



**HOUSE OF COMMONS
CANADA**

LARGE INFORMATION TECHNOLOGY PROJECTS

Report of the Standing Committee on Public Accounts

**Hon. Shawn Murphy, MP
Chair**

**FEBRUARY 2008
39th PARLIAMENT, 2nd SESSION**



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THE STANDING COMMITTEE ON PUBLIC ACCOUNTS

has the honour to present its

SEVENTH REPORT

Pursuant to its mandate under Standing Order 108(2), the Committee has studied the Large Information Technology Projects of the November 2006 Report of the Auditor General of Canada, and has agreed to report the following:

INTRODUCTION

Large information technology (IT) projects involve incorporating new hardware, software, and systems into government operations. They also can change the way departments do business by introducing new processes and modernizing work processes. The federal government has invested heavily in large IT projects. In the last three years, Treasury Board approved 88 IT projects with costs that totaled \$7.1 billion, with an additional \$1.2 billion provided to Canada Health Infoway and \$431 million invested by the Canada Revenue Agency in its systems.

However, large IT projects are inherently complex, expensive, and risky. They usually involve long planning and development times. Large IT projects have had a history of overspending, delays, performance shortfalls, and abandonment after major investments. Understanding why some projects have succeeded while others have failed would help the government manage IT projects for success.

As the Public Accounts Committee is concerned that some large IT projects may not be well managed thus putting substantial amounts of public funds at risk, the Committee held a hearing on the Auditor General's November 2006 Report, *Chapter 3: Large Information Technology Projects* on 18 June 2007. The Committee heard from officials of the Office of the Auditor General: Sheila Fraser, Auditor General of Canada; Douglas Timmins, Assistant Auditor General; Richard Brisebois, Principal; from the Treasury Board Secretariat: Ken Cochrane, Chief Information Officer; Jim Alexander, Deputy Chief Information Officer; from Public Works and Government Services Canada: Steven Poole, Chief Executive Officer, Information Technology Services Branch.

BACKGROUND

The Office of the Auditor General (OAG) last examined IT systems under development in government-wide audits in 1995, 1996, and 1997. The audits found inadequate analyses of underlying business issues, inconsistent support from management, a lack of experienced resources on project teams, inconsistent involvement on the part of users, and a lack of effective monitoring.

In May 1996, the Public Accounts Committee released a report on the issue and recommended that the government:

- allocate more resources to monitor large information technology projects;
- submit an annual report to the Committee on the status of departments' investments in systems that are under development;
- have the Treasury Board Secretariat take steps to ensure that there is complete ownership and accountability for large IT projects; and
- whenever possible, divide projects into smaller, more manageable components.

In 1998, partly in response to the OAG's recommendations, the Treasury Board Secretariat created an overall guidance document called An Enhanced Framework for the Management of Information Technology Projects—Part II (EMF). The Secretariat is currently undertaking a review of the EMF.

In its most recent audit, the OAG examined seven large IT projects: Global Case Management, Secure Channel, Expenditure Management and Information System, Integrated Revenue Collections, 2006 Census Online, AgConnex, and My Account/My Business Account. The audit examined these projects from four perspectives: governance, business case, organizational capacity, and project management. The audit concluded that overall, the government has made limited progress since the last audit of IT projects in 1997. The audit made six recommendations concerning the overall management of IT projects, all of which were accepted by the government.

The Public Accounts Committee fully endorses the findings and recommendations of this audit. However, there are several areas that are of concern to the Committee and are thus explored in more detail in this report: review by the Treasury Board Secretariat, the poor management of the Expenditure Management Information System and the Secure Channel, and public reporting of IT projects.

REVIEW BY TREASURY BOARD SECRETARIAT

Departments must seek Treasury Board approval before starting projects that exceed established departmental project authorities. Often approval must be sought for two phases: preliminary project approval and effective project approval. According to the audit, the Secretariat assists Treasury Board ministers by reviewing departmental submissions to ensure that the proposals comply with applicable policies, to assess the business value of the proposal, and to determine whether projects have the essential

project management elements to be successful. The Secretariat describes its role as one of selective oversight based on an assessment of risks and the Secretariat's available resources and capacity to oversee and monitor projects.

