Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

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Public Works and Government Services Canada

Sustainable Development Performance Report

Canada

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Foreword

We are pleased to present this Public Works and Government Services Canada Sustainable Development Performance Report. This is the final report on the commitments made in the Sustainable Development Strategy (SDS) that we tabled in Parliament in 1997. It therefore provides an opportunity to celebrate successes and reflect upon lessons learned.

Janice Cochrane
Deputy Minister

We have made great strides toward incorporation of sustainable development into the management of our real property inventory. The effectiveness of our Environmental Management System has been recognized by the Commissioner of the Environment and Sustainable Development and we are moving toward its full implementation. This has enabled us to be partners on government-wide initiatives, such as greenhouse gas reduction and the management of contaminated sites. We are also co-champions of the Sustainable Development in Government Operations (SDGO) initiative, coordinating the government's effort to green operations.

Michael Nurse
Associate Deputy Minister

As a common service provider:

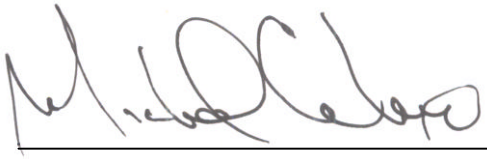
- We have earned a reputation for sharing our experience with clients to help them meet their SDS objectives.
- We have applied our own best practices to the management of our clients' buildings.
- We are helping our clients to green their procurement by developing a Green Procurement Network, green standing offers and a database of green goods and services.
- We lead by example, steadily increasing the proportion of green goods and services that we buy for our own use.
- We are also partners in paper reduction, with megatonnes of cheques and envelopes saved through our direct deposit payroll service.

Our growing expertise has allowed us to accomplish or make progress on most of our targets. In the three cases in which we have not met our targets, we are taking corrective action.

We are proud of our track record. For ourselves and for our clients, we have made significant progress in diverting waste, buying environmentally friendly goods and services, greening the construction and operation of our buildings, conserving energy and water, reducing the effects of climate change, and increasing environmental protection and conservation.

And while our track record speaks for itself, we are constantly looking to improve our environmental performance. We are ready to share our experience and know-how with our clients, other federal departments and agencies.

Janice Cochrane
Deputy Minister



Michael G. Nurse
Associate Deputy Minister

Executive Summary

Overview

PWGSC has just completed its first SDS cycle. The graphs on the next page illustrate overall performance against the identified targets. In general, performance was good, with 19 targets fully achieved and respectable progress made on most of the remainder. While the complete story is told in the pages of this report, it will be useful to offer a few illustrative examples here.

On a positive note, the department easily surpassed the government-wide target for non-hazardous solid waste management, diverting some 11,800 tonnes from disposal through recycling in fiscal year 2000/2001.

The record is also good on management of more hazardous wastes. PWGSC continues to meet its commitment to phase out Polychlorinated Biphenyls (PCBs) containing equipment and send the PCBs for secure destruction. Over two-thirds of al PWGSC facilities are now completely PCB free.

We have also achieved the targetted reduction in the ozone depleting potential (ODP) and global warming potential (GWP) of chillers in the PWGSC inventory. A noteworthy 37 percent reduction in ODP and a 46 percent reduction in GWP was accomplished in the reporting period. Our leakage rate was roughly one-half of our target.

Other positive results include an increased proportion of environmentally responsible goods and services purchased and a similar upward trend in the number of vehicles in the PWGSC fleet that run on cleaner burning alternative fuels.

We also came within one-half per cent of the targetted 66 percent take-up rate for direct payroll deposit, saving tonnes of paper in cheques and envelopes.

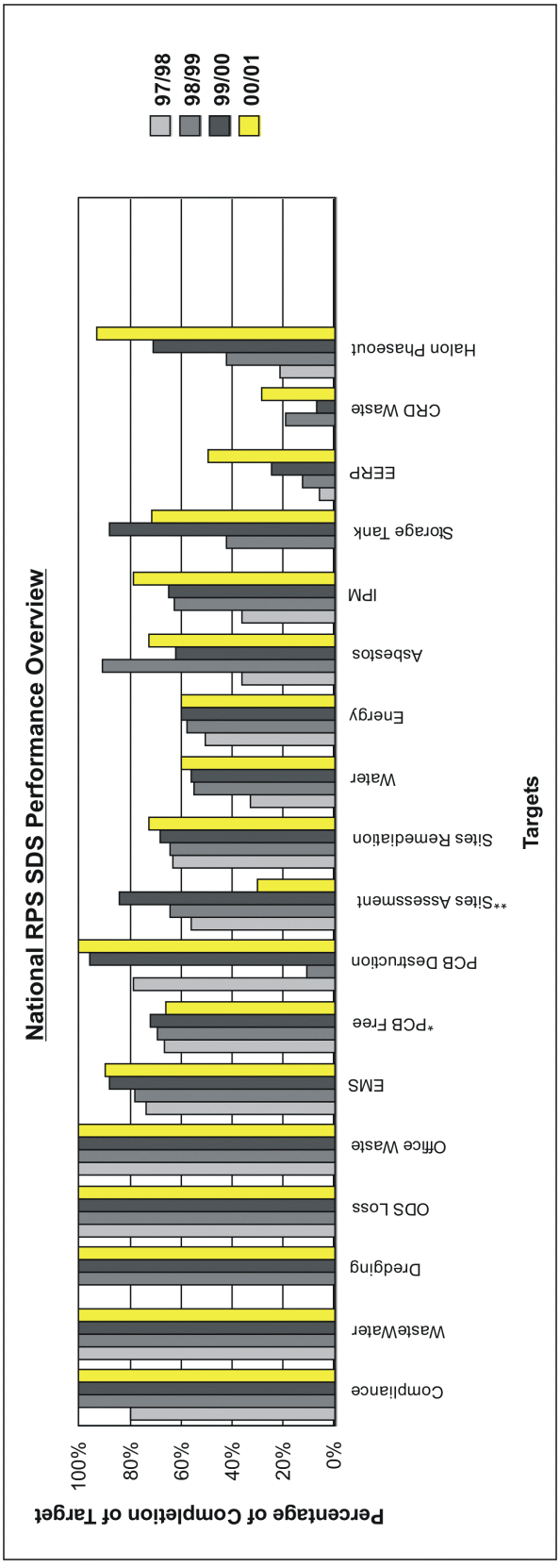
There are some targets, however, where there is clearly room for improvement. Specifically, significant underachievement has been identified related to storage tank management, environmental emergency response plans and hazardous materials replacement. Specific plans are being prepared to focus corrective attention on these issues. The target to diminish the vehicle fleet size was also missed; however, this was partially offset by the accomplishment of all other vehicle fleet management targets.

Weaknesses in data gathering were identified regarding: compliance to the *Canadian Environmental Assessment Act (CEAA);* Construction, Renovation and Demolition (CRD) Waste Management; and buyer training. Appropriate systems are already under development to address these situations.

Experience gained through the first SDS cycle has led to smarter target development, improved management processes and enhanced results monitoring systems. PWGSC is well positioned to build on its successes and learn from its shortcomings, as it moves ahead with implementation of its updated Sustainable Development Strategy, tabled in February 2001.

The graphs contained within this summary provide a snapshot of PWGSC's performance against SDS targets, grouped under four themes: Real Property Management, Materiel Management, Vehicle Fleet Management and Environmental Awareness. While data was available for the last four years on Real Property Management, only data for the past two years was available for the other themes.

1) Real Property Management:



The graph above rates in percentages PWGSC's performance towards its SDS targets related to real property management, where quantitative measures are available. At a glance, this graph shows an overall improvement in PWGSC's environmental performance in the four years of the first SDS.

* Target completely met. Graph shows percentage of facilities PCB free.

** Target base has changed.

1) Real Property Management *(continued):*

As noted in the preceeding graph, PWGSC met seven identified targets:

- Regulatory compliance;
- Wastewater regulatory compliance;
- Dredging regulatory compliance;
- Ozone-Depleting Substances (ODS) loss less than four percent,
- Phase-out of PCB-containing inventory;
- Transfer of PCBs for destruction; and,
- Office waste (average under 95kg/FTE/year).

PWGSC exceeded expected performance regarding office waste, where the average was 54 kg/FTE/year sent for elimination in 2000-2001 and ODS losses, where losses were 2.1 percent for the reporting period. Implementation of the corporate EMS is almost complete. EMSs will be implemented in all PWGSC Crown-owned facilities, aiming first at facilities with a floor area of 10,000 m^2 or more by March 31, 2004.

Sixty-six percent of PWGSC buildings are now free of known PCBs. Ninety-three percent of PCBs taken out were disposed within the fiscal year. Due to economical and practical considerations, not all PCBs removed within a given year are necessarily destroyed in the same period. As shown in the graph, a federal ban on PCB destruction in 1998/99 affected performance; the restrictions have since been lifted. Proposed new regulations would call for elimination of all PCBs from PWGSC buildings for 2007, and destruction of all federally owned PCBs by 2009.

Commitments were related to office buildings, as office buildings were considered the biggest PWGSC real property risk for the environment. However, in 2000-2001, PWGSC expanded the commitment to include all types of real property assets in its reporting program. Assets include office buildings, housing, infrastructure and lands for an overall inventory of close to 1,400 assets. This reporting change explains the variance in performance for the management of contaminated sites, regarding sites assessed and sites remediated. Thirty percent of PWGSC sites have now been assessed for contamination; 72 percent of the assets (85 percent of the properties) do not require any further action. Management of contaminated sites remains a federal government priority and related targets have been included in PWGSC SDS 2000.

Water savings programs have already been implemented in 60 percent of buildings. Water consumption in PWGSC buildings (0.96 m^3/m^2/year) is under Building Owners and Managers Association (BOMA) average (1.3 m^3/m^2/year). Reducing water consumption will remain one of PWGSC's SDS objectives; however, it is to be expected that water quality will also become an issue.

Energy savings programs have been implemented in 60 percent of our PWGSC inventory; energy consumption has been reduced by 17 percent and Greenhouse Gas Emissions (GhG) by 10 percent since 1990[1]. However, following the Kyoto Agreement, and in order to reach Cabinet approved targets, a new comprehensive PWGSC "GhG Emission Reduction Strategy

[1] Estimates of GhG emissions are based upon the Federal House In Order (FHIO) method for GhG numbers, which normalizes electricity across the country as being produced with natural gas. Previous reports on GhGs used actual provincial averages for conversion factors.

and Three-Year Action Plan" was developed. The Three-Year Action Plan is linked with the target identified in PWGSC SDS 2000 (Objective 1.1).

Asbestos has been identified in 256 buildings. Seventy-three percent of these buildings reported having an Asbestos Management Plan. PWGSC is committed to achieve full implementation of the National Asbestos Management Plan in all its Crown-owned facilities by 2002.

Integrated Pest Management (IPM) Plan practices are being carried out in 74 percent of PWGSC facilities. The PWGSC SDS 2000 target aims at the implementation of IPM in all facilities by 2003.

As of March 31, 2001, 72 percent of storage tank systems did not require upgrading to meet applicable Technical Guidelines. With Environment Canada's approval, no corrective action will be undertaken for nine of these systems until determination of the future use of the assets has been finalized. Specific regional action plans are to be implemented for the remaining 13 systems.

As of March 31, 2001, Environmental Emergency Response Plans (EERPs) have been established at 133 office facilities (49 percent of the total); all registered PCB storage sites and, the six heating and cooling plants operated by PWGSC. As part of alignment and integration , EERPs are now being integrated into the Building Continuity Plans as part of the overall response to emergencies at facilities.

Twenty-nine percent of applicable construction, renovation and demolition (CRD) projects had a formal CRD waste reduction plan implemented. As monitoring CRD waste on projects is not yet fully implemented, the figures may not fully reflect the effort in this area. In its SDS 2000, PWGSC is committed to improve application of CRD waste management practices by at least 25 percent per year to reach full implementation by March 2004.

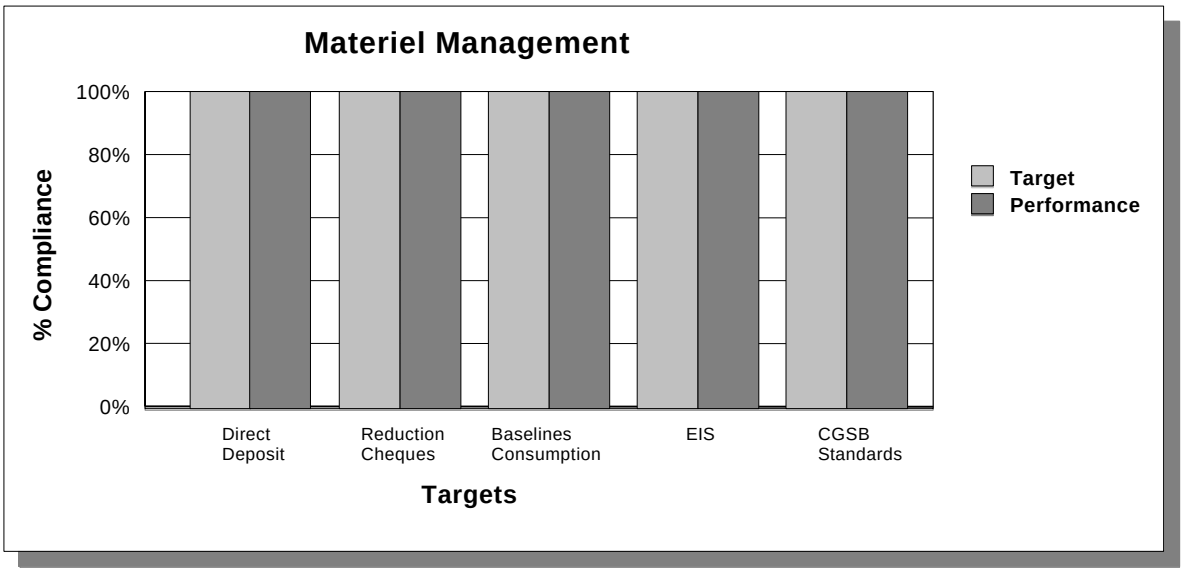
Ninety-three percent of PWGSC halon systems have been phased-out. The remaining two systems are scheduled to be phased-out by the end of the up-coming fiscal year.

