



Technology Development
**Technology Development
and Transfer Program**
and Transfer Program



**1998-1999
Annual Report**



Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

Canada



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Foreword

PWGSC is very proud of the many achievements listed in the 1998-99 annual report for the Technology Development and Transfer (TD&T) program.

This second annual report highlights how our Department is exploring innovative building technologies to ensure the cost-effective operation of facilities and guarantee client satisfaction. The TD&T program responds to departmental needs and provides value for money by helping to create healthy, productive workplaces, ensure the integrity of buildings, and respond to regulatory harmonization initiatives. The program also supports the ADM Management Advisory Board for Federal Real Property in its efforts to save money through the use of new technologies. The TD&T program also leverages investments by engaging other stakeholders with complementary interests.

The services, products and knowledge developed through the TD&T program increase our ability to offer strategic advice and manage risk for clients. That expertise and dedication to service have created a relationship of trust between PWGSC and our clients. The projects described in this report show how PWGSC earns that trust day in and day out.

Michael G. Nurse
Assistant Deputy Minister
Real Property Services
Public Works and Government Services Canada



Preserving federal assets **1998-99 Overview** *for the future*

Savings and benefits

In 1998-99, the Technology Development and Transfer (TD&T) program invested \$5 million on more than 100 projects. This annual report highlights the major projects and initiatives funded by the program. Some of these projects have been completed and have resulted in immediate benefits. Other projects are at various stages of development and their benefits will be seen later. The short- and long-term savings from these projects could total up to \$20 million annually in future years. Cost avoidance may result from implementation of the environmental management system and implementation of internal policies in response to regulatory changes, such as duty of accommodation.

The activities supported by the TD&T program produce results that are felt throughout the Government of Canada.

Our work helps to preserve federal assets for the future, thereby guaranteeing safe, healthy workplaces and safeguarding taxpayers' investments. The program helps PWGSC better understand and meet client needs. It also fosters teamwork within the organization and supports staff development by getting employees involved in leading edge ideas and technologies. Through the TD&T program, PWGSC also helps the Government of Canada reduce costs to taxpayers and achieve its broader objectives regarding the environment and accessibility.

The Workplace

PWGSC completed its evaluation of last year's Innovative Officing demonstration site and set up "Design

Forward," a new site at Les Terrasses de la Chaudière in Hull. The sites give clients a first-hand look at modern planning and design techniques to increase productivity and employee satisfaction.

New systems installed at Natural Resources Canada let employees adjust lighting and HVAC levels using their personal computers. Preliminary energy savings at each workstation have been 60 to 70 per cent, and employee response is very positive.

The Department is also improving the quality of its data on space use through Tech2, a software developed in-house.

Support to O&M and effective investment

PWGSC investigated a number of ways that building

technology can reduce operation and maintenance (O&M) costs and make capital investments more cost-effective. In a seismic evaluation of the RCMP's Fairmont Complex in Vancouver, PWGSC estimated that 40 per cent of the construction costs related to seismic upgrades could be saved. The Department also showed how innovative technologies, such as high-performance concrete, could result in better, longer lasting repairs to garages. In one case, repair strategies using these technologies would require a higher initial capital commitment, but would result in savings of \$3 – \$3.4 million over the life cycle of the asset, compared with the repair strategy required by the CSA standard.

THE TECHNOLOGY DEVELOPMENT AND TRANSFER PROGRAM

PWGSC sponsors the Technology Development and Transfer program. This program enables the Department to identify and adapt new building technologies, processes and applications, demonstrate them and transfer them into its work. The program funds projects in these areas:

- accommodation planning and design
- support to O&M and effective investment
- environmental initiatives
- regulatory harmonization
- technology transfer

Building envelopes was another area that generated a great deal of activity in 1998-99. Working with the National Research Council and other stakeholders, PWGSC is developing tools to predict the service life of building envelopes and guide decisions on maintenance and repairs. Through the TD&T program, PWGSC uses first-strike infrared imagery technology for detecting problems in the building envelope such as air leakage and moisture in wall assemblies.