The audit attempted to determine whether the Treasury Board Secretariat adequately fulfilled its challenge and oversight responsibilities. However, the Secretariat denied access to the OAG to most of the information and analysis it collects and prepares, citing Cabinet confidence. Consequently, the audit was unable to assess the rigour and quality of the Secretariat's analysis. While the Auditor General told the Committee that this issue has been clarified by a new order in council, the Committee is concerned that this issue arose at all, since the Auditor General should have full access to all documentation held by the government, including the Treasury Board Secretariat. Now that the OAG has access to the needed information, the Auditor General may wish to closely examine the oversight role of the Secretariat in a follow-up audit.

In his appearance before the Committee the Chief Information Officer (CIO), Ken Cochrane, further clarified the Treasury Board Secretariat's role by categorizing it into four components: policy, practices, challenge, and monitoring. Under the authority of the Treasury Board, the Secretariat prepares policies to direct and guide departments when they undertake IT projects. For the second component, the Secretariat establishes best practices, such as the Enhanced Management Framework for IT-enabled projects. For the challenge function, the Secretariat reviews and makes recommendations to ministers on departmental projects. For higher risk projects the CIO branch monitors them on a regular basis.

According Mr. Cochrane, the Secretariat intends to take corrective actions to address the issues identified by the Auditor General. The Secretariat plans to develop new policies on the management of IT projects, implement improvements to the Enhanced Management Framework, such as a new capacity assessment tool, redesign and update its processes for reviewing submissions, and require departments to have independent third-party assessments done at key milestones. These and several other activities were outlined in a very brief "action plan" provided to the Committee.

While the Committee appreciates that the Secretariat is undertaking activities to strengthen its role in the governance and management of IT projects, the Committee is

somewhat concerned that problems with large IT projects have existed for years and the Secretariat is only now seeking to improve its practices. It is hard to have confidence in the Secretariat when the so-called “action plan” provided to the Committee is nothing more than a few bullet points and a diagram. When the Auditor General releases an audit, the Committee expects that departments will develop detailed action plans with specific target dates for the implementation of these recommendations. Mr. Cochrane told the Committee that he was, “prepared to speak to the target dates of the action plan in far more detail.”¹ This is not satisfactory because the Committee must then ask numerous questions in order to obtain any detail on the plan. Instead, a detailed plan should be provided to the Committee before the hearing in order to allow Members time to study it and develop questions. The Committee recommends that:

RECOMMENDATION 1

The Treasury Board Secretariat provide a detailed action plan with specific target dates to the Public Accounts Committee by 30 September 2008 for the implementation of the Auditor General’s recommendations on large information technology projects.

While it may be difficult for the Treasury Board Secretariat to monitor all large IT projects as they proceed, the Secretariat has a vital role to play in deciding whether to recommend approval of a project to the Treasury Board. Without thorough planning and a careful consideration of options, complex and difficult projects are not likely to succeed. According to the audit, a business case is the foundation of every sound investment decision because it explains the rationale for the project and the results that are needed.² However, the Auditor General told the Committee that, “Five projects were allowed to proceed with a business case that was incomplete or out of date or contained information that could not be supported.”³ The audit provides more detail on specific cases. The business case for the Expenditure Management Information System (EMIS) had no comprehensive project plan and vague, immeasurable business goals.⁴ Citizenship

¹ Meeting 69, 17:05.

² Auditor General of Canada, November 2006 Report, *Chapter 3: Large Information Technology Projects*, paragraph 3.63.

³ Meeting 69, 17:05.

⁴ Chapter 3, paragraph 3.78.

and Immigration Canada received two budget increases for its Global Case Management System without submitting a revised business case to provide a clearer picture of the project or to redefine objectives.⁵ The Secure Channel project's business case did not identify a source of funds to sustain the ongoing operating and maintenance costs of the project.⁶ In fact, the Treasury Board made five requests for a long-term sustainable business model indicating the source of funds for the operation of the Secure Channel. The business case prepared by Public Works and Government Services Canada was endorsed by the Secretariat, but it did not meet the sustainability concerns raised by the Auditor General in 2003.⁷

Ken Cochrane acknowledged that the government needed to do better in the area of business cases and said they will be putting in place a more consistent approach. He told the Committee that the Secretariat will also monitor compliance with the Enhanced Management Framework, and specifically business cases, through the Management Accountability Framework (MAF). He said, "If you're familiar with the management accountability framework, it does have an indicator that focuses very specifically on project management, and business cases are a key component in overall project management."⁸ However, the MAF exercise is a department-wide assessment and does not examine each and every project. Moreover, the Committee is astounded that the Treasury Board Secretariat would even allow projects to proceed without adequate business cases. When projects are approved with information that is incomplete or out of date, this is more than an issue of just refining the requirements for business cases.