Performance on Hazardous Materials Replacement cannot be evaluated through the data available in the data collection systems. However, the target remains in PWGSC SDS 2000 and plans to meet and evaluate departmental performance will be implemented.

Under the *Canadian Environmental Assessment Act (CEAA),* all projects as defined by *CEAA* must be reviewed in order to determine if the act should be applied. PWGSC maintains a public registry for all projects that require environmental assessments. The registry shows 55 Environmental Assessment Screenings were initiated in this reporting period.

Compliance with *CEAA* and development of enhanced tracking systems for national consistency is ongoing in order to continue to meet our sustainable development targets.

2) Materiel Management:



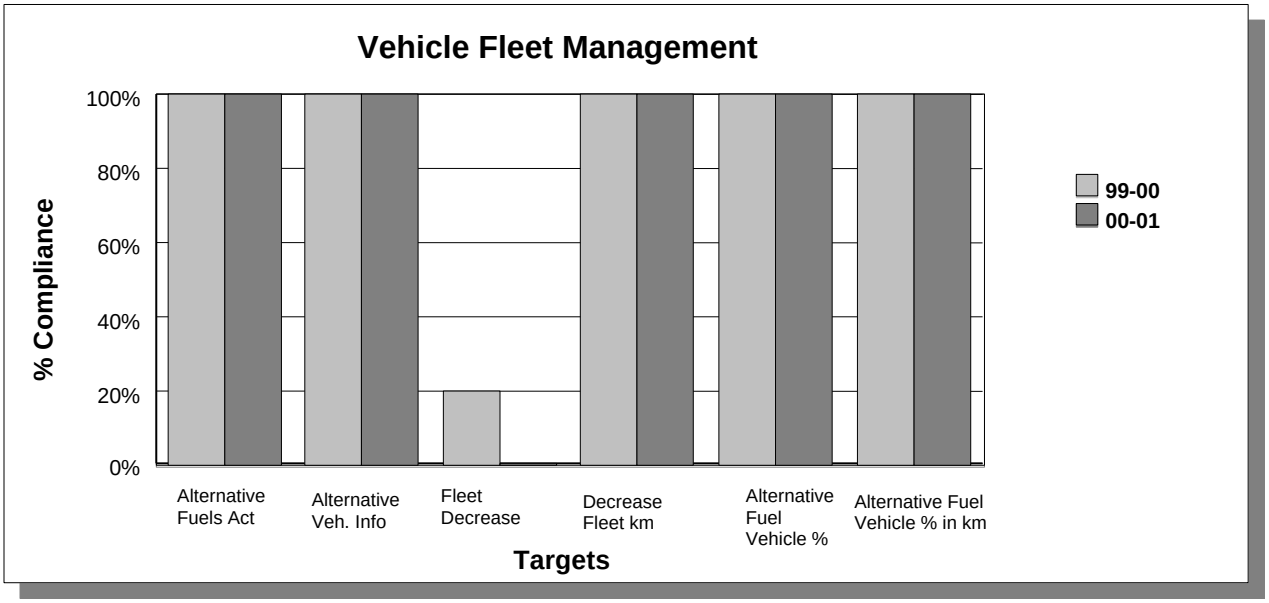
The graph above rates in percentages PWGSC's performance towards its SDS targets related to materiel management. At a glance, this graph shows an overall excellent PWGSC environmental performance.

PWGSC met the five targets:

- Increase in Direct Deposits of government payments;
- Reduction in the volume of cheques produced;
- Establish baselines for PWGSC paper consumption;
- A contract was awarded for the development of an environmental information service (EIS), which is now in operation; and,
- Canadian General Standards Board (CGSB) is developing standards for green goods and services through a consensual approach involving key stakeholders

As for training, 698 employees received procurement awareness training in the last two fiscal years. Direct deposit enrolment increased by 1.5 percent and stabilized at 65.5 percent, 0.5 percent short of the target.

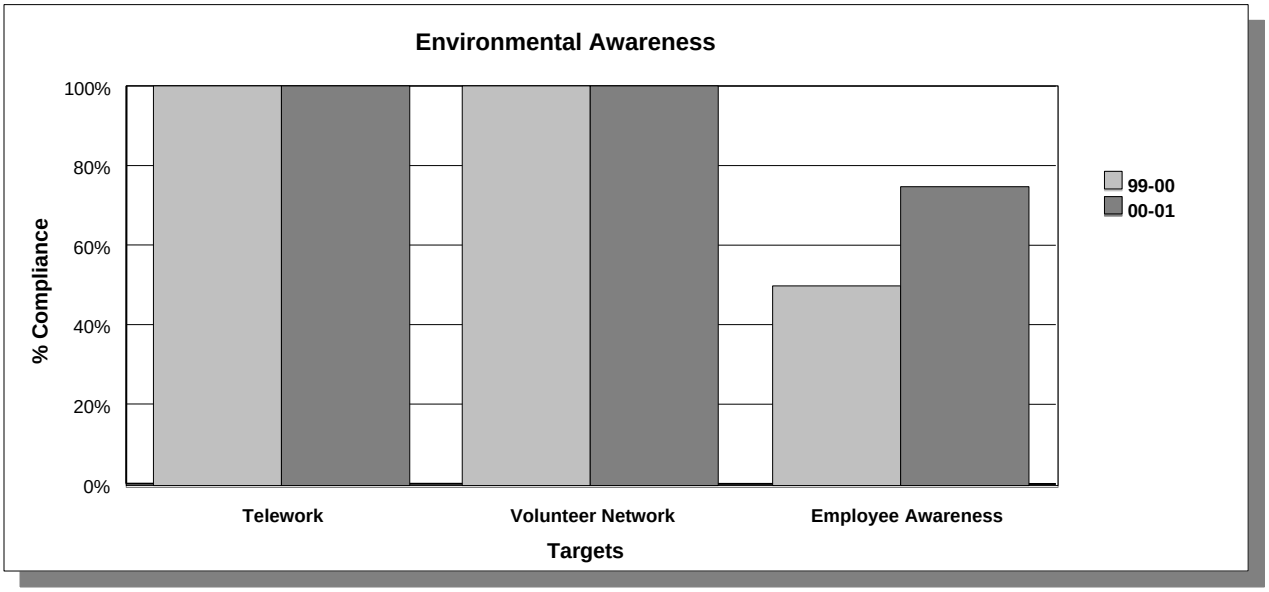
3) Vehicle Fleet Management:



The graph above rates in percentage PWGSC performance towards its SDS targets related to vehicle fleet management. At a glance, this graph shows an overall excellent PWGSC environmental performance in the last two years of the first SDS.

All targets were achieved but one: a decrease in the fleet. In 1999-2000, the vehicle fleet inventory went from 300 to 295 units; in 2000-2001 it was back to 304 units due to increased demand.

4) Environmental Awareness:



The graph above rates in percentage PWGSC performance towards its SDS targets related to environmental awareness. At a glance, this graph shows an overall excellent PWGSC environmental performance in the last two years of the first SDS.

All targets were achieved but one: establishing a baseline for Employee Awareness. This target was achieved in June 2001.

1.0
Public Works And Government Services Canada

Public Works and Government Services Canada (PWGSC) was created in June 1993 through the amalgamation of Public Works Canada, Supply and Services Canada, the Government Telecommunications Agency, and the Translation Bureau.

PWGSC's operating environment is complex and its activities are broad in scope. The department has approximately 12,000 employees, supporting the work of more than 100 federal departments and agencies. They provide office accommodation for some 179,000 public servants and parliamentarians who work in more than 2,000 locations across the country.

PWGSC manages a diverse real property portfolio, including some 400 buildings worth more than $6.8 billion, and administers more than 2,000 leases every year in every province and territory. The department's real property portfolio also includes wharves, dams, bridges, housing and unoccupied lands, for a total of some 1,372 real property assets.

As the nation's largest purchasing agent, PWGSC annually issues over 50,000 contracts for approximately $8 billion of goods and services on behalf of its client departments, representing 65 percent of the federal government's contracting in goods and services.

Through Government Telecommunications and Informatics Services (GTIS), PWGSC provides infrastructure services to support government operations, information management and information technology (IM/IT) services. It acts as a key delivery agent of the government's IM/IT Federated Infrastructure which provides a secure delivery channel for electronic commerce and electronic service delivery government-wide.

PWGSC also performs the government's Receiver General functions, prepares the Public Accounts, banks and disburses all public money for the government, and administers the government's payroll and pension plans.

Our goal at PWGSC is to provide the best value for taxpayers' dollars in common and central services for the Government of Canada, with due regard for the important values of prudence, probity and transparency. By focusing on what PWGSC does best, providing cost-effective services to government, we help departments focus on what they do best.

2.0 Background

In accordance with the 1995 amendments to the *Auditor General Act*, Ministers tabled their first Sustainable Development Strategy (SDS) in Parliament in December, 1997. The legislation calls for updates to the SDS to be submitted at least once every three years.

Each Fall, Departmental Performance Reports are tabled in Parliament to report on departmental activity over the previous fiscal year. Starting last year, the SDS portion of the PWGSC Departmental Performance Report referenced a separate, more detailed account of the progress of the department toward meeting its SDS objectives. The same approach has been followed this year and has been adopted as PWGSC's practice for reporting against its SDS commitments.

Since tabling its first SDS in 1997, PWGSC has been engaged in a process of continuous learning and improvement. Data collection systems have been developed and modified. The initial SDS targets were refined to enhance measurability of performance. Reporting mechanisms have been adjusted to better align with existing frameworks. At the heart of this ongoing effort is the attainment of the following objectives were attained:

- to integrate a comprehensive Environmental Management System (EMS) into PWGSC's overall management framework and ensure environmental performance is achieved and sustained according to established objectives;
- to green PWGSC's operations, using a pollution-prevention approach to meet or exceed requirements of applicable environmental regulations and policies;
- to green PWGSC's daily activities by practicing Green Citizenship; and
- to assist clients in their initiatives to green operations wherever feasible, and purchase environmentally responsible goods and services.

This report will examine each of these broad objectives, looking at specific targets, performance highlights, areas of concern and corrective action planned.

3.0
Environmental Management

Objectives: To integrate a comprehensive Environmental Management System (EMS) into PWGSC's overall management framework, and ensure that environmental performance is achieved and sustained according to established objectives.

This section of the report addresses EMS implementation both at the departmental and the Crown-owned facility level. While progress has been made, work remains to be done. The PWGSC Business Board approved a draft of the department-level EMS Manual in Spring 2000. It is currently projected that the targets related to EMS implementation at the facility level will be achieved by March 31, 2004.

3.1
Environmental Management System Implementation (EMS)

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To complete and implement a departmental EMS that is consistent with ISO 14001 by March 31, 2000.	By March 31, 2001, the departmental EMS was 85% completed.	Actions underway to complete the missing elements include: • Implementation of a Department-wide semi-annual planning and monitoring of the progress made against each of PWGSC's SDS 2000 commitments • Conduct of a management control framework audit for environmental and SDS matters.
To ensure implementation of the EMS in each Crown-owned PWGSC facility by March 31, 2001.	By March 31, 2001, the RPS EMS corporate EMS was 90% completed. Two ISO registration site level pilots are underway. Note: Reporting at a facility based level not undertaken as the corporate level EMS remains incomplete.	The time frame for this target has been delayed to March 2004 . This delay is to allow for completion of the corporate level EMS by March 31, 2002, and in particular the RPS EMS manual. While the corporate level EMS elements that have been implemented are applicable at the facility level, clear delineation and demonstration of its application can not be attained until the EMS manual is completed and made available at the facility.

About Environmental Management System Implementation (EMS)

PWGSC has committed to implement ISO 14001 consistent management systems in order to assist in the achievement of the Department's sustainable development targets. The International Organization for Standardization (ISO) defines an EMS as follows:

> *Environmental Management System (EMS) - the part of the overall management system which includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, coordinating, implementing, achieving, reviewing and maintaining the environmental policy*.

PWGSC Departmental Level Target

In 2000/2001 PWGSC was included as one of the Departments in an audit by the Commissioner of the Environment and Sustainable Development (CESD). The audit found PWGSC to be in a category of departments identified as Level II; where the individual elements of the environmental management system are in place, but applied unevenly across all departmental programs, or with weaknesses in one or more of the elements.

Facility Level Target

The RPS EMS Annual Review for 2000-2001 found 90 percent conformance with the ISO 14001 standard, up from 88 percent in the previous year. The improvement is due largely to the establishment of the RPS Environmental Training Program which was launched during this reporting period.

The required elements of the RPS EMS are almost complete. Full implementation will not be achieved at the facility level (Building Specific Operations) until after the RPS EMS manual is finalized. With the completion of the manual scheduled for 2001/2001, a communication strategy is being developed to roll-out the manual to facility managers.

Two pilot ISO registration exercises are underway (Esquimalt Graving Dock and 4900 Yonge Street, Toronto). Lessons learned will be drawn from these pilots and incorporated as applicable in the RPS EMS.

