

**PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

**AUDIT AND REVIEW BRANCH**

**REPORT**

**98-712**

**Year 2000 Follow-up Audit**

**Audit and Review Committee Approvals**

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**Management Response:**

**MARCH 1999**

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**Executive Summary**

**Authority for the Project**

This audit was approved by the Audit and Review committee in the 1998/99 audit plan.

**Objectives**

The objective of this audit is to follow up on the results of the Year 2000 audit conducted in 1997/98 and identify any residual risks to the department achieving its Year 2000 objective. The department's Year 2000 objective is to ensure the continuity of critical business functions into and beyond the turn of the century including:

- application programs;
- hardware and system software; and
- building systems<sup>1</sup>.

**Scope**

The audit scope includes the Year 2000 Program Office and other GTIS project offices, the RPS Year 2000 Building Operations team and those other areas of the department that conduct or deliver critical business activities including:

- Government Operational Services (GOS) Branch;
- Supply Operations Services (SOS);
- Human Resource Branch (HRB);
- Real Property Services (RPS) Branch; and
- the Regions.

**Background**

The Government has set out Year 2000 readiness as its major operational priority; consequently all federal departments and agencies must ensure that their information management and information technology systems, applications and infrastructure as well as telecommunications networks are Year 2000 compliant and operational on January 1, 2000. In March 1998, two audit reports were delivered on PWGSC's Year 2000 Conversion; one for information technology and one for embedded chips in building systems.

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<sup>1</sup> Building systems refer to embedded chips in the electronic building control systems for which the Property and Facilities Management Division of RPS have taken responsibility regarding Year 2000 problems.

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## **Key Findings**

The Year 2000 compliance exercise represents a significant, visible and successful example of a co-ordinated PWGSC activity. Multi-branch teams have been created, vertical communication has been enhanced, and contact points for our external clients have been consolidated and rationalized to respond to the Year 2000 challenge.

## **Follow-up of Previous Audit Recommendations**

During the first stage of this audit, actions taken to address the recommendations from the 1997/98 Year 2000 Audit were evaluated. The audit found that appropriate and significant progress has been made in response to the initial audit recommendations for both information technology and building systems and that no material items were outstanding. Recommendations from the initial audit, as well as the status of the action plans, are presented in Appendix A.

## **Management Control Frameworks**

There is an adequate management control framework (MCF) to plan, execute, monitor and report Year 2000 readiness within the Year 2000 Program Office and the project offices for Mission Critical applications, Building Systems, Telecommunications, and the Office Infrastructure Renewal (OIR) Project.

The Program Office continues to work within a comprehensive management control framework for monitoring and reporting progress. Project status is monitored from three different checkpoints - status reporting against application project plans, status reporting against infrastructure component plans (NCS, OIR, Telecom, Building Systems) and status reporting of testing against test plans (by the Test Lab management). There are also multiple oversight layers that ensure accurate status reporting. Application progress in business branches is monitored by application owners, Branch co-ordinators and Branch Senior Managers. GTIS management regularly monitor and present progress to GTIS Executive. A Steering Committee, which meets every two weeks, oversees the Year 2000 Program. Regular status reports are presented at Senior Management Committees and briefings are provided to Treasury Board Ministers.

Management of Mission Critical applications conversion is sound. Most Mission Critical applications are near to, or have, completed accreditation - Twenty eight applications are accredited, 5 additional applications are scheduled to be completed by May 31, 1999 and the remaining application is to be completed by June 30, 1999. Mission Critical applications implemented in the regions are managed within the management control framework in place at Headquarters. The MCF in place ensures accurate and timely reporting of progress.

Compliance of PWGSC telecommunication components, as well as telecommunications services provided to other government departments is managed through established practices to collect data, to maintain the data base, and to provide accurate/complete status reporting.

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The Telecommunications Sector Office Infrastructure Renewal (OIR) Project has an adequate MCF in place to plan, execute, monitor and report on the implementation of a standard, compliant desktop, electronic mail system, and supporting operating system infrastructure throughout the Department.

Year 2000 building systems compliance activities within RPS have shown the greatest change since the previous audit. There is now an adequate MCF in place to plan, execute, monitor and report the achievement of PWGSC Year 2000 building systems readiness, as well as, building system services provided to other government departments.

The MCF over High Priority applications varies depending on the business branch. The MCF established in GOS for closely monitoring the progress of Mission Critical applications is being applied to the High Priority applications. Of the applications reviewed, GOS applications were, or near, accreditation. In other branches, there is a reliance on GTIS to perform and manage the conversion activities with varying direct managerial oversight by the business branch involved. Minimal oversight may impact the identification and/or correction of problems. This risk, however, is mitigated by the status reports provided by the managers of interrelated Year 2000 activities and by regular reviews conducted by the Program Office. The focus of attention is shifting from Mission Critical to High Priority applications across the department.

While there exists an adequate management control framework enhancements can be made to further improve PWGSC's ability to ensure Year 2000 objectives are achieved.

- The focus of the business managers to date has been on the conversion of the application, while relying on GTIS to address infrastructure compliance. Increased monitoring of the timeliness of the conversion process for dependent infrastructure by business managers would provide additional assurance that the application objectives are being addressed by related infrastructure components..
- Status reporting for building system compliance activities, currently prepared manually from electronic files, cannot continue to provide management with accurate and timely information, nor can it accommodate the increased reporting requirements related to our role as service provider to other government departments. The National on-line database (NBITS) designed to replace the current process needs to be fully implemented, updated and made operational in all regions as quickly as possible.

### ***Recommendation<sup>2</sup>***

#### ***It is recommended that:***

1. *The ADM RPS ensure that the project tracking, monitoring and reporting system, NBITS, is fully implemented, updated and made operational as quickly as possible.*

### **Issues**

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<sup>2</sup> Additional recommendations addressed to the Year 2000 Program and Project Offices are included in the body of this report only.

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Issues are identified, addressed and continue to be monitored within the existing MCF. These issues include the readiness of High Priority applications including slippages, testing of Mission Critical interfaces, impact of OIR implementation delays, readiness of leased buildings, testing of buildings managed through an Alternative Form of Delivery (AFD) agreement, and assurances from utilities and municipal governments. Continued monitoring and oversight of these issues is required.

Some High Priority applications have been identified as not meeting scheduled test dates. As of February 26, 1999, ten High Priority applications were behind schedule (4 GOS, 1 SOS, and 5 RPS) and Human Resources Branch had requested a deferral of their testing of some High Priority systems. Plans are in place to ensure that all delayed applications will be accredited by June 30, 1999.

**Contingency Planning**

Contingency Plans are in place for all Mission Critical applications and are being further developed for the infrastructure components. Detailed contingency plans are targeted for completion by April 30, 1999.

**Mission Critical Interfaces**

Testing and application interfaces has become an area of concern at Treasury Board Secretariat. The department continues to address interface requirements for the Mission Critical applications through communication with external business partners which began early in the conversion process. Selected testing of interfaces based on the criticality of the systems supported has been ongoing. A Paper outlining PWGSC's strategy for end-to-end testing has been defined, approved and is expected to be forwarded to Treasury Board Secretariat (TBS) and external partners in March 1999. A new status report of PWGSC Mission Critical application interface testing has been developed and accepted by TBS.