The Auditor General recommended that the Secretariat should improve the requirements for business cases.⁹ The Committee agrees, but would like to go further because if the Secretariat recommends funding to the Treasury Board for projects that have inadequate business cases, then the Secretariat must bear some of the responsibility for any failures that take place due to inadequate proposals. As the Auditor General put it, "So unless there's a consequence to not giving complete business plans, people will

⁵ *Ibid.*, paragraph 3.85.

⁶ *Ibid.*, paragraph 3.69.

⁷ *Ibid.*, paragraph 3.70.

⁸ Meeting 69, 17:30.

⁹ Chapter 3, recommendation 3.90.

continue to give incomplete business plans.”¹⁰ Consequently, the Committee recommends that:

RECOMMENDATION 2

The Treasury Board Secretariat ensure that all information technology projects have a detailed, complete, accurate, and up-to-date business case prior to being submitted to the Treasury Board for approval.

Research indicates that small IT projects are more likely to succeed than large ones. However, the audit states that departments and agencies are once again undertaking large IT projects.¹¹ The Committee notes that the well managed projects examined by the audit, 2006 Census Online and My Account/My Business Account, were very specific and targeted. In its 1996 report on the topic, the Committee recommended that whenever possible, the government should divide IT projects into smaller, more manageable components. While the Committee acknowledges that the government is faced with broad, complex, cross-departmental issues, it continues to believe that every effort should be made to pursue small, targeted projects where possible. The Committee recommends that:

RECOMMENDATION 3

The Treasury Board Secretariat require all new information technology project submissions to include an options analysis of the possibility of breaking large projects into smaller, more manageable projects.

EXPENDITURE MANAGEMENT INFORMATION SYSTEM

The project with the worst rating by the Office of the Auditor General was the Treasury Board Secretariat’s Expenditure Management Information System (EMIS). This project was designed to support government expenditure management by providing information on the costs of meeting the government’s priorities and achieving particular results. EMIS was originally estimated to cost \$16.2 million but this was revised to \$53.7 million. At an earlier meeting on the Expenditure Management System, the Secretary to

¹⁰ Meeting 69, 17:30.

¹¹ Chapter 3, paragraph 3.22.

the Treasury Board, Wayne Wouters, suggested that this increase was due to an increased scope for the project. He said, “We modified the overall project to allow us to be able to not only gather the financial information, but also to be able to gather financial and non-financial information and link it to results.”¹² However, the problems with EMIS went much deeper than that.

The OAG concluded that EMIS met none of the criteria used to assess the large IT projects. The shortcomings of the business case noted above meant that the project team had difficulty determining whether they were achieving their overall objective. In addition, the audit found that the Secretariat lacked the capacity for the new system. The Secretariat never determined the resources needed to complete the project, had high turnover in management positions, and did not have enough experienced and qualified people working on the project for it to progress as originally planned. It was also an example of ineffective project management—it had no effective project plan, no performance measurement framework, and no specific project milestones and deliverables. Risk management for the system was weak and incomplete. The results of an internal audit of the development of EMIS were equally damning. It concluded, “You will note that many of the observations and recommendations read like a textbook on project management. For every project there are key critical success factors. We used these factors as our audit criteria and found that in most cases these factors were either absent or not completely implemented.”¹³

The poor management of EMIS casts some doubt on its chances for success, but aspects of EMIS began operations in December 2007 and will be used to support the development of the Main Estimates in 2008-09. If EMIS does not perform as expected, then it will pose problems for the government’s attempt to revise the Expenditure Management System. It is not just public funds that are at risk in large IT projects but substantial changes in the way government operates. The Committee’s concerns about EMIS led it to recommend in its report on the Expenditure Management System that the Secretariat provide the Committee with a status report on the implementation of EMIS.

¹² Meeting 42, 15:40.

¹³ Treasury Board Secretariat, *Audit of the development of the Expenditure Management Information System (EMIS)*, 25 November 2005, page 30.