Esquimalt Graving Dock: Leading the Way with ISO 14001

by Dan del Villano

Ensemble article, July 2000

When it comes to technology, most people think of machines. Pacific Region's Daryl Lawes and Rae-Ann Shaw also think about how people use the technology.

They are the Environmental Coordinators for the Esquimalt Graving Dock in British Columbia and they're working on ISO14001 certification for Canada's largest dry dock.

Says Lawes, "It is an exciting project because we are the only large ship repair facility in the world who are working on ISO14001." The certification should be in place by April 2001.*

ISO14001 is an internationally recognized standard for environmental management. Companies and government organizations put the system in place to minimize the environmental impact of their operations. Certification is a big job; in a multi-million-dollar operation like the Graving Dock, every process has to be examined for its environmental impact, then targets have to be set for reductions in the most important ones. Lawes and Shaw eventually determined that 17 areas were the most significant and are now working on programs to address each one. Shaw explains, "It is a huge undertaking because we have to look at contractor operations at the Dock, not just PWGSC operations. For example, air quality is a big issue because there is a lot of sandblasting at the Dock. But we don't do the blasting. The companies that work at the Dock do it." She emphasizes that ISO14001 is more than just a manual, it is a whole system.

Jim Milne manages the Graving Dock and gives the project full support. “You have to recognize how ambitious it is to implement ISO 14001 in such a complex, heavily industrialized facility," he says. "The reason we seem to be the only one trying it is probably because it is such a huge job." Others are watching with interest, though. Calls have come from numerous local shipyards and from Halifax, Seattle and Virginia. Milne is also thankful for the support of key clients, including DND, the Canadian Coast Guard and B.C. Ferries.

Lawes agrees that certification is an enormous job, but he thinks it makes good business sense. Environmental protection, of course, is the main benefit. The Dock is surrounded by residential areas and strives to be a good neighbour. Also, ISO14001 will increase compliance assurance; that is, PWGSC will be better able to make sure that the Dock operations are in line with legal requirements.

The environmental system also improves the Dock's competitiveness. Many shipping lines, especially cruise ship lines, want to use the most environmentally-friendly services. And, thanks to PWGSC, the Esquimalt Graving Dock will be one of the best options.

*ISO 14001 Certification was obtained in October 2001.

3.2 *Canadian Environmental Assessment Act (CEAA)* Compliance

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To continue to comply with the *CEAA* for any proposed activity considered a project as defined by the *CEAA*.	PWGSC continues to assess proposed projects for their EA requirements under the *CEAA*, complete EAs where applicable, and register the EAs in the regional Public Registries. In 2000/2001, 1567 PWGSC projects were considered for application of *CEAA*. Of these, 1512 were excluded from environmental assessment (EA) and 55 required EAs. Of these, all 55 EAs were initiated with 51 complete and 4 on-going.	A Quality Assurance Monitoring framework is to be completed and baseline data has been used to prioritize action items for the new fiscal year. Items include development of a framework for EA Follow-up Programs and the initiation of a National Workshop for EA practitioners in order to improve communication and consistency. Additional guidance materials, such as a *CEAA* Guidebook for Project Managers, an EA Policy, and a Strategic Environmental Assessment (SEA) pilot study are to be completed for March 31, 2002.

About *CEAA* Compliance

Purpose of *CEAA*

PWGSC regulates its projects through *the Canadian Environmental Assessment Act (CEAA)* and its Regulations, which are reflected in the *PWGSC Environmental Policy – DM Directive: 074*.

The *CEAA* sets out the responsibilities and procedures for the environmental assessment (EA) of projects in which the federal government holds decision-making authority. The purposes of the Act are to consider environmental effects before taking action; promote sustainable development; eliminate or minimize adverse effects; and provide for public participation.

Under the *CEAA*, federal departments and agencies must undertake an EA before they:

- carry out a project;
- provide financial assistance to enable a project to be carried out;
- sell, lease or otherwise transfer control or administration of land to enable a project to be undertaken; or,
- issue an authorization to enable a project to go forward.

Depending on the nature of the project, and the significance of possible environmental effects, the type of assessment required will vary. Most projects are assessed relatively quickly under what is known as a Screening Environmental Assessment, as opposed to the more rigorous Comprehensive Study process.

PWGSC Performance and Initiatives

During the fiscal year 2000/2001, PWGSC has continued to apply the *CEAA* legislation to its proposed undertakings. While the *CEAA* has no fines or penalties for non-compliance, PWGSC considers the *CEAA* both a legal and due diligence measure to ensure other legislation, such as the *Fisheries Act and Canadian Environmental Protection Act,* are considered during a project's planning stages. Likewise, the *CEAA* is a means to ensure social and economic issues are considered in a project's development and design.

PWGSC continues to use both manual and electronic reporting systems to document consideration of the legal requirement for EAs for individual projects. In 2000/2001, it was reported that 1567 PWGSC projects were assessed for application of *CEAA*. Of these, 1512 were exempt from the need for an EA either because they were not "projects" as defined by *CEAA* or they were projects listed in the Exclusion List Regulation. Of the 55 remaining projects requiring EAs, 51 had completed EA screening reports and four EAs were on-going at the fiscal year end.

The achieved target to comply with the *CEAA* was accompanied by a measure to ensure PWGSC's EAs are of the highest possible quality. Consequently, in 1999/2000, PWGSC also proposed to develop a Quality Assurance Monitoring Framework for *CEAA* and to prepare training tools for *CEAA*. These targets were completed by March 31, 2001, as discussed below.

In the past, PWGSC lacked a system to monitor the quality of EAs. So to address this, in 1999, PWGSC participated in an interdepartmental pilot Compliance Monitoring Program coordinated by the Canadian Environmental Assessment Agency and concurrently conducted an internal audit. Results from the internal evaluation were used as baseline data for PWGSC's own program. As follow-up in 2000/2001, PWGSC has now initiated an action plan to address recommendations that have arisen from our internal program, and several items have been initiated during the year.

The following are examples of these initiatives:

- A draft manual has been prepared to help project managers ensure that *CEAA* consideration becomes part of their regular project management practices.
- PWGSC is working on tools to better track and report on the number of projects requiring EAs and to ensure *CEAA* is considered early in the planning process.
- A draft EA Policy has been initiated for the department, with the objective of specifically outlining roles and responsibilities pertaining to internal EA practices and procedures.
- A National Workshop for PWGSC EA specialists has been proposed to ensure better consistency and communication in our EA practices and procedures nationally.

Also this year, PWGSC re-evaluated the framework used for the 1999 Compliance Monitoring Program and adapted it to better suit PWGSC's needs. It is planned that this new framework will be applied in the upcoming years as a cyclic audit of the quality of EA practices and reporting across the country.

Further to our commitment to improving our EA practices, in 2000/2001 PWGSC developed a one-day training session to be offered regionally over a three-year period. The purpose of the *CEAA* Training Course is to help employees understand and apply the federal EA legislation and procedures. Materials have been prepared nationally and implementation has been initiated regionally by PWGSC EA practitioners with much success and positive feedback.

Strategic Environmental Assessment

Although not regulated under the *CEAA,* Strategic Environmental Assessment (SEA) is the process of evaluating the environmental effects of a policy, plan or program and its alternatives as per the *1999 Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*. In order to address SEA, the draft EA Policy will be amended to incorporate changes brought by the Cabinet Directive. This policy is expected to be completed in the upcoming year. In addition, in 2000/2001, PWGSC initiated a pilot SEA for the Long-Term Development Plan of the Parliamentary Precinct. The SEA process and resulting lessons learned will be on-going into the next fiscal year and documented in order to provide a guidance tool for future PWGSC SEA projects.

3.3
Regulatory Compliance

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To demonstrate a downward trend in the average number per facility of potential regulatory infractions, as determined by the annual internal building reviews.	Full compliance with target: There was an average of 16.2 recommendations per building in 1999/2000 and an average of 12.7 recommendations per building in 2000/2001.	The performance level was maintained.

About Regulatory Compliance

The intention of a regulatory compliance system is to identify both regulatory and policy SDS compliance issues so that they can be addressed in a timely fashion. Since 1992/1993, RPS has had a site level environmental review program in place for Crown-owned assets. Reviews are scheduled on a three to five year cycle. This procedure was updated and modified to meet the requirements of the contract performance monitoring systems used for the contracts for property management services that were out-sourced to the private sector in June 1998. In 2000/2001 a total of 133 building reviews were conducted, following this methodology.

Average Number of Potential Regulatory Infractions per Building								
Year	Atlantic	Quebec	NCR	Parliamentary Precinct	Ontario	Western	Pacific	National
1998 - 1999	23.12	7.90	12.66	12.13	14.18	14.83	9.72	16.51
1999 - 2000	33.26	9.81	12.98	12.51	15.89	4.49	4.67	16.22
2000 - 2001	46.83	6.17	5.21	8.52	7.32	8.78	11.00	12.68

The table illustrates the trends for the last three years. Even if the overall trend is improving, some regions demonstrate an increase in regulatory issues. Such increases may be linked to the overall environmental condition of the assets; it may also be linked with the interpretation given by the reviewing authority on environmental performance indicators. PWGSC will develop a monitoring program to ensure common national interpretation and application of environmental performance indicators.

4.0
Greening PWGSC's Operations

Objective: To green PWGSC's operations, using a pollution-prevention approach to meet or exceed requirements of applicable environmental regulations and policies.

This section of the report will discuss 13 environmental issues integral to PWGSC's operations. In each case, specific targets will be addressed, with performance highlights given. Where a target has not been fully achieved, planned corrective actions will be described.

4.1
Materiel Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To ensure that all buyers have attended training regarding the purchase of environmentally responsible goods and services for PWGSC.	In FY 2000/2001, 271 PWGSC employees received green procurement training	Training and assessment of training needs are ongoing and will continually be reviewed to meet demands.
To increase the dollar value of purchases of green goods and services for PWGSC.	In FY 2000/2001, 17.2% of the $1 million purchases made through BP2K were classified as "green".	Continue to monitor green purchasing through BP2K.

About Materiel Management

As leaders in the Green Procurement Strategy in the department, Materiel Management Division (MMD) is responsible for promoting this strategy, and has initiated such activities as:

- sharing information;
- providing a central clearinghouse of information;
- reviewing and amending existing policies;
- developing new policies; and,
- sharing best practices.

Materiel Management is also involved in researching, promoting the acquisition of alternative transportation fuel (ATF) vehicles.

In fiscal year 2000/2001, green procurement amounted to 17.2 percent of the $1 million purchases made through the e-catalogue purchasing system (Buying Power 2000 or BP2K). To increase this number, MMD regularly provides input to training courses on procurement, and ensures departmental managers are sensitized to the key components of green procurement and green practices.

In fiscal year 2000/2001, MMD staff created and facilitated a new intra-departmental working group on Green Procurement. Acting as a central clearing house for information and assisting in introducing new ideas and concepts into the department, staff also created a shared location for all members of the working group to electronically share documents and work collaboratively.

4.2
Asbestos Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To implement a PWGSC National Asbestos Management Plan (AMP) by March 31, 2001, in all Crown-owned PWGSC buildings where there is asbestos.	By the end of FY 2000/2001, 73% of the facilities where the presence of asbestos is known have an Asbestos Management Plan (AMP) (186 facilities, out of 256 facilities)	Implementation of the remaining plans is to continue into fiscal year 2001/2002. Financial resources have been allocated in order to complete the remaining plans.

About Asbestos Management

Asbestos is the common name for a group of naturally occurring mineral silicates best described as having long, thin, easily separated fibres. Because it is naturally occurring, asbestos fibres can be found virtually anywhere. It is primarily used for insulation and as a fire retardant.

There are two main classes of material that contain asbestos:

- Friable - material that, when dry, can be crumbled, pulverized or powdered by hand pressure
- Non-friable - material that remains intact under hand pressure

Because of health hazards (lung cancer and other diseases) associated with asbestos exposure, particularly in dust form, friable products are now banned from production.

Asbestos Management Plan (AMP)

As PWGSC is highly involved in the stewardship of federal buildings, *DM Directive 57* provides the framework for departmental asbestos management. The directive includes a code of practice, with guidelines for monitoring, reporting, communication, training and conducting assessments and surveys. The PWGSC Asbestos Management Plan has been developed to meet federal and provincial regulatory requirements.

The AMP is formulated to meet the following objectives:

- to identify all friable asbestos materials;
- to maintain all accessible friable asbestos materials in good condition;

- to prevent unintended asbestos exposures to client staff and visitors, contractors, and PWGSC staff;
- to manage all construction and maintenance activities that might disturb asbestos materials; and,
- to comply with all federal, provincial, territorial, and municipal requirements for occupational health and safety, and environmental control.

In 2000-2001, the proportion of facilities with AMP's in place has increased to 73 percent (186 facilities with AMP's out of 256 facilities with asbestos). While the target for implementation, at 100 percent of facilities, has not yet been realized, the foundation work, (e.g. room by room surveys, tenant notification, etc.), completed in accordance with DM Directive 057-Asbestos Management, will enable the department to realize this target within the life-cycle of the second SDS Strategy.