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**Environment Stabilization**

In addition to the operational considerations for PWGSC's Year 2000 readiness, it is essential that senior management support a freeze on changes to PWGSC infrastructure from October, 1999 to January 15, 2000 and to PWGSC applications from November 1999 to January 15, 2000, as proposed by GTIS. This will provide a buffer period to resolve any residual problems which may be encountered, given the magnitude and complexity of the Year 2000 changes undertaken.

***Recommendation***

***It is recommended that:***

1. *The ADM GTIS, through the Information Management Committee, ensure that the freeze on changes to the PWGSC infrastructure and applications is adhered to.*

**Year 2000 Long-term Benefits**

The investment into Year 2000 readiness has also resulted in many new services, practices, procedures and products, which address good management practices such as the Vendor Information Service, Regional Resource Centres and telecommunications and infrastructure components inventory. While the focus of attention should remain on meeting the Year 2000 challenge, the continuation of these practices needs to be assessed and formally addressed prior to the completion of the project and the reassignment or departure of the Year 2000 project team members.

***Recommendations***

***It is recommended that:***

1. *The ADM, GTIS assess the benefit of continuing the services, practices, procedures and products, developed within the Year 2000 program and establish a mechanism to ensure these items are integrated into the PWGSC operational environment.*
2. *The ADM, GTIS assess the benefit of maintaining the telecommunications and infrastructure component inventory as part of an asset management system beyond year 2000.*

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**Information Management**

The Program Office has implemented an information management support system to facilitate the classification, storage and retrieval of information. The system is intended to be expanded to other Year 2000 project offices and areas involved in Year 2000 activities. We observed that the system will adequately achieve Management of Government Information Holdings (MGIH) objectives where implemented, however, it is doubtful that the system will cover all information collected. We have also noted that all areas audited are maintaining Year 2000 documentation to substantiate the work which has been performed and decisions made.



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## **1 Introduction**

### **1.1 Authority for the Project**

This audit was approved by the Audit and Review committee in the 1998/99 audit plan.

### **1.2 Objectives**

The objective of this audit was to follow up on the results of the Year 2000 audit conducted in 1997/98 and identify any residual risks to the department achieving its Year 2000 objective. The department's Year 2000 objective is to ensure the continuity of critical business functions into and beyond the turn of the century including:

- application programs;
- hardware and system software; and
- building systems<sup>3</sup>.

### **1.3 Scope**

The audit scope included the Year 2000 Program Office and other GTIS project offices, the RPS Year 2000 Building Operations team and those other areas of the department that conduct or deliver critical business (Mission Critical and High Priority) activities including:

- Government Operational Services (GOS) Branch;
- Supply Operations Services (SOS) Branch;
- Real Property Services (RPS) Branch;
- Human Resource Branch; and
- the Regions.

### **1.1 Background**

The Government has set out Year 2000 readiness as its major operational priority; consequently all federal departments and agencies must ensure that their information management and information technology systems, applications and infrastructure as well as telecommunications networks are Year 2000 compliant and operational on January 1, 2000. To achieve this objective, PWGSC established a Year 2000 Project Office in the fall of 1996 to ensure the timely and effective conversion of IM/IT applications and infrastructure for which it is responsible, and to provide continuous and seamless systems operations to its clients. In August 1998, to accommodate increasing complexities as Year 2000 efforts progressed, the Year 2000 Project Office expanded to become the Year 2000 Program Office.

In March 1998, two audit reports were delivered on PWGSC's Year 2000 Conversion; one for information technology and one for embedded chips in building systems. The industry standard

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<sup>3</sup> Building systems refer to embedded chips in the electronic building control systems for which the Property and Facilities Management Division of RPS have taken responsibility regarding Year 2000 problems.

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for Year 2000 conversion projects includes the following five phases, overseen by project management: Awareness, Assessment, Renovation, Validation and Implementation. The findings of the two audit reports were presented according to this model. It was noted that:

- The Awareness and Assessment phases for information technology were completed, renovations were being conducted with some validation and implementation beginning. Audit observations and recommendations were made regarding the activities already completed during the first two phases, as well as to areas that GTIS was planning to address as the project progressed.
- Year 2000 work related to embedded chips in building systems was part way through the Awareness and Assessment Phases. *Work had not yet begun on the other three phases.* Thus, many of the audit observations and recommendations pointed to areas that RPS would be in a position to address as the project progressed

This audit found that all initial audit observations and recommendations for both information technology and building systems have been addressed by management.

Recommendations from the initial audit, as well as the status of the action plans, are presented in Appendix A.

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## **2 Issues Examined**

In the detailed examination phase, we assessed the adequacy of conversion activities for selected Mission Critical and High Priority functions. We also reviewed the management control framework processes for issues, such as telecommunications, that are common for most functions. The following provides a brief description of the common issues examined.

- **Integrated Planning**
  - identification of dependencies for the delivery of the function, including the infrastructure to run the supporting applications;
  - adequacy of the scheduling and monitoring of the resolution of the dependencies to meet implementation requirements;
- **Telecommunications**
  - *validity, reasonableness and reliability of the plans and the status reporting;*
- **OIR**
  - *validity, reasonableness and reliability of the plans and the status reporting;*
  - *impact of delays on Mission Critical and High Priority applications;*
  - *action taken on recommendations of Program Office internal review;*
- **Documentation**
  - *organization and accessibility of the documentation maintained;*
  - *adequacy of the support for demonstrating due diligence;*
- **Contingency Planning**
  - *consistency and clarity in the approach to contingency planning;*
  - *adequacy of contingency plans to address all relevant components including external communications and identified risks;*
- **Building Systems**
  - *identification and testing of facilities and building systems supporting departmental Mission Critical and High Priority functions;*
  - *adequacy of actions taken to ensure compliance of leased facilities housing government employees*
- **Responsibilities to the Government of Canada**
  - *adequacy of the planning, monitoring and controlling of responsibilities including assistance to other departments for readiness of building systems, provision of the Vendor Information Service and readiness of government-wide Mission Critical facilities*

### **3 Findings, Conclusions and Recommendations**

The Year 2000 compliance exercise represents a significant, visible and successful example of a co-ordinated PWGSC activity. Multi-branch teams have been created, vertical communication has been enhanced, and contact points for our external clients have been consolidated and rationalized to respond to the Year 2000 challenge.

#### **3.1 Application Readiness**

A sample of Mission Critical and High Priority applications were selected for detailed audit review. The sample included 25 of the 36 (69%) Mission Critical applications and 40 of the 58 (69%) High Priority applications from each major branch. The objective of the detailed review was to assess the adequacy of the conversion activities and to obtain an understanding of the progress reporting of applications.

##### **3.1.1 Mission Critical Applications**

An adequate management control framework (MCF) is in place to plan, monitor and report Year 2000 progress on Mission Critical applications. Interviews were conducted with the 3 business managers responsible for the 25 Mission Critical applications selected and documentation was reviewed for a sample of those applications within their portfolio. The audit found the management of the application conversions to be sound, where most applications were near to, or had completed, accreditation - Twenty eight applications are accredited, 5 additional applications are scheduled to be completed by May 31, 1999 and the remaining application is to be completed by June 30, 1999. Mission Critical applications implemented in the regions are managed within the management control framework in place at Headquarters. The MCF in place ensures accurate and timely reporting of progress.