PWGSC is preparing for the future by studying the types of equipment suitable for cogeneration—the harnessing of heat produced by electrical production. In a related project, PWGSC highlighted the ways it can serve clients in a deregulated energy market.

Environmental initiatives

Through the TD&T program, PWGSC's Real Property Services (RPS) Branch has achieved three of its sustainable development targets: reducing office waste sent to landfill, reducing refrigerant losses from chiller maintenance and completing the registry of PWGSC petroleum products storage tanks. RPS is well on its way to implementing an environmental management system that meets ISO 14004 standards.

PWGSC is incorporating environmental considerations into its standard leasing documents, the generic request for proposals and the National Master Specifications. Working closely with the Canadian Construction Association, PWGSC has also produced a strategy to encourage environmentally- responsible approaches to managing construction, renovation and demolition waste. Through its activities, PWGSC is showing that being environmentally responsible has a financial payoff as well: demonstrations indicate that waste disposal costs can be cut by 30 per cent by diverting waste from landfill sites.

Regulatory harmonization

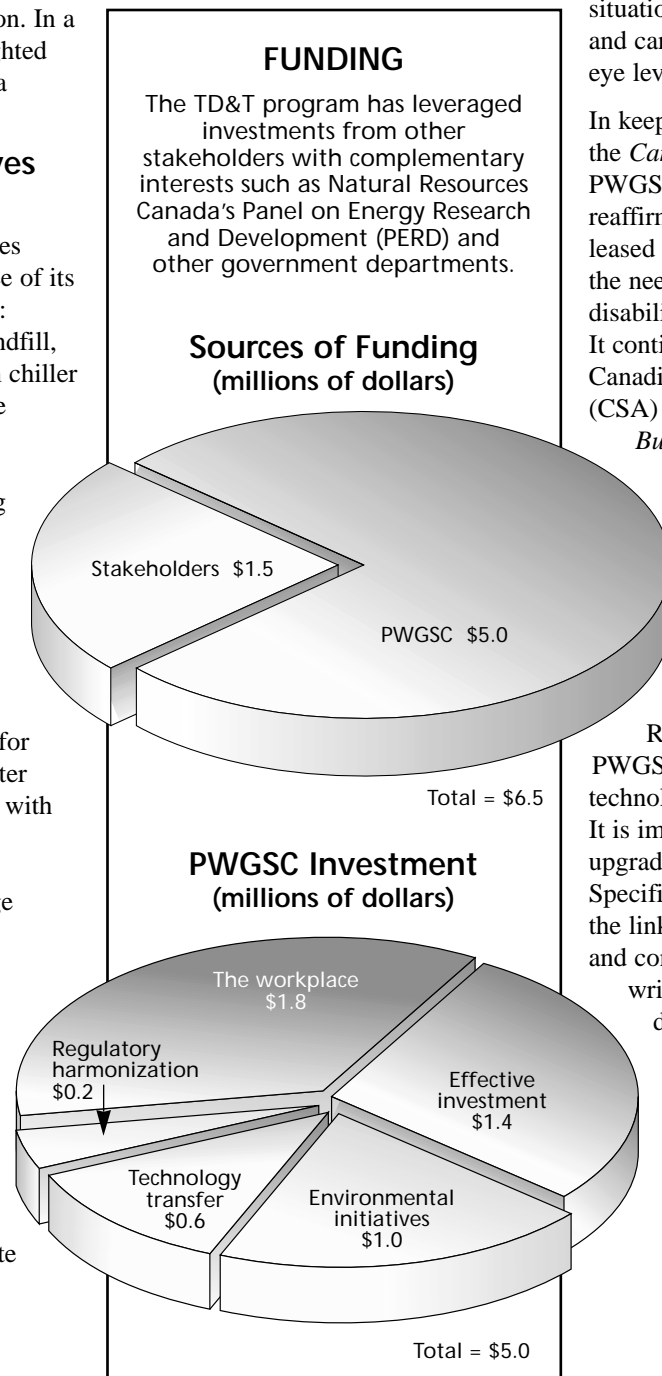
PWGSC increased its profile and involvement in regulatory activities by joining the new Interdepartmental Client Consultation Group on Fire Protection. Participation will help the Department further its regulatory harmonization initiative, which focuses on reducing costs and making real property management more efficient.

