central location accessible to those IT individuals required to provide ongoing support of the EMC system.

The audit team observed that project files were kept in various server locations, including the shared directories within the IT-CSS and EMS organizations, individuals' email files, and the Secretariat's official document repository GCDocs.

The project files held a large number of documents, including project management documentation, formal business requirements, report mock-ups and report technical specifications, which were provided to the audit team for review. The following documentation weaknesses were observed by the audit team:

- Evidence of EMS end-users' feedback for the various sessions organized to validate the concepts and the functionality of the system were not available;
- Results and approvals of EMS end-user acceptance testing were not available;
- Functional specifications representing the detailed EMS end-user requirements for each EMC report and query were not documented and retained during the project;
- Data validation activities demonstrating that data integrity was maintained through the conversion process were not available; and
- The final approved document indicating user acceptance of data conversion and the system configuration was not available.

Retention of the key project documentation in a central location mitigates the risk of losing documents owing to employee departures, and supports the application of new change requests and system upgrades without disturbing the intended system design. Changes to the system or reports, without the knowledge about the intent of the designed functionality, may lead to data integrity issues, which can impair the ability of the business to make decisions with the information stored in the system.

## **Recommendations**

It is recommended that the Assistant Secretary, CSS, in collaboration with the Assistant Secretary, EMS, develop the functional specifications for each required 5 report and query function in the EMC system, and file the approved functional specifications with the report mock-up and technical specification in the corporate system documentation files.

**Priority ranking: Medium**

It is recommended that the Assistant Secretary, CSS identify project information resources of business value, which include conversion documentation in addition to project requirements, specifications, change orders and evidence of client acceptances. These resources should be stored and maintained to facilitate ongoing maintenance of the EMC system.

**Priority ranking: Medium**

### 3.2.2 Data conversion planning

Data conversion planning documentation lacked detail and did not address some key required elements.

The audit team expected that a data conversion plan would be in place, which would ensure that all risks and critical activities would be identified and addressed. This plan, in turn, would ensure that the conversion of data from legacy systems to the new EMC system would meet data integrity standards and could be relied upon for reporting and decision making.

The data conversion plan documentation was missing key elements that would have been included in accordance with a quality plan or organizational standard. The existing documentation identified critical data items, and details were provided about the data elements that needed to be migrated. Functional and technical testing requirements were also specified. However, the documentation did not adequately describe the planned conversion process.

Specifically,

- An assessment of the project's risks related to data conversion testing was not developed;
- Criteria defining the success of each data conversion test phase were not clearly articulated;
- Remediation procedures for instances where success criteria were not met were not defined; and



- There was no evidence of fallback and recovery plans.

Interviews indicated that the EMS end-users were frequently consulted during the conversion process. IT-CSS and EMS end-users on the project team stated that there were no issues with the data conversion.

The audit team was not able to validate the data integrity during the conversion process owing to the limitation of detailed documentation regarding planning and testing. However, the following factors mitigated the risks of data integrity issues:

- EMS end-users were involved during the planning phase and were frequently consulted during the conversion process.
- A collaborative approach was used to engage IT-CSS and the EMS end-users. These individuals, including those on the conversion team, had a high level of knowledge and skills about the business and the business processes.
- Explanations provided by IT-CSS and the EMS of the processes for handling the data conversion activities were at a sufficient level of detail to provide the audit team with a level of confidence that there was a very low risk of error in the data. These explanations included a description of error handling and controls in place to prevent the transfer of erroneous data in the EMC system.
- The first production cycle of Main Estimates and Supplementary Estimates A were subject to a detailed reconciliation process by the EMS end-users on the opening balance information to ensure that it was consistent with previously published information. This process remained consistent with the reconciliation processes that were regularly done for the publication of all Estimates documents from the previous legacy systems.
- Subsequent to the production of the 2013–14 Main Estimates, there have been five Supplementary Estimates published as well as the 2014–15 Main Estimates. Each of these publications has been subject to scrutiny by federal departments and agencies to ensure their information is accurate. The EMS indicated that it has not received any information regarding errors in the publications.

The EMS end-users indicated that they are satisfied with the completeness and accuracy of the data that was transferred from the EMIS legacy system.

The audit team determined that a recommendation is not required because of the aforementioned mitigating factors and the confidence of EMS end-users in the reconciliation process to mitigate the risk of data conversion errors.

### **3.3 Overall Conclusion**

The audit team concluded, with a reasonable level of assurance, that the design of the EMC system was adequate and aligned with the defined business requirements. The system was also effectively implemented.

Both the EMS and IT-CSS viewed this to be a successful project in terms of functionality, cost savings and implementation.

Although the audit results were positive overall, a number of documentation weaknesses were noted. Specifically,

- System project files were kept in a distributed fashion across several server locations, GCDocs and various individuals' email files. A number of key deliverable documents were not retained; and
- Data conversion planning documentation lacked detail and did not address some key required elements. The limitation in documentation prevented the audit team from providing assurance on the adequacy and effectiveness of data conversion activities. However, after considering the numerous mitigating factors in place, the audit team did not have concerns with the accuracy of the data that were converted.