##### **3.1.2 High Priority Applications**

The management control framework over High Priority applications varies depending on the business branch. Interviews were conducted with 7 business managers responsible for the conversion of High Priority applications, and documentation was reviewed for a sample of applications within their portfolio. The management control framework established in GOS for closely monitoring the progress of Mission Critical applications is being applied to the High Priority applications. Of the applications reviewed, GOS applications were, or near, accreditation.

In other branches, there is a reliance on GTIS to perform and manage the conversion activities with varying direct managerial oversight by the business branch involved. In Real Property Services (RPS) there is a less rigorous management control process in place to monitor the Year 2000 conversion progress. Meetings are periodically conducted

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between the branch co-ordinator, the business managers and GTIS. RPS Branch monitors progress with minimal oversight since it views the Year 2000 effort as a routine release that is typically managed by GTIS. Supply Operations Services (SOS) and Human Resources (HR) Branches, have an informal management control process where managers are regularly involved with GTIS to manage and monitor the conversion efforts. The accuracy and timeliness of application status reporting to the Year 2000 program office is primarily the responsibility of the business managers and can therefore vary from one business manager to another depending on the degree of oversight. Minimal oversight may impact the identification and/or correction of problems. This risk, however, is mitigated by the status reports provided by the managers of interrelated Year 2000 activities and by regular reviews by the Program Office. The focus of attention is shifted from Mission Critical to High Priority applications across the department.

Some High Priority applications have been identified as not meeting scheduled test dates. As of February 26, 1999, ten High Priority applications were behind schedule (4 GOS, 1 SOS, and 5 RPS) and Human Resources Branch had requested a deferral of their testing of some High Priority systems. Slippage of High Priority applications is being monitored within the existing management control framework. Date changes that delay accreditation are categorized as "delayed applications" and reported weekly to management. Delayed applications are tracked through the existing issue tracking process. Plans are in place to ensure that all delayed applications will be accredited by June 30, 1999.

### 3.1.3 Program Office

The Program Office continues to work within a comprehensive management control framework for monitoring and reporting progress. Year 2000 objectives are clearly defined and communicated. Accountabilities and responsibilities are defined in a compliance guide and have been assigned and accepted (managers involved are clearly defined and their responsibilities are clearly understood). Plans have been developed and progress is monitored against the plans. Risks and issues are identified, addressed and monitored. A systematic and uniform methodology has been established to ensure proper Year 2000 testing and accreditation. Human resource and contracting plans for obtaining, retaining and redeploying required resources were developed and implemented. The certification process established ensures that consistent and valid testing is conducted and that results are signed-off by the responsible authorized individuals. Project status is monitored from three different checkpoints - status reporting against application project plans, status reporting against infrastructure component plans (NCS, OIR, Telecom, Building Systems) and status reporting of testing against test plans (by the Test Lab management). There are also multiple oversight layers that ensure accurate status reporting. Application progress in branches is monitored by application owners, Branch co-ordinators who regularly report to Branch Senior Managers. GTIS management regularly monitor and present progress to GTIS Executive. A Steering Committee, which meets every two weeks, oversees the Year 2000 Program. Regular status reports are presented to Senior Management Committees including the Information Management

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Committee (IMC), Business Board (BB) and Headquarters Executive and Departmental Executive Committees (HEC/DEC). Briefings are also provided to Treasury Board Ministers.

The audit noted that the Year 2000 Program Office is resourced with highly motivated, well trained and dedicated people.

### **3.1.4 Dependent Infrastructure**

The linkage of Mission Critical and High Priority applications with dependent infrastructure was identified through integrated planning workshops with participation of Business functional managers and GTIS. Action plans to address the issues identified were developed and are being monitored by the Program Office. Appropriately, the focus of the business managers to date has been on the conversion of the application, while relying on GTIS to address infrastructure compliance. There is a need for ongoing monitoring of the timeliness of the conversion process for dependent infrastructure by the application managers. This will provide additional assurance that application objectives are being met by the related infrastructure components. Missed deadlines in Telecom, OIR and Building Systems could have an impact on the readiness of Mission Critical and High Priority functions.

## ***Recommendation***

### ***It is recommended that:***

- 1. The responsible business managers work with GTIS to confirm a compliant infrastructure will be in place for the continued delivery of their product(s).*

### **3.1.5 Contingency Planning**

Contingency Plans are in place for all Mission Critical applications and are being further developed for the infrastructure components - NCS, Telecommunications and Building Systems. A high level contingency planning framework (integrated approach towards problem identification and plan implementation) from NCS was to be completed for the end of February. Detailed contingency plans will be prepared by April 30, 1999. "One weak link anywhere in the chain of critical dependencies can cause major disruptions to business operations. Given these interdependencies, it is imperative that contingency plans be developed for all critical core business processes and supporting systems, regardless of whether these systems are owned by the agency."<sup>4</sup>

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<sup>4</sup> Year 2000 Computing Crisis: Readiness Improving, But Much Work Remains to Avoid Major Disruptions, Testimony Before the Committee on Government Reform and the Committee on Science, House of Representatives, United States General Accounting Office.

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### **3.1.6 Mission Critical interfaces**

End to end testing and application interfaces has become an area of concern at Treasury Board Secretariat. The purpose of end-to-end testing is to verify that a defined set of interrelated systems, which collectively support a core business function, will work as intended in an operational environment. The department continues to address interfaces with external business partners. Data formats and interface requirements for the Mission Critical applications were communicated to external business partners early in the conversion process. Selected testing with external clients has been conducted based on the criticality of the systems supported. In addition, a paper outlining PWGSC's definition and strategy framework for end-to-end testing has been drafted and approved and is expected to be forwarded to Treasury Board Secretariat (TBS) and external partners in March 1999. A new status report of PWGSC Mission Critical application interfaces has been developed by GOS with the assistance of the Program Management Office. This new report has been reviewed and accepted by TBS.

## **3.2 Telecommunications and Office Infrastructure Compliance**

The Telecommunications Sector is managing the Year 2000 compliance effort required to certify and accredit the Department's office infrastructure and telecommunications hardware and software configuration as well as the optional, shared telecommunication services delivered to other government departments by GTIS. Recognizing the importance of this responsibility the Sector has recently dedicated resources to the establishment of the Telecommunications Year 2000 Program Management Office (PMO) which co-ordinates the effort required to ensure Year 2000 compliance of the telecommunication and office infrastructure components managed by GTIS.

### **3.2.1 Management Control Framework**

An adequate management control framework is in place in the Telecommunications Sector to plan, execute, monitor and report on Year 2000 readiness for PWGSC telecommunication infrastructure as well as telecommunications services provided to other government departments. The Telecommunications Year 2000 PMO co-ordinates the Year 2000 planning, monitoring, and reporting across the Telecommunication Sector. The Telecommunications Year 2000 PMO reports directly to the Telecommunications Sector Management Committee and provides status reporting to the Departmental Year 2000 Program Office. Responsibility for accreditation of compliance for individual components is clearly assigned to and accepted by specific GTIS managers in the National Capital Area (NCA) and regions. The objectives, roles, responsibilities and authorities regarding Year 2000 readiness for telecommunications and infrastructure are documented in a project charter.