Testing of photoluminescent material in emergency signage showed that the material is more effective than standard signage in emergency situations, since it is easier to see and can be placed at baseboard and eye levels.

In keeping with amendments to the *Canadian Human Rights Act*, PWGSC developed a policy to reaffirm that both Crown-owned and leased facilities will accommodate the needs of people with physical disabilities appropriately. It continued its work with the Canadian Standard Association (CSA) to harmonize the *National Building Code* with the accessibility requirements in the CSA standard for barrier-free design.

Technology transfer

Through its Intranet site, technology showcase and RPS Documentation Centre, PWGSC is spreading the word about technologies, products and services. It is improving service through upgrades to the National Master Specifications (NMS) and increasing the links between the NMS Web site and construction-related standards writing organizations. PWGSC's dynamic test site continues to offer excellent opportunities for pre-testing equipment and systems prior to more extensive evaluation.



Making The Workplace offices work

Objectives

The TD&T program encourages the research and development of modern workplace approaches and processes. With TD&T support, PWGSC focuses on clients' needs and creates modern, productive working environments in the Government of Canada.

Innovative Officing initiatives

The TD&T program supported a comprehensive post-occupancy evaluation of last year's Innovative Officing site at Place du Portage, Phase IV, in Hull. This site, which was also supported by the program, demonstrated a number of techniques to make the workplace more productive and more responsive to employees' needs. The evaluation captures the benefits of the experience and will serve as a model for other client projects.

PWGSC also has completed a second Innovative Officing demonstration site called "Design Forward." Located in Les Terrasses de la Chaudière in Hull, this demonstration site builds on the lessons learned from the last project and gives clients a first-hand look at modern approaches to planning and design in the workplace.

Enriched front end planning (EFEP)

The TD&T program funded the *Guide to the Enriched Front End Planning Process* as well as training in enriched front end planning for client accommodation service advisors. This leading-edge guide helps PWGSC apply Innovative Officing concepts to

space projects. Two recent internal projects, including the relocation of the Assistant Deputy Minister, Real Property Services, to Place du Portage, benefited from EFEP techniques to plan space more strategically.

Resources for clients

PWGSC developed information materials and tools to help clients and client accommodation service advisors better understand modernization initiatives such as Innovative Officing and the enriched front end planning process. With TD&T funding, PWGSC also continues to work on the operations centre, a high-tech compilation of program and project applications to help advisors strategically plan space projects for clients.

Lighting

PWGSC installed systems in Natural Resources Canada offices that give people greater control over their environment. Employees on the seventh floor at 580 Booth Street in Ottawa can now use their computers to adjust lighting and HVAC levels at their workstations. PWGSC also installed a dimming fluorescent lighting system that is fully integrated



Two views of the latest Innovative Officing demonstration site.

with the ambient daylight and the local HVAC system. To save energy, occupancy sensors turn the lights down when the workstation is not occupied. The response from tenants has been very positive, and preliminary energy savings are 60 to 70 per cent at each workstation, with a payback on the initial investment in about six years.

Open plan environments

PWGSC is a principal consortium member of the Cost Effective Open Plan Environments (COPE) initiative. This four-year, private-public sector project is managed by the National Research Council's Institute for Research in Construction. The project involves evaluating office remodeling projects in real-life settings to see how officing strategies affect occupant satisfaction, capital and operating costs, indoor air quality, and many other factors. The goal of COPE is to develop software to help real property professionals make objective, cost-effective decisions for officing strategies.

In the first phase of the study, PWGSC began work on acoustics and lighting investigations. Preliminary lighting and ventilation simulations were performed and a search for suitable field study sites was begun.