4.3
Ozone-Depleting Substances Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To develop a cost-effective strategy by March 31, 2000, to achieve a downward trend in the ozone depleting potential and global warming potential of chillers in the Crown-owned PWGSC inventory.	A 37% reduction in ozone depleting potential and a 46% reduction in global warming potential of chillers has been achieved in the PWGSC inventory in FY 2000/2001.	Mid and long term budgeting is required to fund these conversions and/or replacements. A planned, methodical approach is required to ensure that funding and operation requirements and impacts are assessed correctly.
To maintain refrigerant losses from chillers in the Crown-owned PWGSC inventory at a maximum of 4% per annum.	Refrigerant losses were 2.11%, well within the targeted maximum of 4%.*	This performance level should be maintained.
To phase out halon systems from Crown-owned PWGSC facilities by March 31, 2000.	The target to eliminate PWGSC-owned halon systems has not been met, there are only two PWGSC-owned systems left. Seven systems were removed during FY 2000/2001.**	Follow-up measures will be undertaken to ensure the remaining halon systems will be removed in the upcoming fiscal year.
To ensure compliance with pending federal halocarbon regulations.	No regulatory issues identified with regard to the Federal Halocarbon Regulations.	This performance level should be maintained.

** Releases of Ozone Depleting Substances (ODS) from the PWGSC inventory are accidental and therefore vary from year to year. PWGSC management of its ODS inventory is consistent with both legislation and the principles of good risk management.*

*** The performance report for FY 1999/2000 showed 12 PWGSC-owned halon systems remaining. Three of these systems were misidentified as belonging to PWGSC; hence this years removal of seven systems leaves only two PWGSC-owned systems in the inventory.*

About Ozone-depleting Substances Management

Safeguarding the earth's ozone layer and preventing the accumulation of greenhouse gasses are important international issues. To meet current standards and avoid adverse long-term environmental effects, PWGSC has targeted ozone-depleting substances (ODSs) phase-out because of their contribution to climate change and depletion of the earth's ozone layer.

In 1987, Canada signed an international agreement known as the *Montreal Protocol on Substances that Deplete the Ozone Layer*. Under this agreement, the production, import, export, and certain uses of ODSs have been or will be restricted or prohibited, in accordance with the deadlines set in the Montreal Protocol and in its subsequent amendments. The Kyoto Protocol reinforces Canada's commitment to addressing climate change.

The most common applications of ODSs at PWGSC facilities include: chillers, air conditioning and refrigeration systems, which account for the majority of traditional refrigerants such as chloroflurocarbons (CFCs), and alternative refrigerants such as hydroflurocarbons (HFCs) and hydrochloroflurocarbons (HCFCs); and, fire protection systems and extinguishers which use halons.

Based on the 2000/2001 ODS inventory, the following table summarizes the quantities of ODS materials contained in PWGSC equipment. These respective ozone depleting and global warming potententals are expressed in terms of kilogram equivalent of baseline substances.

PWGSC 2000/2001 Inventory of ODS Equipment

ODS Material	Quantity In-Service (kg)	Ozone Depleting Potential (Equivalent kg of CFC 11)	Global Warming Potential (Equivalent kg of CO2)
Refrigeration and air conditioning equipment			
CFCs	8,974	7,963	76,285,460
HCFCs	32,062	1,435	54,505,876
HFCs	12,851	0	16,706,833
Other	2,641	14,054	
Total	**52,181**	**23452**	**147,498,169**
Halon Systems			
Total all halons combined	**157**	**1,580**	**910,600**

PWGSC developed its CFC Management Strategy (1992), by adopting a phase-out approach commensurate with the Montreal Protocol. Therefore, rather than immediately replacing all CFC-using equipment, PWGSC developed a systematic replacement, conversion and improvement approach. An assessment has been conducted with regard to accelerating the phase-out of ODS substances from chillers and air conditioning equipment. Refrigerant replacement alternatives are being developed in the market. Finalization and approval of an accelerated phase-out strategy remains pending.

Seven halon systems were removed in 2000/2001 with two remaining and hence the target removal date of March 31, 2000 was not achieved. Strengthened follow-up measures will be taken to ensure significant performance in the upcoming year.

Regulatory requirements related to the management of ODS materials became more stringent with the introduction of the *Federal Halocarbon Regulations, 1999* under Part IX of *Canadian Environmental Protection Act*. These regulations focus on refrigeration, air conditioning, solvent cleaning and fire protection systems for the federal house (Government of Canada operations and operations under federal jurisdiction) and were effective as of July 1, 1999. The purpose of these regulations is to put in place new control measures for the end-use of ODS and their halocarbon alternatives for activities in the federal house. The objectives are to minimize releases, require recovery and recycling, establish reporting mechanisms and implement environmental awareness training**.** Training on the *Regulations* continued to be delivered to appropriate PWGSC staff in 2000/2001.

4.4
Integrated Pest Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To establish standards for and implement integrated pest management plans at all Crown-owned PWGSC facilities by March 31, 2001.	Out of 332 PWGSC Crown-owned buildings reporting, 282 have either implemented a pest management plan or are pesticide free. Eighty-five percent of the target has been reached.	Further work will be done to identify obstacles and opportunities to expand and pursue further implementation.

About Integrated Pest Management

Pest management is often necessary to protect lawns and trees from weeds, diseases, insects and other animals. Pest management may also be used to control pest populations inside buildings. The same characteristics that make chemical pesticides effective can also pose health risks to humans, as well as to harmless animals and plants. Integrated pest management is a comprehensive environmental approach to the prevention, elimination, or control of pests using non-chemical means, and is an important factor in minimizing ecological damage and risks to human health.

4.5
Hazardous Materials Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
Hazardous Materials To continue to comply with hazardous waste disposal regulations.	No warning letters or regulatory infractions were received.	There will be ongoing monitoring and follow-up through an environmental review program.
To establish a National Master Standing Offer (NMSO) to provide a spills-response service to Crown-owned PWGSC property inventory by March 31, 2000.	The NMSO approach has been set aside in favour of a locally based spill response regime, currently in place as part of Critical Incidents Response procedures.	A Standing Offer contract with a competent service provider will be maintained and reissued after the expiry date of the existing contract in March 2003.
To develop a protocol to use economical alternatives to hazardous materials and/or processes which generate hazardous waste by March 31, 2000.	The protocol has not yet been prepared, however, 25 hazardous materials have been reviewed and alternatives have been recommended. This information will form the basis of the protocol to be rolled-out in the future.	The preparation of the protocol to use economical alternatives to hazardous materials has been included in the 2001/2002 workplan. A general awareness program is being developed to promote the use of the protocol and alternatives to hazardous materials.

Targets	Performance	Corrective / Additional Measures *(if applicable)*
<u>Polychlorinated Biphenyls (PCBs)</u> To continue to transfer PCB waste material to licensed destruction facilities within one year of receipt or as soon as it is feasible and economically viable to do so.	Out of the 35 tonnes of PCB waste materials held in PWGSC storage in 2000/2001, 33 tonnes were transferred for destruction, making for a 95% destruction ratio. The remaining two tonnes were sent for destruction early in the following fiscal year. A further 7.7 tonnes, not placed in PWGSC storage facilities, were sent directly to disposal in 2000/2001. At Pinetree near Stephenville, Nfld., 1200 tonnes of PCB-contaminated soils are being held.	The performance level should continue to be maintained. Ongoing studies for options are taking place.
To continue to meet the regulatory requirements for PCB waste storage.	No warning letters or regulatory infractions were received.	There will be ongoing monitoring and follow-up through the environmental review program.
To continue the phase-out of PCB-containing equipment in PWGSC Crown-owned facilities as the equipment reaches the end of its life cycle or as Federal Building Initiative (FBI) upgrades are completed.	PCB-containing equipment has been phased out of 67% of PWGSC facilities.	The phase-out will continue in the remaining 33% of facilities, following a life-cycle management approach.

Targets	Performance	Corrective / Additional Measures *(if applicable)*
Waste Water Effluents To continue to comply with effluent-discharge regulations, including local by-laws.	No warning letters or regulatory infractions received.	A wastewater management guide is being prepared to assist property and facility managers in the proper management of effluents. The management guide is based on the new effluent guideline "An Approach for Assessing and Managing Wastewater Effluent Quality for Federal Facilities."

About Hazardous Materials Management

Hazardous Materials

The main hazardous materials present in PWGSC facilities include oils, glycol, fluorescent lamps, batteries and cleaning solvents. Through the use of long term contracts, licensed private sector disposal firms are used to dispose hazardous wastes. The contract stipulates that all applicable Acts and Regulations must be adhered to during all aspects of the removal and final disposal. PWGSC receives certificates of disposal for all its hazardous materials. Typically, the quantities of hazardous materials generated from the PWGSC office facilities are generally under 100/kg per year per facility and are declining each year.

In addition to the environmental implications, reducing the use of hazardous materials has a financial impact. In general terms, hazardous material alternatives may incur a modest procurement cost increase, but the disposal of hazardous materials may be tenfold greater than general waste disposal.

In the past, some hazardous materials disposal firms used "the solution to pollution is dilution" mentality in their operation. PWGSC carefully monitors its contractors to ensure this is not the case for the hazardous materials it disposes.

PCBs

Polychlorinated biphenyls (PCBs) were widely used prior to 1980 as a dielectric fluid in electrical equipment. They pose a serious threat if released into the environment or involved in a fire. The by-products of their combustion are dioxins and furans, which are carcinogens. Out of the 35 tonnes of PCB waste materials held in PWGSC storage in 2000/2001, 33 tonnes were transferred for destruction.

Sixty-seven percent of the PWGSC Crown-owned inventory is considered PCB-free. The last remaining askarel-filled transformers were sent for destruction and/or recycling for the Parliamentary Precinct. In the National Capital Area (NCA), six transformers with a concentration of more than 50 parts per million of PCBs remain but are undergoing decontamination. Virtually all the PCBs left in PWGSC buildings are in lighting ballasts. These are routinely removed as refits, renovations, maintenance procedures, and energy conservation measures are implemented. It is therefore anticipated that the year-to-year elimination of PCBs will be gradual.

Environment Canada is presently reviewing the regulations that govern the storage and disposal of PCBs and have been involved in public meetings and discussions with other departments regarding the proposed changes to the regulations.

Standing Offers for the disposal of PCBs have been established across the country to service both PWGSC and other government departments.

Wastewater Effluents

Within the PWGSC Crown-owned inventory, wastewater effluents are generally discharged to the local municipal facilities. The risk to the environment from the wastewater generated in PWGSC office facilities is inherently low due to it being principally sanitary wastes. No specific nationally coordinated actions have been identified, and this aspect continues to be monitored under the PWGSC site level environmental review program.

4.6
Storage Tank Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To continue to meet the requirements of *Canadian Environmental Protection Act* (*CEPA)* Part IV Registration of Storage Tank Systems for Petroleum Products and Allied Petroleum Products on Federal Lands Regulations (Storage Tank Regulations).	PWGSC meets the registration requirements of the storage tank regulations.	Maintain performance.
To meet the requirements of CEPA, Part IV Federal Aboveground/Underground Storage Tank Technical Guidelines by March 31, 2000.	Of the 78 PWGSC Storage Tanks, 56 conform to Storage Tank Technical Guides. For Aboveground Storage Tanks: 14 are registered; 12 comply with Technical Guidelines; two do not comply. For Underground Storage Tanks: 64 are registered (plus four concrete tanks); 44 (plus 4 concrete tanks to which the Technical Guidelines do not apply) are in compliance; 20 do not comply with Technical Guidelines.	Nine of the 22 non-conforming tanks are being risk-managed with approval from Environment Canada. The 13 remaining tanks will be scheduled for upgrading or decommissioning by December 2001.

About Storage Tank Management

Storage tanks containing petroleum and allied petroleum products can leak toxic and flammable substances such as fuel oil, solvent and alcohol. Leaky tanks, or improper maintenance and handling, may result in significant soil and groundwater contamination. This can lower property values and cause serious environmental, health and safety

problems. Such concerns can be avoided through good storage tank management, as specified in the Technical Guidelines.

In addition to the Registration and Technical Guidelines, the owner of a storage tank must adhere to several codes, such as:

- the Canadian Council of Ministers of the Environment (CCME) Environmental Codes of Practices for both underground and aboveground storage tanks systems;
- the Canada Labour Code;
- the CANCSA B-139-00 Installation Code for Oil-Burning Equipment; and,
- the National Fire Code of Canada.

All current PWGSC Aboveground Storage Tank (AST) and Underground Storage Tank (UST) installations should comply with these requirements.

For many years, PWGSC has demonstrated a leadership role in the management of fuel storage tanks. An example is PWGSC's pro-active response when a tank's ownership is unclear. Although a storage tank could be the responsibility of PWGSC, an other government department or a third party, PWGSC will register the tank in its database until ownership can be determined. In addition, when compliance is an issue, PWGSC will implement its own action plan with the approval of the appropriate authorities. This plan covers the inspections as well as the upgrading or replacement of a tank.

Of the 56 conforming storage tanks currently owned by PWGSC, 44 are USTs and 12 are ASTs. PWGSC received formal approval from Environment Canada regarding its action plan for managing nine of the 22 non-conforming tanks, until such time as they are declared surplus or the ownership is transferred. The remaining 13 tanks, 11 of which are underground, are scheduled to achieve upgrading or decommissioning no later than December 2001.

4.7
Vehicle Fleet Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To meet or exceed requirements of the *Alternative Fuels Act*.	Requirements of the *Alternative Fuels Act* have been exceeded.	This performance level should be maintained.
To provide information on alternative fuel vehicles (AFVs) to clients through the Government Motor Vehicle Ordering Guide.	Information on alternative fuel vehicles has been provided to clients via the Government Motor Vehicle Ordering Guide (GMVOG).	The GMVOG will continue to provide information on AFVs.
To decrease total annual fleet kilometers by a reduction in fleet size from 300 in April 1999 to 275 in March 2000 and/or a decrease in average kilometers travelled by fleet.	The number of motor vehicles in the PWGSC fleet was maintained at 304 units. The total number of kilometers travelled by the PWGSC fleet has decreased from 8,346,030 in FY 1997/1998 to 5,743,749 in FY 1999/2000.	The department was unable to reduce the number of vehicles in its fleet because of demand for transportation by new clients.
To increase percentage of alternative fuel vehicles in fleet.	The number of alternative fuel-vehicles in fleet increased from 15% to 17%.	Future focus will be kept on maintaining performance.
To increase percentage of fleet kilometers travelled by alternative fuel (ATF) vehicles.	It is expected that the increase in the percentage of kilometres travelled by AFVs will be similar to the increase on the percentage of AFVs.	Future focus will be kept on maintaining performance.