More importantly, the fact that the EMIS project team did not follow the Secretariat's own Enhanced Management Framework damages the credibility of the Treasury Board Secretariat to provide direction, guidance, and oversight to departments for large IT projects. The Secretariat must lead by example if it expects departments to give any credence to its guidance and directions. In order for the Secretariat to regain its credibility, it must show that it can learn from the EMIS experience and apply those lessons learned in its guidance to departments. Consequently, the Committee recommends that:

RECOMMENDATION 4

The Treasury Board Secretariat conduct an evaluation of the development and implementation of the Expenditure Management Information System, including the deficiencies in the business case identified by the Office of the Auditor General, and provide a report to the Public Accounts Committee on how it will apply lessons learned to the Enhanced Management Framework by 31 December 2008.

SECURE CHANNEL

The most expensive project examined by the OAG was the Secure Channel. This project is a key component of the Government-On Line initiative. It provides a secure infrastructure to allow Canadians to use a single window to conduct online transactions with the government safely and effectively. During the planning, design, and field trial period (from 1999 to 2003), the Treasury Board Secretariat had responsibility for oversight, strategic direction, and decision-making for the Secure Channel project. In September 2003, the project received approval to start to use the technology and in December 2003, Public Works and Government Services took over project management. The Secure Channel was initially estimated to cost \$96 million, which was revised to \$400 million. It also has high ongoing costs of around \$100 million per year to operate it. By 31 March 2006, \$596 million had been spent on the project, including \$196 million for operations.

The audit found that the Secure Channel project had a number of governance issues. Departments and agencies had not agreed on how to sustain the project or what benefits it would provide. The project did not have a program budget reflecting full life-

cycle costs. In addition, the business case did not identify a source of funds to sustain the ongoing operations of the project. Treasury Board made five requests for a long-term sustainable business model that would indicate the sources of funds for the operation of the Secure Channel. It has received funding from Treasury Board 11 times and in 2004, funds earmarked for an exit strategy were used to sustain operations. It would appear that the government built the system without a long-term plan of how to sustain the project into the future. The Auditor General told the Committee, “For a project of this size and complexity one would have expected that the need would have been identified and communicated from the client departments rather than building something and then expecting them to use it.”¹⁴ The Committee is extremely disappointed that the Treasury Board Secretariat and Public Works and Government Services Canada would proceed with a very expensive project without first clearly identifying the need for the project and without a thorough cost-benefit analysis. Officials at these departments must bear some responsibility for the project’s ever increasing costs to the taxpayer.

The Secure Channel is now supposed to move to a cost-recovery model whereby departments pay Public Works and Government Services Canada (PWGSC) for each time Canadians use the Secure Channel to access their programs. The take-up by departments is important because the government must spend approximately \$100 million each year for the operations of the Secure Channel. If departments do not use it, then the per transaction cost of operations is considerable and PWGSC must absorb the operating costs. PWGSC’s performance report notes that, “when operating at capacity, Secure Channel service costs are well within the industry norm and, in some cases, slightly lower than industry averages.”¹⁵ However, the audit found that take-up by departments was far below projected expectations, and the Secure Channel operating at less than 50 percent of its capacity.¹⁶ The Auditor General told the Committee that “We have become aware that Service Canada has temporarily suspended it. Now, that may be

¹⁴ Meeting 69, 17:40.

¹⁵ Public Works and Government Services Canada, *2005-2006 Departmental Performance Report*, Annex B.

¹⁶ Chapter 3, paragraph 3.75.

coming back on, but the last time we looked it was still not using the Secure Channel. The Canada Revenue Agency does not use it for income tax.”¹⁷

Published reports indicate that departments are reluctant to sign-on to use the Secure Channel because it is more expensive than other options and difficult to use.¹⁸ In order to address the problem of long-term sustainability and take-up by departments, the Treasury Board has now made it mandatory for departments to use the Secure Channel. The Committee supports the move towards on-line government services, but there is little point in making an online system mandatory for departments if it is too costly and inhibits Canadians from using those services. Therefore the Committee recommends that:

RECOMMENDATION 5

Public Works and Government Services Canada conduct a cost-benefit analysis of the continued use of the Secure Channel and provide it to the Public Accounts Committee by 31 December 2008.