Improving workplace acoustics

PWGSC produced a guideline entitled *Acoustic Requirements and Assessment for Productive Work Environments*. Useful primarily for retrofit projects, this document will help project managers and property managers identify acoustic issues in the workplace,

integrate acoustics with other systems, and minimize acoustic problems down the road.

Tech2

PWGSC has improved the quality and accuracy of the floor plans available on Tech2, a space management software package developed in-house. The user-friendly, Windows-based software gives PWGSC and clients a better understanding of how space is used by providing up-to-date floor plans and doing it more quickly than conventional methods. Plans can be viewed on-screen or as a printout. They include information on occupants, type of space and space displays. About 50 per cent of the national building inventory is available for viewing and reporting using Tech2. The software has been approved as a national system and a strategy is being developed to implement it across the country.

TIDIS

Testing showed that Cyberdocs software would be a useful addition to the Technical Information and Drawing Inventory System (TIDIS), which is used to manage electronic files at PWGSC. Cyberdocs makes it possible to circulate files to PWGSC employees who are not using TIDIS and to people outside the PWGSC network, such as clients and consultants. The payback period will be less than a year after full implementation. TD&T funding also supported the testing of DocsImaging, a scanning software package that converts paper documentation to an electronic file.

Harnessing technology **Support to O&M and Effective Investment** *for service and savings*

Objectives

PWGSC is committed to reducing facilities operation and maintenance costs through technological innovation. That commitment is also upheld by the private and public sector companies which deliver real property services to some 300 federally-owned buildings on behalf of PWGSC. The TD&T program helps PWGSC develop ways to reduce short- and long-term operation and maintenance costs, and make capital investments more cost effective, while ensuring a facility's performance over its service life cycle.

Fault detection and diagnosis (FDD)

The goal behind FDD is to use a building's computer control applications to detect and diagnose faults in building systems. The benefits of improved FDD systems are higher comfort levels, greater energy efficiency, and enhanced long-term life of equipment. In 1998-99, PWGSC and Natural Resources Canada used the National Film Board chiller plant to test the effectiveness of FDD techniques. Preliminary results show that common faults and defects in a chiller plant can be successfully detected using common sensors and control computers.

Seismic safety

PWGSC is a leader in finding innovative ways to upgrade the seismic resistance of office buildings. It has demonstrated and promoted technologies which are less costly and less intrusive yet still meet building code levels for seismic resistance. PWGSC conducted a seismic evaluation of the RCMP's Fairmont Complex in Vancouver. Preliminary estimates show that innovative technologies can save about 40 per cent of construction costs related to seismic upgrades. PWGSC is also working on

seismic evaluation projects for Fisheries and Oceans involving over 100 buildings.

FiRECAM

PWGSC tested the implementation of FiRECAM (Fire Risk Evaluation and Cost Assessment Model) at the Dominion Building in Charlottetown, PEI. Previous tests proved the software's ability to produce savings, and this project paves the way to deploy FiRECAM nationally. Developed in cooperation with the National Research Council, FiRECAM is used to assess the performance of life safety measures and identify the most cost-effective fire protection designs for office buildings.

Building envelopes

BELCAM: The Building Envelope Life Cycle Asset Management (BELCAM) project is a five-year initiative to develop tools to predict the service life of building envelopes. BELCAM will help asset and building managers make sound decisions about when and how to repair assets. It will also provide life span and maintenance information to guide decisions on asset acquisition. In 1998-99, PWGSC collected roofing data to support the initial stage of the project, which focuses on low slope roofing systems.



PWGSC uses the latest infrared technologies to detect problems in building envelopes.

Our partners in this work include the Institute for Research in Construction at the National Research Council of Canada.