About Vehicle Fleet Management

PWGSC continues to be on track with respect to reducing the negative impact of its vehicle fleet on the environment. Since the *Alternative Fuels Act* was proclaimed in 1995, PWGSC has continuously promoted the use of alternative transportation fuels in the departmental fleet, and every year since, has exceeded its obligations towards the requirements of the *Alternative Fuels Act*. To further benefit from the use of alternative fuels while reducing operating costs and harmful emissions, the department has added two new natural gas vehicle refueling appliances to the existing two units at one of its building sites in Ottawa. The vehicles can now be refueled overnight with natural gas. All requirements, including whether an Alternative Fuel Vehicle's (AFV's) use is cost-effective and operationally feasible, are evaluated centrally to determine if an AFV will be purchased.

During fiscal year 2000/2001, the number of vehicles in its departmental fleet remained at the same level despite an increase in the department's business volume relating to transportation requirements. Instead of declaring vehicles surplus for disposal, some units were relocated to accommodate the delivery of services to new clients.

Unfortunately, the figures on kilometres travelled for fiscal year 2000/2001 are not available at this time. For this period, we expect the increase in the percentage of kilometres travelled by AFVs will be proportionate to the increase on the percentage of AFVs in the departmental fleet.

4.8
Construction, Renovation and Demolition Waste Reduction

Targets	Performance	Corrective / Additional Measures *(if applicable)*
By March 31, 2000, incorporate construction solid waste diversion practices into Real Property Services project delivery system and implement for all future construction, renovation and demolition projects as applicable.	The target was met with regard to the requirement for construction, renovation and demolition (CRD) waste reduction incorporated into project delivery standards. Twenty-nine percent of applicable CRD projects had formal CRD waste reduction plans implemented.	Further initiatives are planned to ensure improvement and full implementation of these practices in the PWGSC inventory
By March 31, 2000, in concert with Canadian Construction Association (CCA), develop and disseminate construction industry best practices for solid waste management.	A market readiness study was completed in FY 1999/2000 indicating that in some regions, recycling facilities for these wastes are not available, which slowed the finalization of best practices. Discussions have since taken place with Canadian Construction Association (CCA) to assist in the development of a CCA Waste Management Document which has resulted in compatible processes.	PWGSC officials have met with the CCA and have developed an action plan to address barriers to implementation.

About CRD Waste Reduction

Construction and demolition produce a total of nine million tonnes of waste every year — one-third of all the solid waste produced in Canada. A number of cost-effective approaches are now available that combine practical renovation, construction and demolition decisions with environmental considerations.

Highlights

CRD Waste Management is a major topic in the Green Building Workshops delivered in all Regions across Canada to Real Property Services design and project management professionals, asset managers and client representatives

The Electronics Testing Laboratory of Industry Canada was declared surplus and the buildings demolished. A full 99 percent of the demolition material was diverted from landfill through reuse and recycling options with substantial financial savings to the department while maintaining a satisfactory profit to the contractor.

The former US Naval Base at Argentia, Nfld. continued to be decommissioned. In addition to the extensive decontamination work on the site, numerous obsolete structures have been demolished and removed. CRD waste management has been implemented throughout this process resulting in the diversion of:

Concrete ..... 100,000 Tonnes
Re-bar ..... 8,600 Tonnes
Fuel ..... 945,000 Litres
Plywood ..... 1,611 sheets
Lumber(various) ..... 1,500 Tonnes
Hardwood Flooring ..... 297 m^2
Aluminum/Copper Scrap ..... 400 Tonnes
Ferrous Metals ..... 8,800 Tonnes
Interior Solid Core Wood Doors ..... 840 pieces

Waste diversion programs were implemented in 14 CRD projects. Although specifications and the Protocol noted above have been developed, additional efforts are required to increase awareness and training.

PWGSC officials are meeting with the Canadian Construction Association's representatives and have renewed the commitment to work collaboratively to promote sustainable development in construction, renovation and demolition projects.

4.9
Water Conservation

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To implement water conservation initiatives in Crown-owned PWGSC facilities by March 31, 2000, where it is feasible and cost-effective to do so.	Where water conservation is likely to be economically viable, 60% of the facilities, by floor area, have implemented water conservation measures. A five-phase water management protocol has been developed and distributed to field staff for implementation.	PWGSC will continue implementation of water conservation measures in its Crown-owned inventory, wherever it is cost-effective and feasible to do so.

About Water Conservation

Water conservation measures have been implemented in 132 facilities, representing 60 percent of the floor area in the PWGSC Crown-owned inventory. The average water used across the entire inventory was 0.96 m^3 / m^2 /year. The average water used for facilities with water savings initiatives was 0.83 m^3/m^2/year. This compares well to a benchmark average of 1.3 m^3/m^2/year water usage in the private sector, obtained from the Building Owners and Managers Association (BOMA).

There are many barriers to implementing a consistent national water conservation program. In general, many of these barriers are linked to the inconsistent price for water from region to region and city to city as well as how PWGSC is charged for consumption. For example, in the major cities of Quebec and Ontario, the price of water may be five times the rate on both coasts (excluding Vancouver) and therefore directly affects the cost effectiveness of similar water conservation initiatives for every region. In other cases, the city charges a flat rate or includes the water charges in its property tax structure. Unless direct negotiations are undertaken, a successful water conservation program *will not* result in a lower water bill and will make it impossible to be cost effective.

Another major barrier stems from the fact that many facilities are not metered. As with the example above, a program cannot be evaluated if the decrease in water consumption cannot be detected. At this time it has not been determined if installing meters in all facilities is feasible.

With these barriers in mind, water conservation should and will remain on the PWGSC agenda. As the demands on potable water and cost of treating water increases, the cost-effectiveness of a water conservation program will also increase. Specific initiatives which are not feasible today may become feasible in the future, and regions where water costs are low today may see sharp increases in the future. While continuing to implement the cost-effective programs, PWGSC is positioning itself to continue implementing as opportunities arise.

Success Stories at the Parliamentary Precinct in the National Capital Area

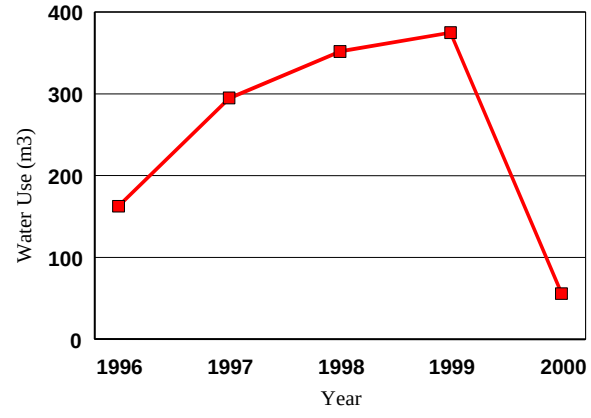
Victoria Building

During the last two years a number of water saving initiatives have been implemented in the Victoria Building. In March 2000 cooling towers were removed and replaced with cooling from the Cliff Central Heating Plant. This caused an immediate drop in water usage from 19,325 m^3/year in 1998/1999 to 3,692 m^3/year in 2000/2001. In the following year a water-cooled ice-making machine was hooked up to the existing chilled-water supply to further reduce domestic water use, and the water usage of toilets and sinks in the building was cut in half. The current toilets are equipped with water saving devices and the sinks have automatic faucets. When the water audit was completed in October 2000 it was discovered that the department had been overcharged for the Victoria Building as the municipality had been using water usage estimates based on data taken before October 1998. Water savings through these initiatives should be reflected in the utility records, cutting costs by approximately 81percent.

Wellington, Blackburn, Norcano Buildings

In the past, one water-cooled air conditioner at the Wellington Building, three units at the Blackburn Building and one unit at the Norcano Building were large consumers of domestic water. The replacement of these units in the 1999/2000 fiscal year with chilled water-cooled air conditioners has made a significant impact in water use. At the Blackburn Building, water use has dropped 47 percent, from 45,893 m^3 in 1998/1999 to 21,805 m^3 in 2000/2001, which translates to a cost savings of $31,900. At the Wellington Building, water use has dropped 57 percent, from 21,620 m^3 in 1998/99 to 12,250 m^3 in 2000/2001, which translates to a cost savings of $12,350. At the Norcano Building, water use has dropped 88 percent, from 4,234 m^3 in 1998/1999 to 503 m^3 in 2000/2001, which translates to a cost savings of $5,136 (see Figure 1).

Figure 1: Average monthly water use at Norcano



Confederation Building

The water audit completed in the summer of 1998 identified a water-cooled compressor in the basement waste collection room of the Confederation Building, as a large consumer of water. The compressor was on 24 hours a day, seven days a week to keep the waste cool, however the room only held waste in the evenings. In the 2000/2001 fiscal year, a timer was installed so the compressor would only turn on for the evenings. Future utility records should reveal water savings gained through this initiative.

4.10
Energy Efficiency

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To complete, by March 31, 2000, a study to identify cost-effective opportunities for more efficient and environmentally friendly sources of energy in Crown-owned PWGSC buildings.	Study completed. All immediate opportunities for fuel switching to lower GhG producing sources were determined to be exercised, with the exception of co-generation and fuel cells. Opportunities for PWGSC to procure "Green Power"[2] have been assessed, and the department is a full partner in the Federal House in Order (FHIO) initiative to procure Green Power.	Opportunities for cogeneration and fuel cell technologies will be monitored and pilot projects conducted to allow for full evaluation and determination of application potential.
To implement the Federal Buildings Initiative (FBI) and other energy conservation measures in the PWGSC inventory by March 31, 2000, where an energy assessment has demonstrated that it is cost effective to do so.	Target not met. Energy conservation measures have been implemented in 60% of the office space (based upon m^2) In the SDS 2000, the target time frame has been delayed to March 31, 2005 to enable achievement of further opportunities identified in the study conducted during this reporting period.	In order to ensure priority for these projects, a special $6 million budget has been identified for the implementation of building energy audits, building recommissioning, FBI projects in 2001/2002.

[2] In Canada, a private company, TerraChoice Environmental Services Inc., has been set up to deliver, under contract to Environment Canada (EC), EC's Environmental Choice Program (ECP). The rules for certifying green power are currently undergoing a change from a less formal "panel review" type process to a strict "guideline-based" process that will be published pursuant to paragraph 8(1)(b) of the *Canadian Environmental Protection Act*. "Green Power" is recognized under the ECP guideline and by TerraChoice. "Green Power" includes power generated by wind, solar, biomass/biogas, and small hydro facilities.

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To continue to incorporate environmentally responsible clauses in the National Master Specifications, with special reference to energy, water, solid and hazardous waste.	Green clauses have now been incorporated into over 51% of the sections of the National Master Specifications (NMS).	PWGSC will continue to introduce green clauses into the NMS.

About Building Energy Efficiency and GhG Reductions

Energy efficiency is a key component within PWGSC's operating practices. As a result, building energy consumption has been decreasing over the past decade. However, this trend is being mitigated as inventory demands are again escalating, and are anticipated to continue in this direction over the next decade.

PWGSC is a full participant in the Federal House in Order (FHIO) initiative to identify opportunities to improve energy efficiency, and to reduce greenhouse gas emissions (GhGs). The FHIO is the Government of Canada's own contribution to the National Action Program on Climate Change. The initiative's objective is to demonstrate leadership by reducing GhG emissions from federal government operations. Canada's Kyoto Protocol commitment is to reduce the country's GhG emissions to six percent below 1990 levels by 2008-2010.

PWGSC conducted a building energy-use assessment to identify the potential for energy efficiency and the reduction of GhG emissions. The assessment resulted in PWGSC's GhG emission reduction strategy and three-year action plan. The department is on track to have reduced PWGSC emissions by 19 percent, considerably exceeding the Kyoto Protocol targets. (This excludes contributions from green power purchases).

To ensure priority for these projects, the government has approved a special $6 million budget for the implementation of building energy initiatives. The scope of these activities is as follows:

- Comprehensive building energy audits
- Building operations refinements (recommissioning)
- Implementing Federal Buildings Initiative (FBI) projects where it is cost effective
- National Capital Area central heating plant strategy
- Establishing a national energy management reporting protocol

The purchase of green power is a key strategy under PWGSC's SDS 2000 commitment to Reduce Greenhouse Gas Emissions. PWGSC is tasked with the purchase of green power on behalf of the federal government. To date the following actions have been taken:

- Interdepartmental management infrastructure has been established;
- Memorandum of Understanding (MOU) has been signed with producers who have capacity for "Green Power" production (i.e. Sask Power, PEI Power, and Nova Scotia Power);
- Negotiations with Energy Ottawa and with the Pic River First Nations for the supply of electricity from emerging renewable resources are ongoing; and,
- A Request for Proposal for the purchase of renewable energy resources in Alberta and Ontario is under development.

The FBI program is being evaluated to assess its applicability to PWGSC's building stock under 10,000 m^2. To date, 44 percent of PWGSC's office space has undergone energy savings upgrades through the FBI program, which represents 48 buildings (29 contracts), have cost $40 million, and resulted in annual average savings of $6.5 million (approximately a six-year simple payback). An additional 16 percent of PWGSC's office space (129 buildings) implemented Crown-funded energy saving upgrades. Together, the FBI and Crown-funded energy saving upgrades means that 60 percent of PWGSC's office building space has undergone energy saving upgrades.