### **3.2.2 Approach**

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The approach to Year 2000 readiness for telecommunications shared services and infrastructure components is documented and has been accepted by participants in the process.

The Telecom Year 2000 PMO approach is consistent with the multiphase approach recommended by the PWGSC Year 2000 Program Office. Individual Telecom and infrastructure components, however, can not easily be linked to individual mission critical or high priority functions. This reduces the opportunity to address compliance on a prioritized basis. The Telecom Year 2000 PMO approach, therefore, has been to require timely accreditation of compliance for all telecommunication and office infrastructure components. The approach accommodates an assessment of the readiness of components owned and managed by external carriers and service providers including a review of their methods and validation as considered necessary for accreditation. Confidence in compliance certification documentation provided by Telecom Service providers is enhanced through participation in committees such as the Interbank Telecom Forum and the chairing of the Treasury Board Year 2000 Telecommunication Subcommittee. Telecommunication Sector Responsible Area Managers (RAMs) and Directors as well as the Telecom Year 2000 PMO are required to sign certificates at key phases towards accreditation certifying and attesting to the work accomplished.

Audit tests indicated that the documented approach is being followed with the exception that formal validation and implementation plans are not required for all service provider managed components to provide adequate evidence of PWGSC monitoring and assurance. In order to compensate, the Telecommunications Year 2000 PMO has agreed to include a formal step in the accreditation process to require certification from Telecommunication RAM/Director that they have verified that the service provider has adequately tested and implemented each component.

### **3.2.3 Compliance Reporting**

The Telecommunications Year 2000 PMO maintains a database which contains the record of the telecommunication and infrastructure components and their respective state of progress towards readiness and accreditation. This database is an important tool in the control over the Telecommunications and Office Infrastructure components accreditation process and the basis of Year 2000 compliance status reports to management.

The component inventory process began in the spring of 1998. Although interim inventory reports have been subject to fluctuation in terms of component volumes as the National Capital Area (NCA) inventory was assembled and then "rationalized", this reporting is now consistent.

Adequate practices are in place to collect data, to maintain the data base, and to provide accurate/complete reporting regarding the status of compliance of telecommunication and office infrastructure components. The Telecommunications Year 2000 PMO inventory of telecommunications and office infrastructure components had to be assembled in



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response to the Year 2000 effort. No asset management system exists in PWGSC for these components. There may be value in maintaining a component asset inventory as part of an asset management system beyond January 1, 2000.

As of February 1999, the Telecom Year 2000 PMO was reporting substantial progress in the NCA towards a July 31, 1999 target of accreditation for all shared telecommunication services and a March 31, 1999 target for office infrastructure components. The regional component inventory and assessment was completed as of late February 1999 with over 60% of components assessed as ready for accreditation. The PMO and the Regional GTIS Directorates are working together and making use of knowledge transfer from the NCA effort to make a July 31, 1999 regional component renovation target achievable.

### ***Recommendation***

#### ***It is recommended that:***

- 1. The ADM, GTIS assess the benefit of maintaining the telecommunications and infrastructure component inventory as part of an asset management system beyond year 2000.*

#### **3.2.4 Office Infrastructure Renewal (OIR)**

An integral part of the Year 2000 compliance solution for PWGSC's office infrastructure is the implementation of a standard, compliant desktop, electronic mail system, and supporting operating system infrastructure throughout the Department. The Office Infrastructure Renewal (OIR) Project is managing the "roll-out" of these standard tools.

The hardware and software components being implemented by the OIR Project are subject to the Year 2000 accreditation process co-ordinated by the Telecommunications Year 2000 Program Management Office with a May 1999 target for accreditation.

An adequate management control framework is in place within the Telecommunications Sector to plan, execute, monitor and report on the OIR implementation. The OIR implementation target for the NCA (except for Real Property Services (RPS) and three Regions is March 31, 1999. RPS NCA, Ontario and Quebec Regions are targeted for May 31, 1999. The timing of the OIR implementation in RPS (and Ontario and Quebec) reduces the window of opportunity available for making adjustments to RPS applications to operate in the OIR environment if needed.

Discussion between DG, GTIS AMS and the ADM, RPS has resulted in an action plan to address the issues, monitor the progress and manage OIR implementation. Continued oversight of this issue is required.

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**3.2.5 Contingency Planning- Telecommunications**

The GTIS Telecommunications Sector is applying priority to contingency planning for telecommunication and data network services in concurrence with efforts of the National Contingency Planning Group. A first draft contingency plan had been produced as of February 1999. The planning is taking into account business risk and criticality as well as interfaces with external organizations for products, services and information. The GTIS telecommunication contingency planning is utilizing output from the Canadian Telecommunications Industry Forum.

**3.3 Building Systems**

**3.3.1 Management Control Framework**

An adequate MCF is in place in RPS to plan, execute, monitor and report on Year 2000 readiness of building systems as well as services provided to other government departments. Significant progress has been made since the initial audit including project management, senior management involvement and support, communications and testing strategies.

The Year 2000 project team is well established, with a full time project manager and regional and national units. Project responsibilities are well defined including communications, research, information management, contingency planning, technical and project management. The regional and national project teams are fully supported by senior management. A formal approach to the Year 2000 readiness of building systems, including a rigid testing protocol, is in place and being implemented in all RPS regions and has been adopted by Alternative Forms of Delivery (AFD) partners. Progress is regularly monitored and reported to RPS senior management, the Year 2000 Steering Committee, and the Year 2000 Program Office, as well as Senior Management Committees including the Information Management Committee, the Departmental Executive Committee, and Business Board. Weekly teleconference meetings between national and regional team members have been established to discuss project status.

**3.3.2 Mission Critical Buildings**

The RPS team, with input from CSU Directors and building tenants, identified the buildings that house Mission Critical functions at PWGSC, as well as other government departments. The PWGSC Mission Critical building list was then cross-referenced to buildings identified through the GTIS/Business Manager integrated planning exercise and was forwarded to the GOS co-ordinator for verification.

Testing of these buildings has begun and is targeted to be completed by March 31, 1999 for owned and managed buildings and June 30, 1999 for leased buildings. There is

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concern that compliance of leased buildings will not be confirmed by the June 30 deadline (see below).

### **3.3.3 Leased Buildings**

Efforts have been made to obtain compliance status and plans from all landlords of the PWGSC leased buildings. A list of leased facilities was established and compliance letters have been forwarded to all landlords involved. Responses to these letters are being monitored and the information provided documented.

Issues related to leased facilities have been identified by the Building Systems Year 2000 Project management office: the response rate by landlords has been poor; the quality of information provided by landlords that have responded has been inadequate; and the degree to which PWGSC will be able to participate in the compliance testing activities within leased buildings, is uncertain.

