1999-712

Year 2000 Contingency Planning and Status

1999-11-09

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Authority for the Project

This audit was approved by the Audit and Review Committee as part of the 1999/2000 Audit and Review Branch (ARB) Plan.

Objectives

To confirm the status of Public Works Government Services Canada (PWGSC) Year 2000 (Y2K) conversion and problem solving activities; to review the establishment and application of criteria to guide the allocation of resources towards either achieving compliance or preparing contingency plans and workarounds; and to review the completeness (business functions covered) and adequacy (sufficiency) of year 2000 business continuity activities.

Scope

Documentation retained within the Year 2000 Program Office was reviewed. As well, minutes from the Year 2000 Steering Committee, the Year 2000 Contingency Planning Steering Committee and the Year 2000 Contingency Planning Working Group were reviewed. Interviews were conducted with various managers involved in Y2K contingency Planning.

Executive Summary

<u>Conversion Activities</u>
All conversion activities for Government Wide Mission Critical applications (GWMC) and departmental High priority applications were completed by the June 30, 1999 deadline.

There has been slippage in the planned completion dates of lower priority applications. A status report dated September 23, 1999 indicates that sixteen Head Quarters and eleven Regional applications have yet to be certified and that two percent of the telecommunication products/services were still in the process of being certified. Within Network and Computer Services (NCS) there were ten uncertified components at the end of September 1999.

> Efforts will be made to either make these outstanding applications compliant or to commence the identification of alternative ways of achieving the associated business goals. If not certified, these systems will be removed December 17, 1999.

> The Y2K Program Management Office (PMO) has been monitoring the conversion process and the status of Telecommunications and NCS infrastructure components. It recognizes the need for continued attention to these outstanding conversion and testing activities.

The "Y2K Contingency Planning Transition Schedule" calls for all non-certified network connected systems to be removed. Non-certified architecture/infrastructure components are to be removed November 15 and non-certified applications removed December 17. The process by which the removals will occur is still to be determined.

Contingency planning

PWGSC has approached contingency planning for Y2K in a structured manner consistent with industry best practices and standards.

Contingency planning associated with the Year 2000 is being addressed both separately and within PWGSC existing business continuity/business resumption processes. Year 2000 contingency planning has been integrated with other Disaster Recovery Plans (DRP) and Business Resumption Plans (BRP) activities and products including: Disaster recovery planning for the GWMC systems which have been maintained by Government Telecommunications and Informatics Services (GTIS) since 1988; and the development of branch BRP's co-ordinated by the Corporate Emergency Preparedness group of Real Property Services (RPS).

The requirement for appropriate Year 2000 business continuity planning, risk assessment and business resumption plans for GWMC business functions has improved PWGSC's overall ability to ensure the continued availability of all essential services, programs and operations.

PWGSC has interfaced with the central agency organizations with Y2K contingency planning responsibilities. Not only has PWGSC met its deadlines for all required submissions, the submission for February 1999 was disseminated by TBS to other departments **"as an example of well advanced and thorough deliverables"**[1]. It has also assisted the National Contingency Planning Group (NCPG) in defining tests to be included in the Government of Canada validation exercise (VALIDEX) and played a key role in the testing process.

In accordance with the "PWGSC Business Continuity Plan Exercise Schedule" results from the VALIDEX exercise and other tests will be evaluated with the objective of further improving the department's Year 2000 contingency plans, GTIS supported disaster recovery plans and PWGSC business resumption plans for GWMC business functions.

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[1] Letter from TBS Y2K Project Office to the Assistant Deputy Minister, GTIS, June 7, 1999

Findings and Observations

1.1   Status Conversion Activities

As was planned, all conversion activities for Government Wide Mission Critical applications (GWMC) and departmental High (DMC) priority applications were completed by the June 30, 1999 deadline. There remains, however, outstanding conversion activities for medium and low priority applications. A status report dated September 23, 1999 indicates that sixteen Head Quarter and eleven Regional applications have yet to be certified and that two percent of the telecommunication products/services were still in the process of being certified. Within NCS there were ten uncertified components at the end of September 1999.