4.11
Land Use Management

Targets	Performance	Corrective / Additional Measures *(if applicable)*
Contaminated Sites To identify and prioritize contaminated sites, and prepare action plans by March 31, 2000, for Crown-owned PWGSC lands. To continue to remediate and monitor Crown-owned PWGSC contaminated sites as determined by action plans.	Thirty percent of PWGSC sites have been assessed. Action plans, as identified from the site assessments, continue to be implemented. Ten sites were remediated in FY 2000/2001. Of those sites assessed, 85% of them required no further action. **Note:** Whereas previous percentages were related to office buildings only, in 2000/2001, all types of assets were included in the reporting, therefore reducing the relative percentage result reported this year.	Remaining sites will be assessed. Assessed sites where contamination exists will have remediation/monitoring action plans.
Property Transfer Assessments To update the Property Transfer Assessment procedures by March 31, 2000.	PWGSC has adopted the term “Phase 1 Environmental Site Assessment” (ESA) to replace “Property Transfer Assessment” (PTA). Consequently, the Canadian Standards Association’s (CSA) Standards for Phase 1 ESAs will be adopted where the internal PTA Guidelines previously outlined methodologies.	Finalization of the PWGSC Client Guide to Phase 1 Environmental Site Assessment and the PWGSC Practitioner’s Guide to Phase 1 Environmental Site Assessment is scheduled for March 31, 2002. This will include the completion of associated Phase 1 ESA “tools”, such as checklists and questionnaires.

Targets	Performance	Corrective / Additional Measures *(if applicable)*
Dredging To continue to ensure that PWGSC dredging operations meet with all applicable laws, codes and regulations, and are carried out in a manner that minimizes their negative environmental impact.	PWGSC carried out 104 dredging operations in full compliance with regulations and with no regulatory infractions or warning letters received from regulatory authorities during 2000/2001 reporting period.	Maintain performance level of dredging operations.

About Land Use Management

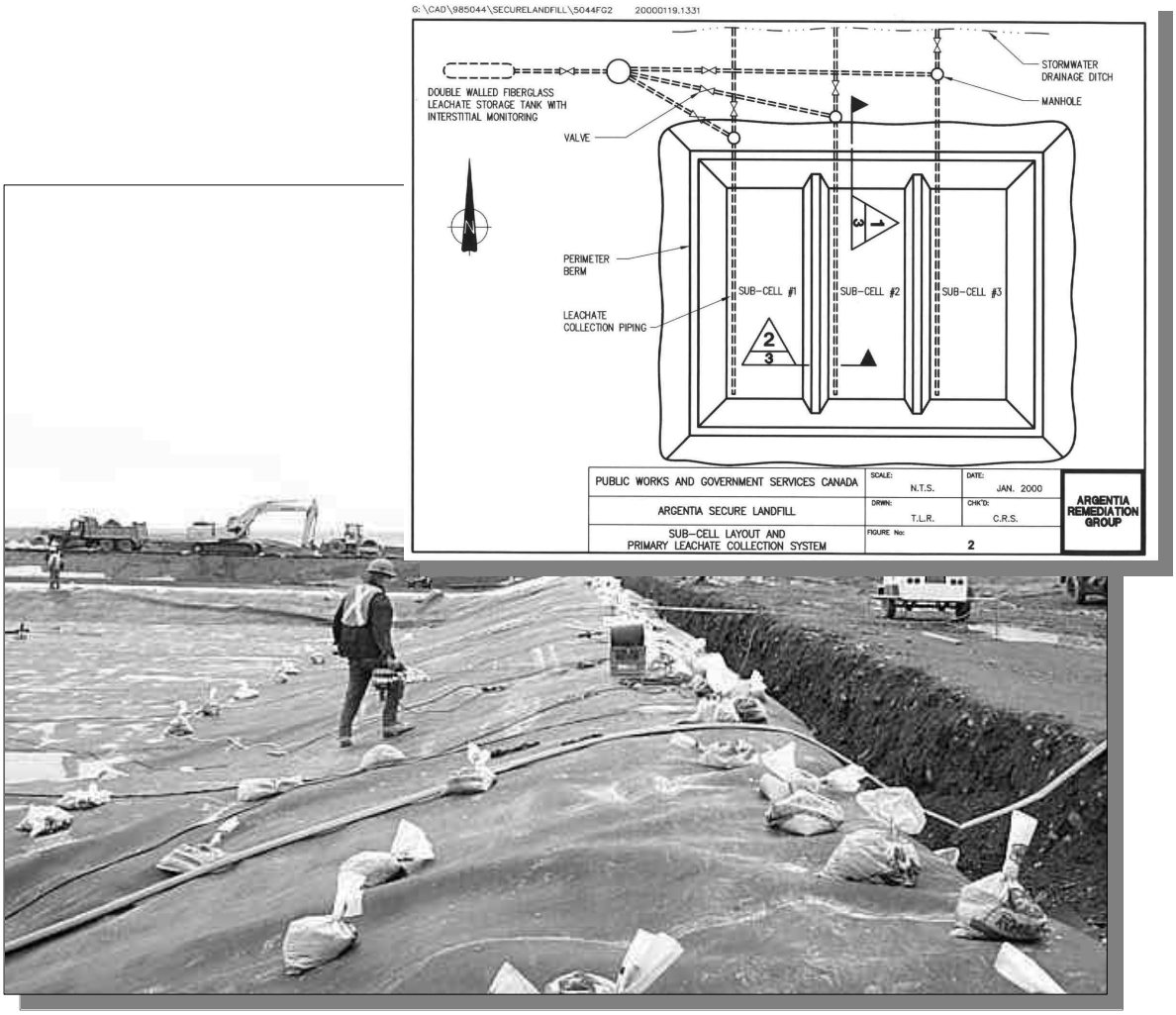
If managed improperly, contaminated lands, sediments and waters can be both a financial and environmental regulatory burden. Dealing with contaminated sites involves assessing the site, evaluating the risk, careful remediation and continuous monitoring. By sharing and implementing best practices, existing contamination problems can be solved and future problems prevented.

Under the 2000/2001 contaminated sites program at PWGSC, there was significant progress in the completion of environmental site assessment work. The number of sites that were assessed increased in 2000/2001. Of those sites assessed to date, 199 require no further action, 10 sites were remediated, 54 sites are known to have potential contamination, and 21 sites are under assessment. Within the PWGSC Real Property Inventory, there are approximately 640 sites that remain unassessed and will be subject to ongoing environmental site assessment work to determine the presence of contamination and develop appropriate remedial action plans. Of the 640 unassessed sites, 66 are office buildings, 208 are infrastructure (i.e. bridges, dams, water treatment facilities, etc.), 258 are residences, 92 are lands and 16 remain to be classified within the Directory of Federal Real Property (DFRP) and reconciled with PWGSC's Facility Inventory System (FIS).

The reconciliation process with DFRP and FIS has created new challenges in defining the real property inventory. Formerly, targets were related to office buildings only, as these structures were considered the biggest PWGSC risk to the environment. There were approximately 350 buildings reported upon in the past. However, in 2000-2001, PWGSC included all types of assets in its reporting program. Assets include office buildings, housing, infrastructure and land for an overall inventory of close to 1,400. This is the reason for this year's decrease to 30 percent for assessed contaminated sites.

With respect to assets not formerly reported upon, PWGSC continued to employ integrated risk management principles in order to complete the assessments in the most cost-effective manner. The majority of these assets include residences, infrastructure

and unused lands, and generally present a lower risk of contamination than more intensive use sites, such as buildings, where more contaminant sources may exist. As a result, PWGSC is completing screening level reviews of these properties to evaluate past land use and to prioritize them in a more cost-effective manner for environmental site assessment activities. In relation to residences, a representative sampling approach has been taken to evaluate the presence of contamination at this type of land use.



Membrane being installed at the Argentia landfill.

A major project undertaken by PWGSC over the past few years involved the cleanup of contaminated sites at the former United States naval base and air station at Argentia, Newfoundland. Great Britain leased the site to the United States in 1941 as part of a lend-lease arrangement.

PWGSC took over the site in 1994 and in 1996, the department commenced a 10-year $81 million demolition and cleanup program. The first five-year phase of this project dealt with demolition and cleanup. As part of this work, the containment for a major landfill was rebuilt and landfill leachate is being pumped and treated to protect local

groundwater. In addition, a new engineered landfill (see picture) was constructed to allow for the safe disposal of hazardous materials found at the site.

The new landfill was designed as a series of three cells (see inset) so that as each cell becomes filled, it can be capped and closed. The material used to cap the landfill is impermeable in order to minimize water infiltration and in turn, the amount of leachate generated. The bottom of the new landfill is lined with an impermeable membrane (see picture) to prevent the escape of leachate. Leachate generated in the landfill will be pumped out and treated.

Dredging

While dredging is an inherently disruptive process, most dredging is a regular maintenance procedure, occurring in the same locations with no new disruption. Dredging is heavily regulated. On behalf of clients, PWGSC continues to be involved in dredging operations in Canada's coastal and inland waterways. Given dredging activity's potential for damage to fragile ecosystems, all parties must observe strict regulatory processes.

4.12
Paper Reduction

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To achieve by March 31, 2000 a direct deposit take-up rate of 66% from the 1998-1999 level of 64%, representing 4 million fewer cheques and envelopes.	A direct deposit take-up rate of 65.5% was achieved by March 31, 2000. This appears to be the saturation point, as this level was not surpassed in FY 2000/2001. The issuance of 133 million electronic payments in 2000-2001 resulted in a paper savings of 21.3 million kilograms.	Direct deposit is now a mature payment method. The department continues to promote its use through enrolment forms available from financial institutions, as well as through the inclusion of direct deposit on applications for government benefits.
To recycle 245,048 kilograms of cheques and card paper by March 31, 2000 through the Cheque Redemption Control Directorate's recycling program. (This activity is on a downward trend as the take-up rate of direct deposit rises).	In 2000-2001, the cheques and cards recycled represented a savings of 246,060 kilograms of paper.	The Cheque Redemption Control Directorate of Governmental Operational Services (GOS) will continue to recycle cheques and Employment Insurance cards after their legal retention period.
To establish baselines for PWGSC paper consumption by March 31, 2000	Paper consumption in PWGSC has declined; the number of boxes of paper supplied by the Materiel Management Division (MMD) decreased from 7661 boxes in FY 99/00 to 7112 boxes in FY 00/01.	Continue efforts to further reduce paper consumption.

About Paper Reduction

The number of boxes of paper supplied by the Materiel Management Division (MMD) to the department decreased from 7661 boxes in fiscal year 1999/2000 to 7112 boxes in

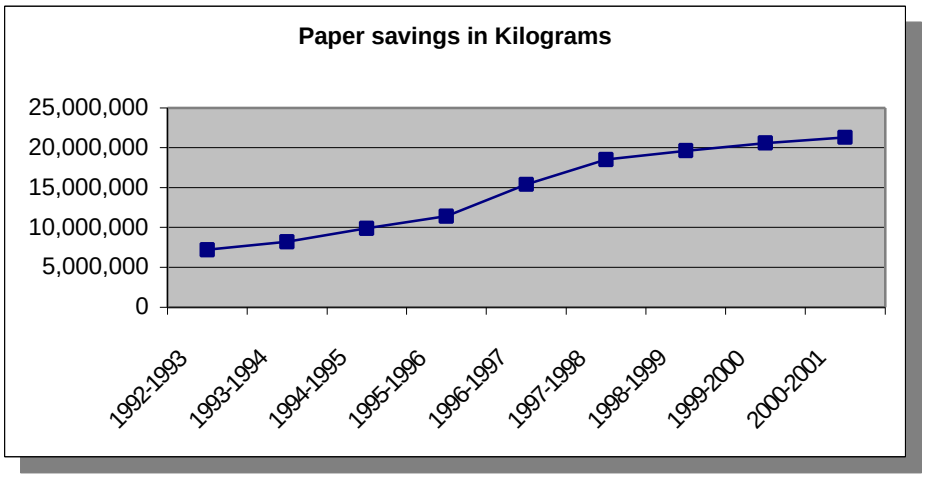
fiscal year 2000/2001. As well, the percentage of boxes of paper with recycled content increased from 17 percent of the total boxes in fiscal year 99/00 (1285 boxes) to 99 percent in fiscal year 00-01 (7046 boxes). In fiscal year 2000-2001, PWGSC has also completely discontinued the purchase of virgin paper products for its internal use and has replaced it with recycled paper.

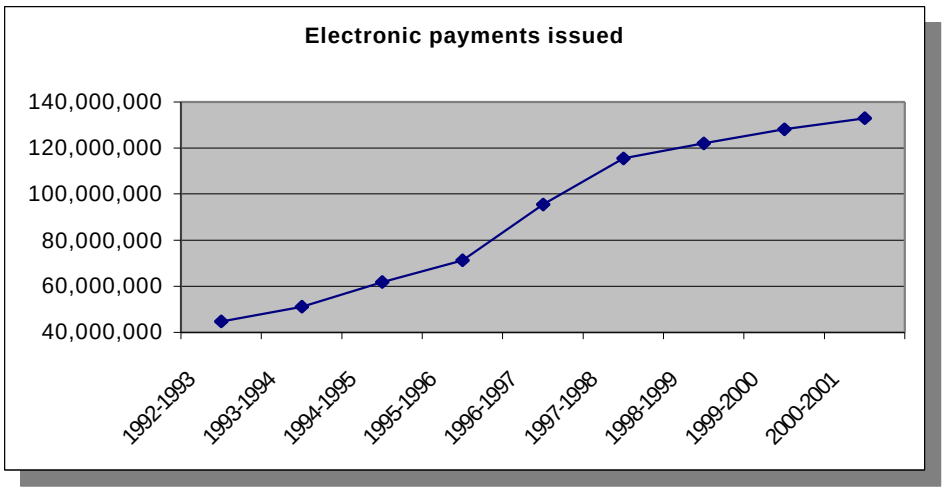
Direct Deposit

Government Operational Service (GOS) saves 20 million kilograms of paper annually by issuing Government of Canada payments electronically.