Although these issues have been escalated within RPS, a legal opinion has been sought, action plans have been developed and implemented and the status of each action is being monitored, there is still concern that the compliance testing will not be completed for these buildings (including Mission Critical facilities) by the June 30, 1999 deadline. Oversight of these issues continues.

### **3.3.4 Alternate Forms of Delivery Agreements (AFD)**

Compliance testing in buildings managed through an alternate form of delivery agreement (AFD) must be performed by the AFD involved. Initially there were issues related to the scheduling and co-ordinating of these test.

Regional and national meetings with the AFDs involved have resolved the problems and ensured AFD commitment to Year 2000 Testing. Regional Co-ordinators have met with Regional AFD personnel to ensure the AFD Year 2000 approach is consistent with the nationally defined PWGSC test methodology. Testing schedules consistent with established target dates for GWMC buildings have been provided to RPS. The testing of GWMC buildings by AFD partners will be attended by RPS personnel. Oversight of these issues continues, particularly for GWMC buildings.

### **3.3.5 Utilities and Municipal Governments**

Working from building lists of PWGSC owned and managed buildings and in co-operation with professional and industry organizations, compliance status request letters were forwarded to suppliers of utilities and identified Regional Municipal Governments. Responses to these letters is being monitored and the information provided documented on the Vendor Information Service website.

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Issues related to response rate and the quality of information provided are being analyzed. The requirement and extent for further action is being evaluated.

### **3.3.6 Vendor Information Service**

There is a duplication of research efforts in the regions and at Headquarters. The vendor Information Service (VIS), established to maintain a website of compliance information on IT hardware and software, was expanded to include building system components. Researchers are working to establish the status of building system components identified in a national inventory of buildings. As well, each region also has dedicated resources to research vendor compliance through local vendor representatives and service providers and internet searches (including a search of the VIS Website). The update of VIS information from regional investigations has been inconsistent. There is therefore a risk that research activities will be duplicated both within regions as well at Headquarters and that tests of a particular building will be delayed pending unnecessary compliance research activity. A more co-ordinated approach to researching the compliance of building systems would result in quicker identification of already researched components and would ensure that vendors are not contacted multiple times for the same product.

### ***Recommendation***

#### ***It is recommended that:***

- 1. The Building Systems Year 2000 Project Manager ensure that the regional research efforts are co-ordinated and that information gathered in the regions is forwarded to Headquarters in a timely and consistent manner.*

### **3.3.7 Status Reporting**

Status reporting for building system compliance activities is currently prepared manually from electronic files forwarded by each region. A National on-line database developed in RPS for project tracking, monitoring and reporting (NBITS) to replace the current process has been developed and recently rolled out to the regions. The implementation of the system has been affected by: the identification of sufficient regional resources to update and maintain database information; the commitment of all regions to use the database; issues related to the system documentation and security access controls; and compliance with GTIS readiness and roll-out requirements. The current reporting mechanism cannot continue to provide management with accurate and timely information on the status of building system conversion, testing and compliance, nor can it accommodate the increased reporting requirements related to our role as a service provider to other government departments. Consequently it is imperative that the NBITS system be fully operationalized as quickly as possible.

### ***Recommendation***

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***It is recommended that:***

1. *The ADM RPS ensure that the project tracking, monitoring and reporting system, NBITS, is fully implemented, updated and made operational as quickly as possible.*

**3.3.8 Support to Other Government Departments**

RPS is continuing efforts to obtain confirmation of Mission Critical buildings supporting other government departments (OGD). Not all departments have identified all Mission Critical buildings. RPS is making a concerted effort to have all OGD Mission Critical buildings identified by February 27 and tested prior to June 30, 1999. There remains a residual risk that an OGD will fail to identify a Mission Critical facility sufficiently in advance to allow RPS to complete the testing of the building prior to June 30, 1999.

**3.3.9 Resource Centres**

RPS has established six Treasury Board funded Regional Resource Centres to assist other government departments who have facilities not managed through PWGSC. The work is performed based on regional or national MOUs established with the departments involved and is being resourced regionally through contracts. All expenditures are being separately tracked for reporting and, where applicable, charge-back purposes.

**3.4 Environment Stabilization**

All Mission Critical and High Priority applications and PWGSC infrastructure components are scheduled to be fully tested and compliant by June 30, 1999. GTIS is proposing a freeze of the PWGSC infrastructure from October, 1999 to January 15, 2000 and of PWGSC applications from November 1999 to January 15, 2000. This will provide a buffer period to resolve any residual problems which may be encountered and mitigate the risks associated with the magnitude and complexity of the Year 2000 changes undertaken. This proposal is consistent with strategies being implemented in the United States<sup>5</sup>. A presentation outlining the target dates and areas affected for the proposed freeze has been made to the Information Management Committee.

***Recommendation***

***It is recommended that:***

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<sup>5</sup> "Among the features of the strategy is a moratorium on software changes, except for those mandated by law. The US Social Security Administration plans to minimize changes to its systems that have been certified as year 2000 compliant by not allowing discretionary changes to be made. The moratorium will be in effect for commercial off the shelf and mainframe products from July 1, 1999 through March 31, 2000, and for programmed applications from September 1, 1999 through March 31, 2000. Such a Year 2000 change management policy will significantly reduce the chance that errors will be introduced into systems that have already been found to be compliant." - Year 2000 Computing Crisis: Readiness Improving, But Much Work Remains to Avoid Major Disruptions, Testimony Before the Committee on Government Reform and the Committee on Science, House of Representatives, United States General Accounting Office.

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1. *The ADM GTIS, through the Information Management Committee, ensure that this freeze is adhered to.*

### **3.5 Information Management**

The Y2K Program Office received approval from the GTIS Executive to implement a document management system, (Docs Open) to keep track of all Y2K documents, as there was a need to have a solution in place to make sure that the department is prepared to respond to any request for information or any litigation actions that may arise after Y2000.

At this time, all personnel in the Y2K Program Office are on the Docs Open system, resulting in an automatic inclusion into the system of all Y2K documents created. All Y2K documents received by the program office are profiled and entered into the Docs Open system which automatically assigns a number to the document and provides a listing/index of the documents. Paper based documents are identified and their location entered into the system. When a document is created or put into the system the author/person who creates or controls the document determines who will be granted access to the document. In addition, the librarian has access to all documents, and managers have been granted access to read documents. Paper-based documents are kept in locked filing cabinets and specially classified secure documents are kept in the required secure cabinets. Documents, once entered into the system, cannot be deleted. Phase two of the plan still has to be implemented, the addition of RIMS a system for the indexing and classification of documents.

Due to technical problems, not all Y2K project offices have been provided access to the system. As a result Y2K documentation originating in these offices is not necessarily forwarded to the Y2K library. From our review of application files it was noted that documents prepared by business and technical OPIs such as implementation schedules, contingency plans, business resumption schedules and testing plans and results etc. were not included in the library. This information is being maintained by business managers.