The Year 2000 Steering Committee which had overseen the Y2K project from its inception was disbanded in June 1999 and replaced by the Year 2000 Contingency Planning Steering Committee (Y2K CPSC). The Y2K Program Office continues to monitor the progress of all outstanding activities and report the status to the CPSC and to GTIS executive.

After June 30, 1999 risk management also changed in focus from an emphasis on conversion to one of looking at the risks associated with contingency planning.

This shift in focus to contingency planning activities is consistent with previous Y2K priorities, in that, attention remains with GWMC and PWGSC business critical and high priority applications. Reporting to PWGSC senior management committees and reports and deliverables requested by central co-ordinating bodies reflect this GWMC perspective.

A freeze, will be applied to all departmental infrastructure (computing and telecommunications) components, between October 1, 1999 to January 15, 2000. As well, applications operating on the PWGSC infrastructure will also be frozen for the period of November 15, 1999 to January 15, 2000. Recognizing that exceptions to the freeze will occur and will require management, the Year 2000 Program Office (PMO) has establish a Freeze Management Framework which links the request to various levels of approving authority. This framework will control the implementation of applications or infrastructure components certified compliant during the freeze period and application changes that are sufficiently justified. All requests will be jointly reviewed by the Program Office and NCS. In particular, the year 2000 PMO will review/evaluate/monitor change management reports for freeze exceptions/progress and attend NCS committee meetings. At this time four Government Operational Services (GOS) systems - Regional Pay System, Public Service Superannuation System, Standard Payment System, and RCMP Pay and Pension System and one RPS system[2] have been given exemptions. It should be noted that these systems are Y2K compliant and that these releases are to address business requirements. Finally, the Y2K Contingency Planning Transition Schedule calls for all

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[2] A compliant Computerized Maintenance Management System (CMMS) will be replacing the current non-compliant system.

non-certified network connected systems to be removed - architecture/infrastructure components November 15 and applications December 17.

1.1.1 Observations

There has been slippage in the planned completion dates of these lower priority applications. Given that these applications have not been sun-setted, it must be assumed that they address particular business requirement. Consequently efforts should be made to either make them compliant or to commence the identification of alternative ways of achieving the associated business goals. If not certified, these systems will be removed November 15, 1999.

As indicated two percent of telecommunication products/services and ten NCS components are still uncertified. While the Y2K PMO has been monitoring the conversion process, there is a need for greater visibility and impact identification for all outstanding conversion and testing activities.

The removal of non-compliant applications of infrastructure components in support of the freeze may be difficult to implement. The process by which the removals will occur is still to be determined.

1.2 <u>Contingency Planning</u>

Contingency planning associated with the Year 2000 is being addressed both separately and within PWGSC existing business continuity/business resumption processes. Prior to year 2000 activities business resumption/continuity planning and disaster recovery planning were being addressed.

Business Resumption / Business Continuity (BRP) Policy is contained in the Government Security Policy which states that all Departments shall have tested Business Resumption Plans to ensure the continued availability of essential services, programs and operations, including all resources. Within PWGSC, this policy has been embedded in the Department Emergency Book.

The responsibility for the BRP program in PWGSC is assigned to RPS/PFM Corporate Emergency Preparedness. Acting as facilitators they co-ordinate the corporate planning effort through a network of BRP Co-ordinators established in each Branch, Region and Special Operating Agency (SOA). BRP Co-ordinators facilitate/co-ordinate the development of their organization plans by providing tools, training, expertise and guidance.

Disaster Recovery Plans (DRPs) were developed to recover computer centres and associated systems and applications. NCS has prepared DRPs for the cheque production operations identified as priority in 1988 and for a LAN-based Banking Facility System. Included in the GTIS supported DRPs are all applications identified as GWMC.