While the Committee learned that a revised business case was recently accepted by the Treasury Board, it believes that ongoing, publicly available information about the Secure Channel is vital to monitor the costs and sustainability of this project. PWGSC did provide information about the Secure Channel in its performance report as a horizontal initiative, but as the project is no longer a horizontal initiative, the information will no longer be available. In addition, the information available was hardly results based. As an example, the 2005-2006 report indicated that the planned result was “client take-up” and the resulted achieved were, “with 42 applications implemented across 26 organizations, client take-up has increased.” This should be an area where meaningful performance information is rather straightforward. Consequently, the Committee recommends that:

RECOMMENDATION 6

Should the Secure Channel be continued, Public Works and Government Services Canada provide meaningful results-based information in its annual departmental performance report on the Secure Channel, including

¹⁷ Meeting 69, 17:40.

¹⁸ Kathryn May, “Clumsy online service forced on PS,” *Ottawa Citizen*, 23 January 2007, page A1. Dan Deeby, “Tax Agency says federal system too expensive,” *Canadian Press*, 2 July 2007.

information on how many transactions it processes, the number of departments using it, its percent capacity use and per transaction cost.

REPORTING

The Committee is not just concerned about these two projects. It is important that all of the government's large IT projects are well managed. While the Treasury Board Secretariat has committed to improve its review process, the Committee strongly believes that Parliament needs to have access to sufficient information to allow it to function properly as an institution of accountability and to keep track of government spending on these projects, which is often considerable. The Committee notes that it was only through its report on the Canadian Firearms Program that the government provided detailed financial information on the total costs of the Canada Firearms Information System II, which was discontinued after spending \$81 million.¹⁹ In addition, the Committee would never have learned without the Auditor General's report that Agriculture and Agri-Food Canada discontinued its AgConnex project after spending \$14 million. As departments and agencies do not seem to be inclined to provide information proactively on the costs of their large IT projects, the Committee recommends that:

RECOMMENDATION 7

In its guidance to departments on the preparation of reports to Parliament, the Treasury Board Secretariat direct departments and agencies to provide financial and performance information on information technology projects expected to cost over \$10 million, including original and current estimated total costs, costs incurred to date, the expected completion date, and the intended outcomes of the project.

CONCLUSION

It is important that the government continues to invest in information technology projects in order to modernize the way it operates. However, it is vital that these projects are well managed. If they are not, there are huge risks to the significant amounts of public

¹⁹ House of Commons Standing Committee on Public Accounts, *10th Report: Chapter 4, Canadian Firearms Program of the May 2006 Report of the Auditor General of Canada*, 39th Parliament, December 2006. Government of Canada, *Government Response to the Tenth Report of the Standing Committee on Public Accounts: Chapter 4, Canadian Firearms Program of the May 2006 Report of the Auditor General of Canada*, March 2007.

funds involved and the anticipated changes in operations. In order for departments to avoid past mistakes, it is essential that they have a strong governance and management framework, beginning first and foremost with a thorough and effective business case. Unfortunately, the Auditor General found that there was limited progress from the last audit of IT projects in 1997. Departments do not always follow the Treasury Board Secretariat's Enhanced Management Framework and they are also undertaking large projects which have increased risks. The Public Accounts Committee is troubled by the lack of progress and believes that the Secretariat needs to take a stronger role with respect to these projects, especially during the planning phase and the preparation of business cases. While two cases from the audit raise particular concern, the Committee believes that the government needs to be more proactive in providing public information about all large IT projects because Parliamentarians and Canadians need to have assurance that public funds are being spent wisely and prudently.

APPENDIX A LIST OF WITNESSES

Organizations and Individuals	Date	Meeting
Department of Public Works and Government Services Steven Poole, Chief Executive Officer, Information Technology Services Branch	2007/06/18	69
Office of the Auditor General of Canada Richard Brisebois, Principal Sheila Fraser, Auditor General of Canada Douglas Timmins, Assistant Auditor General		
Treasury Board Secretariat Jim Alexander, Deputy Chief Information Officer, Chief Information Officer Branch Ken Cochrane, Chief Information Officer		

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the Committee requests that the government table a comprehensive response to this Report.

A copy of the relevant Minutes of Proceedings ([Meetings Nos.15 and 16](#)) is tabled.

Respectfully submitted,

Hon. Shawn Murphy, MP
Chair