Once these areas have been provided access to the system, there is no formal plan to retrospectively capture and incorporate existing Y2K documentation into the library. This is expected to be accomplished at the respective offices' discretion. Another area of concern is that while the Y2K program office can enforce the use of the System in their area, and has done so using an automatic default to the system, they have no jurisdiction over the other areas, and use of the system is left to the commitment of the managers in those areas. There is a risk that all Y2K documentation may not be included in the Y2K library and accounted for in accordance with the library standards, making retrieval of information more difficult and time consuming. The audit found, that while the system adequately achieves the objectives for the management of government information, documentation in the library is incomplete and as such currently does not provide a central source of all documentation to support the activities performed and decisions made for each application.

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The Year 2000 Program Office and Senior Managers within GTIS, who have used the system to respond to enquiries, have indicated great satisfaction with its ability to retrieve information quickly and effectively.

***Recommendation***

***It is recommended that:***

1. *The Program Office, and sub-project office teams, ensure the completion of the roll out of the system to all users and the commitment of managers to the established plan.*
2. *Business branch Co-ordinators ensure the capture and/or incorporation of their unique Year 2000 information into the library.*

**3.6 Year 2000 Long-term Benefits**

The Year 2000 compliance exercise represents a significant, visible and successful example of the PWGSC integrated service delivery concept. In order to adequately respond to the Year 2000 challenge multi-branch teams have been created, vertical communication has been enhanced, and there has been a consolidation and rationalization of contact points for our external clients. The Vendor Information Service, for example, provides one source of compliance information gathered from many areas within PWGSC.

Many of these new services, practices, procedures and products, developed specifically in support of Year 2000 conversion and compliance, address good management practices that should be continued over the long term. While the focus of attention must remain on meeting the Year 2000 challenge, there is a need to evaluate the cost and benefits of these activities and products and take appropriate measures prior to completing the Year 2000 project and the reassignment or departure of the Year 2000 project team members.

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***Recommendation***

***It is recommended that:***

- 1. The ADM, GTIS assess the benefit of continuing the services, practices, procedures and products developed within the year 2000 program and establish a mechanism to ensure these items are integrated into the PWGSC operational environment.*



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**Appendix A - Initial Audit Recommendations Action Plan Status**

The following presents our understanding of the status of the actions taken to address the initial audit recommendations for Information Technology and Embedded Systems.

Recommendations	Action Plan Response and Status as of November 1999
<b>INFORMATION TECHNOLOGY</b>	
<b>Project Management</b>	
<b>Master Plan</b>	
<p>1. The ADM, GTIS obtains written commitment from all other branch heads to complete and maintain branch Year 2000 project plans and to provide complete, accurate and timely information to the Year 2000 Project Office for input to the Master Plan.</p>	<p><b>Action Plan Response:</b> The Year 2000 Project Office always table the issue of reporting the progress and deviation to plan at all committee meetings. This is an ongoing issue which is also tabled at the IMC members level on a monthly basis. (Ongoing)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• progress and deviation to plan is tabled by the Program Office at all steering committee meetings, including IMC. Also, major issues are tabled during the GTIS briefing at every Business Board (every 6 weeks) with PWGSC DM.</li> <li>• concerns over the reporting from the regions, as well as some of the Year 2000 sub-project teams are being addressed. The program office co-director is responsible for coordinating reporting of regional activity, as well as the telecommunications sector with the program office.</li> </ul>
<p>2. The Year 2000 Project Office:</p> <ul style="list-style-type: none"> <li>• provides a challenge role to the information it is collecting; and</li> <li>• conducts more analysis of overall and individual activities in support of tracking and reporting slippages in schedules and budgets to senior management for corrective action</li> </ul>	<p><b>Action Plan Response:</b> The Year 2000 Project Office has been defining enhanced project plan metrics to provide better analysis of overall Year 2000 readiness. The metrics format/template have been provided to the A/ADM of GTIS for presentation to the Business Board. (May 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• New metrics been developed and accepted for regular reporting to the DM, which is part of every senior management briefing (from DG to DM)</li> <li>• Program Office quarterly status reports are based on the new metrics.</li> <li>• various tracking reports are developed and maintained including the accreditation delay which tracks the slippages in final accreditation.</li> </ul>
<b>Reporting to senior management</b>	
<p>3. The Year 2000 Project Office continues to assess the reporting needs of senior management.</p>	<p><b>Action Plan Response:</b> The Year 2000 Project Office has been defining enhanced project plan metrics to provide better analysis of overall Year 2000 readiness. The metrics format/template have been provided to the A/ADM of GTIS for presentation to the Business Board. Upon approval of the proposed new metrics, the Project Office will adopt the new metrics in their standard reporting. (June 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• See status of recommendation #2 above.</li> </ul>

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Recommendations	Action Plan Response and Status as of February 1999
<b>Risk Management</b>	
<p>4. The Year 2000 Project Director assigns responsibility for risk management to ensure that the continuous risk management plan is implemented and risks are identified, assigned, monitored, controlled and, where appropriate, closed.</p>	<p><b>Action Plan Response:</b> The Project Office has established and is running a monthly risk review session with all identified risk owner. The mitigation actions are tracked up to full completion. Escalation process are used for non resolution of high risk. (Ongoing)</p> <p><b>Status as at Nov. 27, 1998:</b></p> <ul style="list-style-type: none"> <li>• Year 2000 Program Continuous Risk Management Process and Plan in place</li> <li>• reassessment of risks conducted in the Program Office in August 1998</li> <li>• risks also discussed in Integrated Planning sessions in November 1998</li> <li>• Delivery of a second round of risk assessment/review was done for November 31, 1998 and delivered to TBS.</li> <li>• Year 2000 Project Risk Management Committee established in July and meet regularly to discuss for each risk--date first identified, responsible person, due date, status and outcome and monitor mitigation progress</li> </ul>
<p>5. The Year 2000 Project Director regularly reports the status of risk action plan implementation to the Steering Committee.</p>	<p><b>Action Plan Response:</b> Risks are discussed on a frequent basis at the Steering Committee. However, three members of the Steering Committee will be invited to the Risk Review Committee. (June 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• identified risks, action plans and status of action plans discussed at each Steering Committee meeting</li> </ul>
<b>Roles and Responsibilities</b>	
<p>6. The ADM GTIS ensures that Year 2000 responsibilities for large departmental IT projects concurrently underway are reviewed to assure that they are clearly defined and integrated with the responsibilities of the Year 2000 Project Office.</p>	<p><b>Action Plan Response:</b> Large departmental IT projects that impact, overlap with the Year 2000 Project have been identified. An integrated plan of overlapping areas is being developed. (by May 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• Year 2000 Program Office responsibilities have expanded to include: <ul style="list-style-type: none"> <li>◆ Year 2000 readiness of IM/IT (OIR), Telecommunications, Building Systems and Ministers' Regional Offices;</li> <li>◆ reporting to senior management on the progress of the Department's Year 2000 embedded systems and procurement initiatives.</li> </ul> </li> </ul>
<p>7. The Year 2000 Project Office ensures that any gaps regarding the Year 2000 compliancy of workstations are identified and addressed.</p>	<p><b>Action Plan Response:</b> The Year 2000 Project Office is not responsible for the workstation. (N/A)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• although workstation compliance is the responsibility of the business managers, it is monitored by the hardware compliance team in OIR and reported to the program office.</li> </ul>