The Treasury Board Secretariat (TBS) established a project office within the Office of the Chief Information Officer (CIO) to address the Year 2000 problems associated with Government Wide Mission Critical (GWMC) functions. A National Contingency Planning Group (NCPG) was formed (October 28, 1999) to perform a national risk assessment and monitor and assess Departmental readiness in this area. In support of this effort Treasury Board Project Office developed and issued "A Guide to the Effective Business Continuity in Support of the Year 2000 Challenge" booklet to departments.

As indicated above, PWGSC has established a Year 2000 Contingency Planning Steering Committee to oversee the preparation, testing and implementation of continuity plans and a supporting contingency planning working group. Both committees have representatives from all the areas involved, GTIS as well as the business branches. Day to day monitoring and support of the Year 2000 contingency planning process is being provided by the Y2K PMO.

1.2.1 Contingency Planning Process

In August of 1998 general scenarios were identified - high level definition and mitigation strategies were documented for: loss of public utilities; loss of Telecom; facilities embedded system failure; failure of Y2K compliant applications; failure of non compliant applications or systems; and failure of service or product suppliers. Branches were to develop contingency plans for critical business functions already identified in the branch BRP's.

Consultants were engaged in September 1998, to assist the business branches in their contingency planning activities. Project plans were initiated which included the identification of deliverables and a time table. Contingency plan requirements were to be completed by December 1998 and contingency plans completed by April 1999. The Y2K Program Office co-ordinated the project and was the technical authority..

The consultants also produced a report on potential legal issues arising from a contingency planning exercise for PWGSC mission critical functions. The report was forwarded to the departmental Legal counsel for observations January 12, 1999.

Risk assessment and management specifically related to contingency planning began in October and was reviewed again in November 1998. Risk Information sheets were forwarded to TBS in November 1998.

PWGSC provided four packages to the TBS Y2K Project Office March 31, 1999: Y2K Contingency Plans for GWMC business functions including Telecommunications and Informatics Services contingency plans supporting GWMC functions; Y2K contingency plans for Telecommunications shared services; Y2K contingency plans for building systems; and Y2K contingency plans (business resumption plans) for non-GWMC business functions. **These product were subsequently recognized in a letter from TBS Y2K Project Office to the Assistant Deputy Minister, GTIS, which indicated that**

"the PWGSC submission for February, 1999 has been made available to other departments as an example of well advanced and thorough deliverables"[3].

Other products of note include: An Infrastructure Y2K Roll-over and Crisis Response Plan prepared by GTIS March 4, 1999; draft letters prepared for essential personnel - on site, on standby and non-essential employees- were covered; and the identification of the PWGSC day zero and crisis response organization.

GTIS , RPS/PFM Corporate Emergency Preparedness, and business branch managers were involved in all aspects of the process.

As of August 30th the Corporate Emergency Preparedness Group reported that plans for the following areas had been completed: Audit and Review Branch, Communications Branch, Communications Co-ordination Services Branch, Corporate Implementation Group , Government Operational Services Branch, Government Telecommunications and Informatics Branch, Human Resources Branch, Legal Services Branch, Real Property Services Branch and Supply Operations Branch.

1.2.2 Testing

Disaster Recovery Plans (DRPs) to recover computer centres and associated systems and applications are being tested in parallel to Business Resumption / Business Continuity Plans (BRPs) which cover all phases from mitigation, response, recovery, to resumption of GWMC business functions. Both DRPs and BRPs are being tested in departmental and Government of Canada desk-top tests (VALIDEX).

DRP Testing
The NCS DRP's were tested as part of the GTIS DRP test run of August 19 (Tabletop test). In addition, our ability to move critical functions from one data centre to another was tested during a recent strike (live actual activation).

The Bank Facilities DR plan has been tested (full physical test). This plan has been used many times (including the Ice Storm) and has always worked successfully.

The Regional Print DRP was tested recently between Dartmouth and Quebec City. The print redirection was successful but a number of operational issues were identified in the post mortem that are being followed up by the team members. There will be another test of the regional print plan before year end to ensure that the operational issues identified in the initial test have been resolved.