During the 1990s, campaigns were carried out to encourage those receiving cheques to convert to direct deposit. Direct deposit is now a mature payment method. GOS continues to promote its use through enrolment forms available from financial institutions as well as through the inclusion of the direct deposit option on applications for government benefits.

Each electronic payment saves 0.1609 kilograms of paper, namely the weight of a cheque and an envelope. In baseline year 1991-1992, a total of 22, 262,008 payments were issued electronically for a total paper savings of 3.6 million kilograms. The savings continued to increase in subsequent years as shown below:





"Greening" the Telecommunications Billing Details

The Telecommunications Sector of the Government Telecommunications and Informatics Services (GTIS) Branch delivers common telecommunications services to the government-wide community and acts as a broker in leveraging its buying power to provide the highest quality at the lowest prices.

For some years, the Telecommunications Sector has been proactively promoting the reduction of paper in the billing process. Through gradual streamlining of processes and improved electronic tools, Telecommunications clients have been sold on the idea to move towards electronic billing information. While minimum paper invoicing was maintained, Service Utility Software enabled users to access detailed invoice information electronically from their desktops. This gave them the capability to perform customized reports regarding service usage and inventory information, allowing trend analysis and other management functions. Presently, 142 out of 144 federal institutions have accepted to use the Service Utility alternative to access detailed billing information electronically.

The paper reduction process and transition to the Service Utility Software have:

- been well received by clients;
- resulted in an annual reduction of over 1.5 million paper attachments per year (or approximately 300 boxes of paper);
- saved thousands of trees; and,
- supported the 1999 Speech from the Throne in which the Federal Government committed itself to becoming a *model of environmental excellence*.

Electronic Distribution of Documents

Distribution Services, as a unit of departmental Mail Management Services, has the mandate of distributing documents (e.g. memos, communiqués, publications, or bulk distributions) using distribution lists, within and outside PWGSC in the National Capital Area and across Regions. This service includes packaging, labelling and shipping of material, as well as creating and maintaining distribution lists for customers.

An electronic distribution component has also been in place for some years, including creation and maintenance of e-mail distribution lists. This extended to such documents as various departmental communiqués, staff announcements to the executive group, announcements of new or revised Deputy Minister Directives, contracts for the Contract Canada group, and ad-hoc distributions for specific groups. In the last year, Distribution Services has enhanced its electronic distribution system to include new functions and increase its distribution capability. The unit now actively promotes electronic distribution as a cost-effective approach and aims at extending this method to all distribution initiatives where electronic transmission would be advisable.

The electronic distribution of documents supports sustainable development in contributing to the departmental paper reduction objective. The electronic distribution of internal documents to employees and customers would significantly reduce paper consumption, including related request forms. This initiative also supports the Government On-line program within the department.

4.13 Telework

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To support telework and remote access service.	There are 2,200 PWGSC employees with the technical capability of working from their homes or other remote sites.	Continue to support this activity and maximize opportunities for implementation.

About Telework

Telework is an authorized working arrangement whereby employees perform some or all of their regular work away from the official workplace. The Treasury Board's Telework Policy defines the telework objective as a measure allowing employees to achieve a better balance between their work and personal lives, while continuing to contribute to the attainment of organizational goals.

PWGSC's Government Telecommunications and Informatics Services (GTIS) Branch supports telework in maintaining the departmental and government-wide information technology infrastructure that allows access to the departmental Local Area Network (LAN), Wide Area Network (WAN), and Intranet. The infrastructure includes dial-in modems at the departmental level, and the Government Enterprise Network (GENet) at the government-wide level, which enables access from local and international locations. GENet also offers a Secure Remote Access option that includes the Public Key Infrastructure (PKI) to ensure confidentiality, strong authentication and integrity of sensitive information, thus expanding the type of work that can be conducted remotely. The departmental infrastructure was enhanced in May 2001 as the 96 modems had to be doubled in number to respond to the sustained increase in telework.

5.0
Green Citizenship

Objective: To green PWGSC's daily activities by practising Green Citizenship.

Green Citizenship is the integration of environmental stewardship principles into everyday activities. The Green Citizenship Program began as a commitment in PWGSC's first Sustainable Development Strategy tabled in Parliament in 1997. The following mandate has been adopted for the program:

To help create an organization of environmentally responsible employees and citizens.

The aim of the Green Citizenship Program is to ensure that sustainable development becomes a part of all PWGSC employees' thinking and decision-making in all departmental operations and activities. Employees are encouraged to adopt or exceed conventional environmentally preferred work practices, and set higher individual and group norms. Many employees have indicated that they already have higher personal standards in use at home. These higher norms will support the federal government commitment to pollution prevention.

There is a two-tiered network of employees taking part in Green Citizenship initiatives. The first level is a Departmental Network comprised of a representative from each Branch, Special Operating Agency (SOA), and Region. Each of these representatives lead the development of a Local Network throughout their organization, involving as many people as possible.

The Departmental and Local Networks are supported and assisted by a Green Citizenship Champion at the ADM level. The Champion promotes the program's aims and activities among senior management. During each year's Environment Week, this responsibility is taken-up by a new Champion.

5.1
National Volunteer Network

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To implement a national volunteer network and local sub-networks in every branch and region by March 31, 2000.	A volunteer network was established in 1998. Departmental Green Citizenship Network meetings are held quarterly. During FY 2000-2001, employee-driven environmental initiatives were successful in increasing employee awareness of their impact on the environment.	The results of an Employee Environmental Awareness Survey, conducted in June 2001, will assist in determining where an employee environmental awareness program needs to focus in order to increase awareness and green behaviour.

About the National Volunteer Network

The Green Citizenship Program's mandate is to help create an organization of environmentally responsible employees and citizens. Its objectives remain the focus of the Green Citizenship Network:

- ***To act as catalysts at national and local levels to encourage green practices in the workplace;***
- ***To foster cultural change in the workplace that reflects environmental awareness;***
- ***To gather and share ideas and best practices internally and externally, e.g. with Other Government Departments (OGDs), industry, etc.; and***
- ***To establish measurable performance indicators for green practices in the workplace.***

Meetings of the Departmental Green Citizenship Network have taken place on a quarterly basis since June of 1998. At these meetings, progress is tracked, ideas exchanged, contacts reinforced, and decisions made on future initiatives and directions.

Volunteer Network Results

The Green Citizenship Network was responsible for some very exciting initiatives over the course of fiscal year 2000-2001. A number of branches, regions and Special Operating Agencies within the department initiated "Green Clean-up Days", whereby employees devoted a day to organizing their offices, recycling used paper and binders, cleaning up their files (both paper and electronic), and purging unnecessary e-mails. The emphasis is placed on implementing the three "Rs" — Reduce, Reuse and Recycle — during these activities.

During Environment Week in 2000, the Atlantic Region Green Citizenship Network organized the clean up of a portion of the Little Sackville River. The Halifax PWGSC Regional office participated in a joint clean-up activity with the Halifax Regional Municipality. With 60 participants cleaning the river and 14 army cadets cleaning the adjacent space, the day was a great success. The Regional Director General flipped burgers, music played and a number of community members joined in. At the end of the day, 500 salmon spry were released into the river.

On April 19, 2001, the departmental newsmagazine *Ensemble* celebrated its one-year anniversary of paper-free publishing. The electronic version replaced the former paper copies, resulting in paper savings of approximately 1.3 million pages (672,000 sheets of 8.5” x 11” paper) per year. The Media Net Web site continues to save paper by providing media clippings electronically. Prior to this process, paper copies of news clips and media transcripts were widely distributed throughout the department. It is estimated that the electronic process has saved 1.4 million pages (700,000 sheets of 8.5” x 11” paper).

Government Operational Service (GOS) developed an external Green Citizenship Program to be implemented in the upcoming year in order to provide an enhanced visibility for Green Citizenship. Highlights of the proposed program include paper and energy reduction initiatives, a policy to purchase environmentally responsible goods, adoption of a Green Meeting Protocol, and a policy to encourage employees travelling on official business to use Green Leaf hotels.

To provide PWGSC and other government employees with more information on how to make green purchases, Supply Operations Service Branch (SOSB) has developed a Green Procurement Network. The Network is a PubliService web site which is intended to provide federal government employees with a single window where they can go to get information and guidance on how to green their purchases of goods and services. A course on Green Procurement is now also available to procurement officers, and many have completed the course, further strengthening their knowledge and support of green principles. Similarly, there are several initiatives under way within SOSB in support of Green Procurement that further support Green Citizenship objectives.

5.2
PWGSC Office Recycling Programs

Targets	Performance	Corrective / Additional Measures *(if applicable)*
For PWGSC employee office operations, to maintain annual waste sent to landfill to under 95 kilograms annually per Full Time Equivalent (FTE) (against 1990 baseline of 190 kilograms)	Performance for this objective is considered to be consistent with the performance level cited for section 7.3 – Tenant Recycling Program. For 2000/2001, the average landfilled waste per employee was 54 kg/FTE/year.	The performance level will be maintained. Further opportunities for improvement continue to be investigated to improve waste reduction.

About Office Recycling

One of the federal government's Green Plan commitments was to divert from landfill the waste generated in its own operations by 50 percent for the year 2000, relative to 1988 levels. Studies carried out by Environment Canada have established a 1998 benchmark overall waste generation level (landfilled and diverted from landfill combined) of 190 Kg/Full Time Equivalent (FTE)/year.

Recycling performance at PWGSC employee offices is considered to be consistent with or better than the performance level for PWGSC's shared office inventory (see section 7.3 – Tenant Recycling Program). For 2000/2001 PWGSC's tenant recycling program reduced the average landfilled waste per employee to 54 kg/FTE/year - a slight improvement over the previous two year levels of 56 and 57 kg/FTE/year respectively – and well within the government-wide target of 95 kg/FTE/year.

Although the target has been achieved, many challenges were met to make it possible. The most prominent was the lack of consistent recycling opportunities across the nation. For example, the private sector infrastructure in southern Ontario and Quebec can accept most plastics, while most other regions are limited to paper and cans, with some remote areas having nothing. With this situation in mind, PWGSC will recycle to the extent made possible by the local conditions.

Cross contamination among the various recycled materials can also be a problem. Contamination results in increased handling cost and affects the ability to sell the material to manufacturers. When the markets are flooded, material selling prices decrease and contamination then trickles back to PWGSC facilities. A joint effort among property management, employees, the private sector haulers and the advancement of technology has made this issue manageable to date. A continuing effort by all parties will be required.

By the numbers shown on page 46, PWGSC has made great strides in recycling; the next step is to focus on reuse and reduction. Recycling can have a modest financial impact, but the potential savings from reusing and reducing are immense. PWGSC is studying this impact in more detail and will position itself to react accordingly.

5.3
Employee Awareness

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To establish baseline measures for employee awareness of Green Citizenship objectives and techniques by March 31, 2000, to facilitate regular and ongoing progress monitoring.	During FY 2000-2001, PWGSC renewed its formal commitment to establish baselines for measuring employee awareness. While the initial target was not met, the revised target date of June, 2001 will be met.	Results of the employee awareness survey, to be completed in June, 2001, will be used to develop an effective employee awareness program.

About Employee Awareness

Initial determination of the level of PWGSC employees' environmental awareness was based on informal surveys, conducted by Green Citizenship Network participants. To achieve a more reliable baseline for measuring employee awareness, PWGSC committed to undertake a rigorous, nationwide survey in its SDS 2000.

6.0
Assistance to Clients

Objective: To provide assistance to clients in their initiatives to green operations, wherever feasible, and purchase environmentally friendly goods and services.

PWGSC's environmental services portfolio is designed to help federal departments "green" their operations cost-effectively. PWGSC assists departments across Canada with managing their due diligence and risk, as well as with integrating pollution prevention practices into their operations. The goal is to make a positive contribution to the principles of sustainable development and to ensure that the natural environment will be healthy for generations to come. PWGSC offers a wide range of environmental services to the federal community. These include:

- conducting environmental assessments in accordance with *the Canadian Environmental Assessment Act* (*CEAA*);
- developing and delivering environmental training programs for management, professional, technical and trades staff on the implications of imminent provincial and federal regulations (CEAA, *Canadian Environmental Protection Act*, Canada Labour Code, National Fire Code, *Fisheries Act*) as well as pertinent codes;
- performing independent audits to ensure a department's environmental management system is functioning and that staff or service providers are meeting policy and regulatory requirements;
- managing contaminated lands by performing an assessment, risk analysis and remediation for properties to be either transferred or held in perpetuity;
- conducting fuel storage tank assessments and registration;
- preparing environmental emergency response plans;
- providing guidance on the most up-to-date, environmentally responsible, construction, renovation and demolition practices;
- managing the phase-out and control of ozone-depleting substances in accordance with forthcoming federal regulations and codes of practice;
- ensuring proper handling of all forms of hazardous and toxic materials such as PCBs, asbestos and biowastes by developing safe removal, storage and destruction procedures;
- preparing waste management plans for reducing or re-using facility wastes and diverting them from landfill; and
- preparing water and energy efficiency management plans.