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Recommendations	Action Plan Response and Status of Implementation
<p>8. The ADM GTIS, in consultation with the ADM RPS, determine and assign responsibility for co-ordinating the review and conversion/replacement of embedded chips within office automation products in the department</p>	<p><b>Action Plan Response:</b> The ADM GTIS will consult with the ADM RPS to determine and assign responsibility for embedded systems. (by June 1998)</p> <p><b>Status:</b> The responsibility has been assigned to the Material Management Division of Supply Program Management Sector, SOS. Adhoc status reporting is provided on request from the program office.</p>
<b>Legal Liability</b>	
<p>9. The Year 2000 Project Office ensures that the legal opinion on departmental liabilities is completed as planned by departmental legal counsel.</p>	<p><b>Action Plan Response:</b> The Year 2000 Project Office will follow-up with legal and report regularly on the legal counsel's progress against plan. (May 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• legal assessment conducted by PWGSC legal counsel and is expected to be reported in the last quarter of 1999/2000</li> <li>• scope of the Year 2000 Program Office does not include legal issues, however the departmental legal counsel is consulted periodically, such as the review of contracts and contingency plans. Legal counsel receives the Program Office standard reporting metrics monthly.</li> </ul>
<b>Contingency Planning</b>	
<p>10. The ADM GTIS obtains written commitment from all other branch heads that contingency plans:</p> <ul style="list-style-type: none"> <li>• are developed for all mission-critical and high priority systems;</li> <li>• are developed for all systems that will not be converted before the Year 2000, based on a triage process; and</li> <li>• address the impact of dependencies, including interfaces, infrastructure and mission-critical suppliers.</li> </ul>	<p><b>Action Plan Response:</b> The ADM GTIS will ask all other branch heads for their plans in writing respecting Year 2000 contingency Planning. The results will then be reported to IMS and DEC. (by July 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• Year 2000 Program Office has formally launched the contingency planning sub-project for PWGSC's GWMC systems--this is being co-ordinated and facilitated by the Program Office in a joint venture with business partners including GOS and RPS (for facility readiness).</li> <li>• The need for contingency planning for high priority applications is being discussed. It is expected that a majority of the infrastructure supporting high priority applications will be already addressed under the GWMC contingency plan.</li> <li>• contingency planning still in planning stages for addressing: <ul style="list-style-type: none"> <li>◆ high priority systems;</li> <li>◆ all systems that will not be converted before the Year 2000;</li> <li>◆ the impact of dependencies; and</li> <li>◆ mission critical suppliers (part of review of supply chain within the context of current mission-critical systems).</li> </ul> </li> <li>• contingency plans for each MC function (4) were completed and submitted to TBS by December 31, 1998</li> </ul>

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Recommendations	Action Plan Response and Status as of January 1999
<p><b>Resources</b></p> <p>11. The ADM GTIS, with written assurance of all other branch heads, ensures there is an increased emphasis on resource management with the objective of forecasting resource requirements in sufficient time to meet the peak demands and allocating resources based on triage.</p>	<p><b>Action Plan Response:</b> None.</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• adequacy of available resources continually being assessed and reviewed by the Program Office</li> <li>• resource inventory database has been completed</li> <li>• list of essential/designated staff in case of future work disruption has been identified; policy has been distributed</li> </ul>
<p><b>Development Environment</b></p> <p>12. The Year 2000 Project Office ensures that test lab resources are used only for level two testing.</p>	<p><b>Action Plan Response:</b> The Year 2000 Project Office has written procedures to ensure the test lab is used only for level two testing and will monitor adherence. (Ongoing)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• monitored by the Program Office/NCS (through scheduling) and the test lab (through submission of test plans)</li> <li>• Through various test planning meetings, it is ensured that the test lab is used only for pre-scheduled Year 2000 platform/application testing. NCS sends monthly reports to the program office to confirm seats allocation.</li> </ul>
<p>13. The ADM GTIS obtains written confirmation from all other branch heads that:</p> <ul style="list-style-type: none"> <li>• they have established adequate development environments to conduct system renovation and level one testing; and</li> <li>• where adequate facilities are not yet in place, the business branches will develop a plan to acquire and implement the necessary resources.</li> </ul>	<p><b>Action Plan Response:</b> The Project Office has requested testing plans from each Branch. The ADM GTIS will request sign-off of these plans and the availability of adequate resources. (by July 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• much of the renovation and level one testing is being conducted by AMS, who have an established development environment. AMS manages the acquisition of resources as required.</li> </ul>
<p><b>Test Capacity</b></p> <p>14. The ADM GTIS ensures that a master test schedule, which incorporates the test schedules for the mainframe, midrange and desktop environments, is prepared and maintained.</p>	<p><b>Action Plan Response:</b> ADM GTIS will ensure completed master test plan is in place, provided that all Branches have sign-off plans by that date. (by June 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• all mission critical and most high priority applications have been scheduled for mainframe testing in the test lab</li> <li>• all applications require a completed test plan with branch sign-off prior to testing in the test lab</li> </ul>

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Recommendation	Action Plan Response and Status
<p>15. The ADM GTIS ensures that the test schedule is closely monitored for slippage, the need for additional capacity is regularly assessed, and that any slippage in the test schedule, including the resultant risks and implications, are reported to senior management.</p>	<p><b>Action Plan Response:</b> ADM GTIS will ensure that test schedules are monitored along with the overall plan and report problem areas at IMS and DEC. (ongoing)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>the Program Office manages the schedule for testing in the test lab</li> <li>testing capacity is continually being assessed, monitored, and increased as considered necessary (to accommodate both PWGSC requirements and OGD's testing requirements) and reported through the NCS Year 2000 Test Lab Scheduled Application Load which compares maximum seats available to total seats required for testing of mainframe, midrange and desktop/server</li> <li>the test lab was expanded from 28 seats to 60 seats to accommodate forecasted requirements</li> <li>external interfaces are being addressed through the end-to-end testing strategy; internal infrastructure dependencies are identified in each test plan</li> </ul>
<p>16. The ADM, GTIS, ensures that contingency plans for additional labs or additional capacity in the existing labs are documented and maintained, and that indicators and authorities for when contingency plans should be initiated are established.</p>	<p><b>Action Plan Response:</b> A contingency plan is being developed to expand the test labs; alternatives are being discussed. (by June 1998)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>see status for Recommendation #15</li> </ul>
<p>17. The ADMs of RPS and SOS ensure that their branches provide input into the test schedule for the test labs in a timely manner.</p>	<p><b>Action Plan Response:</b> ADM GTIS will report progress to DEC and IMC. (ongoing)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>timeframes for testing of SOS and RPS applications have been identified in the master plans</li> </ul>
<b>Test Scheduling</b>	
<p>18. The ADMs of GTIS and GOS ensure that the risks associated with the readiness of High-Mission Critical systems are continuously assessed, particularly with respect to test schedule slippages, and that mitigating actions are taken on a priority basis, including the postponement of other initiatives.</p>	<p><b>Action Plan Response:</b> Weekly reports on testing are provided to both the ADM GOS and ADM GTIS. Any outstanding critical issues are then discussed. (ongoing)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>Integrated Planning process identified issues that will impede implementation if not addressed; a team is regularly monitoring progress on the dependency issues</li> <li>it is yet to be determined what weekly reporting is provided weekly to the ADMs</li> <li>daily meetings are conducted for all applications in the current bus ride. Business and technical OPIs are informed daily. Testing activity is summarized for monthly senior management briefing internally at the business level.</li> </ul>
<b>EMBEDDED SYSTEMS</b>	
<b>Project Management</b>	