There are plans to test of our ability to send tapes to the regions for the transfer of payment data by end of October 1999.

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[3] Letter from TBS Y2K Project Office to the Assistant Deputy Minister, GTIS, June 7, 1999

In addition to the tests above, NCS participated in the NCPG VALIDEX tests, September 28/29/30.

BRP Testing

Testing of Branch level BRPs and the Head Quarters Crisis Co-ordination Group started August 25, 1999 and was completed on September 21, 1999. Testing methodology consisted of a one hour general briefing on Business Resumption Planning and a four hour table-top exercise. Approximately 150 Departmental personnel took part in these exercises including many Director Generals and Directors. Three Exercise scenarios were used. The first scenario set the stage; the second scenario forced the participants to become familiar with their plans; and the third scenario required a review of critical functions, recovery timings and strategies, and the resources required to recover these critical functions. In every case, changes to Branch BRPs were recommended and passed to Branch BRP Co-ordinators for action. Branches are in the process of updating their plans. Revised plans are targeted for October 30th.

A "no fault table-top exercise" to verify the relevancy, efficiency and completeness of the business continuity plans to respond to Year 2000 related events and provide a vehicle for training the personnel involved with the business continuity plans for GWMC and departmental High (DMC) business functions was undertaken September 13, 1999 to September 24, 1999. These test were applied to the business continuity plans associated with: DMC business functions, Telecom. Shared Services (GTIS), Banking Services, Payment Services, Central Accounting and Reporting Services, Compensation Services, GTIS support for the above functions and Building Systems (RPS).

A second "no fault table-top exercise" to familiarize branches with the execution of BRPs and to validate the existing branch BRPs for non GWMC functions was performed. The tests covered other business areas within Head Quarters and the Regions.

Both table-top tests were completed as scheduled.

External Contingency Planning Tests

Under the supervision of NCPG, a table-top test (VALIDEX) was performed September 28, 1999 to September 30, 1999. The objectives of the test were to evaluate the capacity of the Government of Canada Y2K transition structure to co-ordinate & facilitate federal support to a severe or a number of concurrent emergencies and provide an environment where the participants could test their own contingency plans.

Federal Departments with Government Wide Mission Critical Business Functions and some provinces were involved. "Fictitious Incidents" and events were used to simulate the period of January 4, 2000 to January 6, 2000.

As of October 4, 1999 the results of the VALIDEX exercise have not been publicly released. However, a *"First Impressions Report"* submitted to NCPG on October 1, 1999 was shared with a limited audience at PWGSC. It is expected that the resulting analysis of what took place will lead to further changes to the procedures and plans. Additional internal tests are planned for GTIS, Receiver General (Banking) and Receiver General (Central Accounting) business areas.

1.2.3 Observations

PWGSC has approached contingency planning for Y2K in a structured manner, consistent with industry best practices and standards.

The requirement for appropriate Year 2000 business continuity planning, risk assessment and business resumption plans for GWMC business functions has improved PWGSC's overall ability to ensure the continued availability of all essential services, programs and operations, including all resources - human, informatics support and facilities.

Year 2000 contingency planning has been integrated with other DRP and BRP activities and products including: Disaster recovery planning for the GWMC systems which have been maintained by GTIS since 1988; and the development of branch BRP's co-ordinated by the Emergency Preparedness group of RPS.

PWGSC has interfaced with the central agency organizations with Y2K contingency planning responsibilities. PWGSC has met the deadlines for all required submissions and in one case was used as an example to guide other government departments. It has assisted the NCPG in defining tests to be included in the Government of Canada VALIDEX exercise and played a key role in the testing process.

In accordance with the "PWGSC Business Continuity Plan Exercise Schedule" results from the VALIDEX exercise and the internal departmental tests will be evaluated with the objective of further improving the departments Year 2000 contingency plans, GTIS supported disaster recovery plans and PWGSC business resumption plans for GWMC business functions.