In addition, the department provides federal government departments and agencies with quality procurement and procurement-related common services and quality disposal services. To assist client departments in incorporating environmental considerations in their operations, PWGSC offers a number of services, including:

- providing information on green procurement and on the availability of green goods and services and their suppliers;
- setting up green standing offers;
- providing green procurement advice prior to the preparation of requirements definitions;
- developing and maintaining of consensus green standards;
- offering Environmental Management System registration based on ISO 14001; and
- assisting with the disposal of surplus crown assets in an environmentally responsible manner through their sale, transfer, trade-in, donation, lease or loan to other users.

The following section provides details on targets we have set with regards to client services.

6.1
Phase-Out of Tenant Halon Systems

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To continue to provide assistance to PWGSC clients to economically phase-out their halon systems.	There were 22 tenant-owned systems housed in PWGSC facilities in 1999/2000. A total of 13 units remain in 2001.	Clients will be approached in the coming months to arrange for the removal of the remaining units

About Halon Systems

Halon is an ozone-depleting substance. The most common use of halon in PWGSC facilities is in fire-suppression systems. Acceptable substitutes for these systems now exist.

6.2
Environmental Information Service

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To contract for the development and implementation of an environmental information service by March 31, 2000.	The target has been met.	A communications plan to raise awareness of this service is being implemented.

About the Environmental Information Service

PWGSC awarded in 1998 a contract for the development and operation of an Internet-accessible service providing access to a database of green goods and services to the Centre for Indigenous Environmental Resources (CIER), an aboriginal organization. The service began operation in June 2000. It provides federal government employees with the information on the availability of goods and services with environmentally responsible characteristics, and those produced in an environmentally responsible manner.

PWGSC has also developed the Green Procurement Network (GPN), a PubliService web site which can act as a central point of information on green procurement. The GPN provides federal government employees with information on how to green procurement. It links to other useful sites and provides green procurement advice as well as tips on how to buy green.

6.3
Tenant Recycling Program

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To continue to assist tenants in PWGSC's Crown-owned facilities to reduce annual waste sent to landfill through offering solid waste diversion service to PWGSC tenants as per regulatory requirements and when cost-effective to do so.	Solid waste diversion services continued to be offered to tenants in PWGSC Crown-owned facilities. For 2000/2001, the average landfilled waste per employee in PWGSC Crown-owned facilities was 54 kg/FTE/year.	Funding has been allocated to complete the implementation of multi-material recycling programs in facilities where it is economical to do so. PWGSC will assist in the process by providing regular feedback and maintain a sufficient employee awareness level within the office environment to sustain or improve upon current performance.

About Tenant Recycling

One of the federal government's Green Plan commitments was to divert from landfill the waste generated in its own operations by 50 percent for the year 2000, relative to 1988 levels. Studies carried out by Environment Canada have established a 1998 benchmark overall waste generation level (landfilled and diverted from landfill combined) of 190 Kg/Full Time Employee (FTE)/year.

For 2000/2001, the average landfilled waste per employee in PWGSC Crown-owned facilities was 54 kg/FTE/year - a slight improvement over the levels from the previous two years, of 56 and 57 kg/FTE/year respectively – and significantly out performs the government-wide target of 95 kg/FTE/year. These figures are averages across the whole PWGSC Crown-owned inventory, whether the facility is occupied by PWGSC employees or tenants from other departments. In the 190 facilities that reported recycling, the percentage of office space covered by a recycling program is 89 percent.

The challenge in introducing recycling into a tenant-occupied PWGSC facility is to generate tenant employee buy-in. As with any new initiative, education and awareness are critical to the success of the activity. PWGSC uses a range of approaches to achieve participation by tenant employees, recognizing that no one approach will be universally successful. Results to date have been good and the effort will be maintained to maximize opportunities for recycling throughout the PWGSC Crown-owned inventory.

Tenant Reporting

Tenants have been expressing an interest in getting reports on their environmental performance within PWGSC managed buildings. Québec Region Environmental Services have piloted a model to provide tenants with information related to recycling where the PWGSC multi-material recycling program is implemented.

In the province of Québec, regulations do not require any waste audit or waste program to be implemented in office buildings. However, for management purposes, nine waste audits were performed by PWGSC in the last four years. The findings from these waste audits allow ratios to be established, which in turn can be used to provide tenants with some data.

The Impacts of the 3Rs (Recycling, Reducing, Reusing)

A Case Study in the Québec Region for 2000-2001
PWGSC Managed Buildings

In the Québec Region, the PWGSC multi-material recycling program has been a resounding success with the implementation of the program in 94 percent (32/34) of the PWGSC-managed buildings targeted by the program. This includes the participation of 15,058 employees from 27 departments and agencies with a total of 73.78 percent of the waste being recycled. This reduced waste per employee sent for elimination in landfills to only 32.42 kilograms, well below the 95 kilograms per employee per year target.

The 190 kilograms/employee/year figure is the average quantity of waste generated by an employee in 1988. It is a standard reference in the federal government.

The reduction of waste is based on the following calculations:

(190 kilograms/employee/year minus 123.67 kilograms/employee/year) times number of employees times costs for elimination.

This program was not only a waste reduction success, it had a substantial financial impact as well. Savings were noted in the following section.

• Savings on disposal fees by recycling waste	$321,692
• Cost avoidance from reduced paper consumption	$202,708
• Revenues received from the sale of recycling material	$ 28,368
TOTAL	**$552,768**

Revenues from recycling are low at $28,368 (lower than $60,000 revenue in 1999-2000) due to very low value of recycled paper. Revenues also vary from region to region depending upon the availability of recycling facilities.

The Impacts of the 3Rs *(continued)*

There are costs to a waste program in the following categories:

• Actual cost for waste disposal		(-)$114,300
• Program Management		(-)$ 72,500
	TOTAL	**(-)$186,800**

The waste reduction achieved in 2000-2001 was 908 metric tonnes with 77.51 percent coming from the reduction of paper waste. This translates to 704 metric tonnes of paper no longer required. PWGSC's Supply Operations Services (SOS) quoted paper prices at $1.29 per kilogram, thus showing a savings of $904,891 for paper supplies in the departments and agencies in the Québec Region. This illustrates that reduction is the best environmental and financial investment.

The reduction of waste, combined with the recycling of materials, also translates into the reduction of the associated GhG emissions. In this case study, the equivalent of 9450 metric tonnes of carbon dioxide (CO_2) were avoided through the Québec Region's solid waste management program. By comparison, the CO_2 emissions for the entire department for 2000/2001 were 106,300 metric tonnes.

6.4
Green Leasing

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To prepare pollution prevention clauses for inclusion in all PWGSC lease agreements signed after March 31, 2000, where cost-effective and feasible.	Pollution prevention and environmental requirements are included in standard leasing practices. New clauses are being finalized, which will require multi-material recycling wherever the community infrastructure supports it.	In its SDS 2000, PWGSC has committed to: identifying additional opportunities for greening leases; implementing a strategy that will take advantage of identified opportunities; and working in partnership with the private sector to green leases.

PWGSC holds approximately 2000 leases, for a total of some two million square metres of space. The standard leasing document incorporates the following obligations for landlords:

- reserving the right of PWGSC to reuse existing improvements in space offered,
- ensuring compliance with legislation;
- ensuring the absence of hazardous materials (asbestos, formaldehyde and PCBs);
- ensuring the provision of paper recycling programs where recycling facilities exist in the vicinity;
- reserving the right for PWGSC to conduct environmental assessments of projects;
- ensuring all products used in the workplace for cleaning operations are classified, labeled and are environmentally responsible.

In addition, leases include a Consumer Price Index (CPI) adjustment clause which includes energy expenditures, and has been recognized as an effective energy savings inducement and an innovative business practice. The CPI clause permits landlords to benefit from energy efficiency savings.

PWGSC has launched a green leasing pilot project as part of major renovations being undertaken at 340 Laurier Street, in Ottawa. The owner has agreed to maximize recycling opportunities in the management of the construction, renovation and demolition waste. Once completed, the project will be evaluated for lessons learned.

6.5
Standing Offers (SOs)

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To increase the number of Standing Offers (NMSOs and RMSOs) for environmentally responsible goods and services.	The number of Standing Offers (NMSOs and RMSOs) increased from 66 in February 1999 to 109 in July 2001.	Continue trend.

About Standing Offers

To facilitate the purchases of green goods and services, PWGSC prepares Standing Offers in response to client department requests. A Standing Offer can be either a National Master Standing Offers (NMSOs) or Regional Master Standing Offers (RMSOs). In a Standing Offer, the terms and conditions of the procurement have already been arranged with the supplier; therefore, a federal government buyer need only place an order (a Call Up against a Standing Offer) with the supplier to purchase a green good or service.

6.6
Canadian General Standards Board

Targets	Performance	Corrective / Additional Measures *(if applicable)*
To develop and update standards to address state-of-the-art technological innovations being applied to products.	CGSB has developed procedures by which environmental considerations are taken into account when standards are developed and updated.	Encourage suppliers to become ISO 14001 compliant. CGSB will encourage federal buyers to purchase goods which it has pre-qualified as green in its certification programs.

About the Canadian General Standards Board

The Canadian General Standards Board (CGSB) undertakes a review of all its standards in accordance with the criteria endorsed by the Standards Council of Canada and the International Organization for Standardization, including criteria related to environmental aspects.

The CGSB has registered 12 organizations which supply goods and services to government as having environmental management systems which conform to the international standard ISO 14001 - Environmental Management Systems. The CGSB encourages suppliers to become ISO 14001 compliant through marketing activities to promote Green Procurement within PWGSC and other departments, and participating in environmental trades shows. The CGSB is working with several organizations, including government departments, to register specific sites to ISO 14001. In addition, CGSB is offering third party verification for government organizations wishing to self-declare to ISO 14001.

The CGSB administers certification programs that list pre-qualified products and their suppliers that meet designated quality and environmental requirements. Current subject areas include: office chairs (reduced gas emissions, off-gassing, and waste minimizing packaging requirements) and remanufactured toner cartridges (reuse and recycle). Lists are available at the CGSB website (www.pwgsc.gc.ca/cgsb), and their use is encouraged through various marketing strategies.

6.7
Working with our Clients

The final section of this report presents highlights of services that RPS has provided to other government departments as they incorporate sustainable development into their programs and operations.

Here are some examples of successes that have taken place in Ottawa's Parliamentary Precinct:

Vermicomposting

Vermicomposting was first implemented at the Birks Building in 1997 on one floor occupied by 20 employees, and expanded to all floors for 150 employees two years later. Food scraps such as fruits, vegetables, coffee grounds and tea leaves are collected in plastic containers and transferred to a composting bin, containing about a half a pound of worms. The system is made up of three sets of five bins, one for each day of the business week. The bins run on a tri-weekly rotation to ensure the previous week's food scraps are sufficiently composted before more food is added. Within six to nine months, the worms create enough compost for harvesting. The compost is 97 percent useable by plants as a growth medium and soil conditioner, and is a great substitute for chemical fertilizers. Employees working in the building use the compost for their houseplants with amazing results. The vermicomposting program has produced approximately 364 kg (800 lbs.) of organic, nutrient-rich soil. Since approximately 20 percent of waste generated in office buildings is food waste, the program helps considerably in reducing the waste sent to landfill.

Energy (NCA/PP)

La Promenade

In the 2000/2001 fiscal year, a lighting refit was completed on the eighth and ninth floors of the La Promenade Building. The lighting layout was redesigned to achieve the required lighting levels with a significant reduction in the number of fixtures. Switches were also provided to all offices with windows to allow employees to turn off lights during the day when they are not required. Half of the third floor is currently in the process of a refit. Two hundred and fifty five old fixtures will soon be replaced with approximately 90 new ones.

Construction, Renovation and Demolition (CRD) Waste Diversion (NCA)

Ceiling Tiles

Project managers in Parliamentary Precinct Directorate (PPD) are now considering the possibility of shipping out ceiling tile waste, generated during CRD projects for recycling. A recent project at the Victoria Building acted as a pilot project for diversion of ceiling tiles. Tiles were stacked on a pallet and shrink-wrapped before shipment to Armstrong World Industries Inc. At the Armstrong plant, the ceiling tiles are added to a raw material mix to create new tiles. In addition to the old ceiling tiles, this company uses waste materials from other industries to manufacture new ceilings, primarily newsprint and mineral wool.

Carpet

In March 2000, a Carpet Reclamation Program was developed for PPD. Through the program, used carpet with BASF 6ix Again™ nylon fibres or DuPont Antron™ are shipped back to the manufacturer for processing. Reclaimed carpets are then processed into reusable materials for:

- Automobile parts;
- Carpet fibre;
- Sod reinforcements;
- Plastic lumber;
- Soundproofing; and,
- Padding.

7.0
Conclusion

The voyage since tabling our first SDS has been one of discovery and continuous improvement. Mid-course corrections were required to revise targets, improve management processes and enhance data monitoring systems. The knowledge and expertise garnered from experience have already been brought into play, accomplishing the goals of our first SDS and developing the updated version. The precepts of sustainable development are well entrenched throughout our workforce; however, we are not complacent. A vigorous training program has been designed and is being methodically delivered, to ensure our ongoing capacity to manage environmental issues. The gains we have made at PWGSC are directly attributable to the competence and commitment of our staff, at all levels and throughout the organization. PWGSC is quietly proud of the gains we have made and we confidently look forward to greater achievements, as we begin implementation of our updated Sustainable Development Strategy.