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<b>Recommendations</b>	<b>Action Plan Response and Status as of February 1999</b>
<p>1. The ADM RPS clearly demonstrates support for this project by identifying a full-time project leader to completion of the project and establishing a strong project team with increased authority.</p>	<p><b>Action Plan Response:</b> Full time project leader identified: Steve MacMillan RPS project team currently 3 full time resources, plus increasing commitment from regions. Corporate communications involvement. GTIS Managed Info. Service. (Apr 20/98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• a full time Project Director and supporting team of approximately 10 people (plus 7 regional representatives) have been appointed</li> </ul>
<p>2. The Year 2000 building systems project team develops a structured project plan that defines phases, milestones, strategies, resources, responsibilities and accountabilities.</p>	<p><b>Action Plan Response:</b> Project Plan and Communications Plans have been developed. (Apr 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• detailed project plans have been developed</li> <li>• workplan that identifies very high level milestones is in place</li> <li>• strategies for building a comprehensive facilities inventory database, for assessing compliance, for identifying renovation and testing priorities, and for testing have been developed and are well underway by the RPS Year 2000 team</li> <li>• assessments of resource requirements are being monitored by the RPS project team and do not appear to be a concern</li> <li>• responsibilities and accountabilities are clear</li> </ul>
<p>3. The ADM RPS, in consultation with the ADM GTIS, determine and assign responsibility for co-ordinating the review and conversion/replacement of embedded chips within office automation products in the department.</p>	<p><b>Action Plan Response:</b> As per Business Board, Alan Williams of SOS is responsible for this issue. (May 5/98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• The responsibility has been assigned to the Material Management Division of Supply Program Management Sector, SOS.</li> </ul>
<p>4. The building operations Year 2000 project team develops a communications plan to proactively address the concerns of facilities management clients.</p>	<p><b>Action Plan Response:</b> Communications plan developed and attached. (May 5/98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• DG RPS has identified communications as a key priority for the team</li> <li>• The communication of progress and status is aligned and integrated with the central Year 2000 Program Office.</li> <li>• many initiatives are underway within RPS to meet communication requirements between RPS and facilities management clients</li> </ul>
<b>Assessment</b>	

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Recommendations	Action Plan Response and Status as of 11/1/98
<p>5. The ADM RPS clearly identifies the source of funding for Year 2000 work and ensures that a framework for tracking and reporting costs is established and implemented.</p>	<p><b>Action Plan Response:</b> Funding for analysis and evaluation of embedded systems has been assigned and will be tracked through the R.C. number. (May 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>Year 2000 labour costs within RPS related to facilities, is tracked separately, however remediation/repair costs for Year 2000 is not since it is viewed as normal business expenditures. Some informal tracking of overall costs occurs.</li> </ul>
<p>6. The building operations Year 2000 project team, in consultation with regional co-ordinators and building operators, where feasible, establishes priorities based on specific criteria such as safety, operational capability and reputation. Based on the priorities established, triage should be conducted to focus on the most vital systems and contingency plans developed for systems that can not be made compliant in time.</p>	<p><b>Action Plan Response:</b> Inventory of all facilities to be completed by end of May 98. (May 98) Priorities will be established based on inventories and regional input. (July 98) Each building must be reviewed on an individual basis, with respect to the occupants operational requirements. (Sept 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>the RPS project team has established priorities based upon an expanded definition of mission critical</li> <li>the process of prioritizing buildings has included input from regional co-ordinators, building operators and the GOS Year 2000 co-ordinator</li> <li>recently, RPS liaised with the Integrated Planning Team to ensure RPS prioritization of facilities is consistent with the priority assigned to the mission critical and high priority applications/functions.</li> </ul>
<p>7. The ADM RPS establishes a cut-off date for receipt of responses from vendors and a plan to deal with non-response.</p>	<p><b>Action Plan Response:</b> Will be established in conjunction with the contingency planning process. Work discussion internally - and may be influenced by Treasury Board requirements.</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>information has been received from almost all vendors</li> <li>an enhanced database has been developed within RPS to help manage vendor responses</li> <li>responses to RPS requests have been added to PWGSC's Vendor Information Services database</li> </ul>
<p>8. The building operations Year 2000 project team follows up on vendor responses to confirm a common understanding of compliance and verifies the department's satisfaction with vendor conversion and testing processes.</p>	<p><b>Action Plan Response:</b> 2 research staff to be hired for vendor information service and we will be following the processes established at that operation.</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>as status of recommendation #7 above</li> </ul>

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Recommendations	Action Plan Response and Status of February
<p>9. The building operations Year 2000 project team identifies all external service dependencies and assesses the appropriateness for establishing contingency plans.</p>	<p><b>Action Plan Response:</b> Being looked at in conjunction with item 10.</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• RPS has identified all external service dependencies (including gas, electric, propane, water and sewage) and sent requests for information</li> <li>• responses are being tracked and managed and necessity for contingency plans is being discussed</li> </ul>
<p>10. The ADM RPS liaises with the utility companies concerning potential impacts on our assets, assesses risks, develops contingencies and communicates accordingly.</p>	<p><b>Action Plan Response:</b> Letter to utilities (electricity, gas/oil) to identify situation and working in conjunction with DND to address delivery of municipal service such as water and sewage. (July/Aug 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• as status of recommendation #9 above</li> </ul>
Removal and Validation	
<p>11. The building operations Year 2000 project team develops strategies for: acceptance testing; assessment and conversion of systems for which vendors are unable to ensure compliance; and assessment and conversion of systems for which vendors no longer exist.</p>	<p><b>Action Plan Response:</b> Acceptance testing strategy is with equipment vendor on site and written validation. As per our Y2K project plan, item 6 "identify solutions" we are working with our service providers to validate and/or replace non-compliant systems. (June/July 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• strategies for assessment and conversion of systems (including those for which vendors still exist and those that no longer exist) have been developed and are implemented</li> <li>• strategies for testing have been developed, strategy is based upon the IEE guidelines--testing is in progress</li> </ul>
<p>12. The ADM RPS establishes clearly defined responsibilities for Year 2000 compliance with vendors, maintenance contractors and AFD service providers.</p>	<p><b>Action Plan Response:</b> Follow up with vendors, maintenance contractor and AFD suppliers in regards to compliance is being handled by the regional Y2K co-ordinators. Headquarters is overseeing and reviewing the situation. 2 research staff to be assigned to vendor information service to follow up with suppliers on compliance issues. (May/June 98)</p> <p><b>Status:</b></p> <ul style="list-style-type: none"> <li>• see status of recommendation #11 above</li> <li>• many maintenance contractors are working with, and or assisting RPS in the conversion and testing processes</li> <li>• discussions have been held with AFD service providers who have agreed to conduct Year 2000 testing</li> </ul>