Two recommendations have been made to mitigate risks with the current system and to support future system development efforts.

The audit team also identified areas of best practices and shared these with management.

## Appendix A: Management Response

### Recommendation 1

It is recommended that the Assistant Secretary, CSS, in collaboration with the Assistant Secretary, EMS, develop the functional specifications for each required [6](#) report and query function in the EMC system, and file the approved functional specifications with the report mock-up and technical specification in the corporate system documentation files.

**Priority Ranking: Medium**

### Management Response

We agree with the recommendation. Currently, both sectors are using the JIRA application with links to functional specifications, mock-ups and technical specifications to perform accurate and consistent configuration management of the system.

Management Action	Completion Date	Action Owner
The Information Management and Technology Directorate (IMTD) and the EMS will complete the required functional specifications, associated with the system as it exists today.	September 30, 2015	IMTD, Director of Applications

## Recommendation 2

It is recommended that the Assistant Secretary, CSS identify project information resources of business value, which include conversion documentation in addition to project requirements, specifications, change orders and evidence of client acceptances. These resources should be stored and maintained to facilitate ongoing maintenance of the EMC system.

**Priority Ranking: Medium**

### Management Response

We agree with the recommendation.

Management Action	Completion Date	Action Owner
All relevant business documents for the EMC system will be gathered and stored within the EMS GCDocs folder.	December 31, 2014	IMTD, Director of Applications

## Appendix B: Audit Criteria

On the basis of the results from the planning phase, it was determined that the audit would cover two lines of enquiry:

**Line of Enquiry 1: The design and implementation of the EMC system aligns with defined business requirements and meets users' needs.**

Audit Criteria **7**

1.1 The key deliverables for the EMC project were approved by appropriate business and IT representatives.

- 1.2 The project maintained a business user focus by determining business requirements and aligning them to the end-user needs and feedback.
- 1.3 A formal business requirement document was approved by appropriate stakeholders and was monitored and reported on throughout the project.
- 1.4 Business functional and technical requirements covering the full scope of requirements were identified, prioritized and agreed upon by appropriate stakeholders.
- 1.5 Business requirements were translated into a high-level design specification for software development and were approved and signed off by management.
- 1.6 Detailed design and technical software application requirements were prepared, and the criteria for acceptance of the requirements were defined and approved by appropriate stakeholders.
- 1.7 Acquired application software was configured and implemented to meet business objectives.
- 1.8 The status of individual requirements was tracked during development and implementation, outstanding activities were appropriately communicated, and changes to requirements were approved through an established change management process.
- 1.9 The EMC is configured to produce complete and accurate reports.
- 1.10 End-users received sufficient training to use the EMC to achieve business objectives. [8](#)

## **Line of Enquiry 2: Data integrity was maintained during conversion activities from the Expenditure Management Information System to the EMC system.**

### **Audit Criteria**

- 2.1 An adequate data conversion plan was in place and adhered to.
- 2.2 An adequate level of data conversion testing (and supporting activities) was performed, and the results were approved by appropriate stakeholders.
- 2.3 Business process owners and IT stakeholders effectively evaluated the outcome of the data conversion to ensure that data integrity was maintained, and the testing process as determined by the test plan.

## Footnotes

- 1 Governor General Special Warrants are obtained when Parliament is dissolved because of an election. They are used to establish and maintain allotment controls over approved expenditures.
- 2 Previous audits were done by the Secretariat's Internal Audit group ([Project Management](#), 2003; [Development of the Expenditure Management Information System](#) [EMIS], 2005), and by the Office of the Auditor General of Canada (Large IT Projects, [2006](#) and [2011](#)).
- 3 A walk-through is a type of audit test performed where a transaction or a case is traced from its inception to final disposition in order to gauge the reliability of internal controls.
- 4 "Go-live" is the term used to represent the date that an IT system is moved into a production environment and starts to be used by the business end-users.
- 5 Required reports and queries should be determined by the EMS and represent the reports and queries that are being used by the EMS in the current EMC system. Reports and queries that have been developed but are no longer used or required by the EMS would not have functional specifications developed.
- 6 Required reports and queries should be determined by the EMS and represent the reports and queries that are being used by the EMS in the current EMC system. Reports and queries that have been developed but are no longer used or required by the EMS would not have functional specifications developed.
- 7 The audit criteria originally included examination of the conversion of the archived information from the other legacy systems (XPONENT) to support future information needs. After the audit team confirmed that there was to be no conversion of data or reports developed to replicate archived reports, this audit criterion was not assessed during the examination phase. The EMS identified the relevant reports required from the legacy systems, and these reports were scanned into a report repository for use as required.
- 8 User training was identified a separate audit criterion following the issuance of the Preliminary Survey Memo. It had originally been identified as part of audit criterion 1.7. This facilitated the examination process.

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