Dynamic Buffer Zone (DBZ): PWGSC began long-term monitoring of the Dynamic Buffer Zone (DBZ) concept installed in the East Memorial Building on Parliament Hill. The DBZ is a technique to reduce moisture accumulation in external walls and halt their deterioration. Initial results show that the wall assemblies and the DBZ are generally working well. These findings indicate that the DBZ can make heritage buildings more comfortable places to work, eliminate the need for costly retrofit projects, and has the potential to reduce energy costs. A preliminary estimate also indicates that savings of up to \$2 million could be achieved by installing a DBZ system in a similar facility.

Thermography: Project managers now have a first-strike tool for detecting problems in the building envelope, especially air leakage and moisture in wall assemblies. PWGSC analyzed the latest infrared technologies on the market and purchased an Agema 510 infrared imager. This equipment reveals problems before they become apparent, making it very useful in the early detection of defects and in assessing contractors' work. PWGSC is developing a standard as well as guidelines for an industry handbook on the use of infrared thermographic technologies.

Garage repairs

PWGSC is exploring innovative technologies which result in cheaper, longer-lasting garage repairs. Working with high-performance concrete, stainless steel, carbon fibre reinforced polymers (CFRPs) and glass fibre reinforced polymers, PWGSC has developed an analytical model to show that repair strategies using these technologies are more economically viable than the regulated standard. In one of the garages tested, repair strategies using high-performance concrete and stainless steel would require an initial higher capital commitment. But they would result in savings of \$3 to \$3.4 million over the life cycle of the asset, compared with the repair strategy required by the CSA standard.

The TD&T program also assisted with the request for proposals for the reconstruction of the Laurier-Taché garage. This RFP marks the first time that consultants have been asked to consider using innovative materials in reconstruction. Sections of the Laurier-Taché garage will be devoted to testing state-of-the-art materials in the new structural slabs.

In 1998-99, PWGSC also chaired the CSA technical committee to develop the first standard for using fibre-reinforced polymer products in the design and construction of structural components in buildings.

Indoor air quality

PWGSC participated in a study of the impact of HVAC system cleaning on levels of surface dust and viable fungi in ductwork. The study found that both substances decreased following cleaning procedures. PWGSC will use the data to draft HVAC system cleaning specifications and performance criteria.

Cogeneration

Cogeneration—harnessing the heat produced by the generation of electricity—is an effective way to increase energy efficiency while reducing costs and CO₂ emissions. PWGSC has formed a partnership with Ontario Power Technologies, Consumers Gas, Mercury Electric Corporation and Natural Resources Canada to examine possibilities for cogeneration. In 1998-99, this group tested micro-turbines at Ontario Power Technologies and determined that the equipment is suitable and seemingly economical for cogeneration. Further testing is required to determine implementation costs and performance.

Energy deregulation

Deregulation of electrical utilities could mean a new role for PWGSC in procuring low-cost electricity for clients and reducing the risks they face in a deregulated environment. PWGSC completed a study entitled *Strategic Opportunities in the Emerging Deregulated Energy Market*, which points out some of the ways that PWGSC could prepare itself to offer service to clients in a competitive market.

NHEMATIS

PWGSC contributed software advice and a database of federal buildings to the Natural Hazards Electronic Map and Assessment Tools Information System (NHEMATIS). This system, being developed by Emergency Preparedness Canada, lets users collect and analyze information on natural hazards such as earthquakes, tornadoes and floods. Using NHEMATIS, PWGSC will be able to assess the damage caused by natural disasters and determine their impact on federal buildings.

Doing our part Environmental Initiatives for the environment

Objectives

Through the TD&T program, PWGSC develops and transfers cost-effective and timely initiatives to meet its sustainable development goals and objectives. PWGSC's goals are to:

- integrate a comprehensive environmental management system into its overall management framework and ensure environmental performance is achieved;
- green its operations using a pollution prevention approach; and
- provide environmental leadership.

The TD&T program also supports PWGSC's efforts to show leadership in meeting client and government environmental objectives, demonstrate due diligence, and market technical and management expertise to clients.

Sustainable Development Strategy— Performance Reporting

A key activity of the TD&T environmental program was to prepare the *1997-98 RPS Sustainable Development Performance Report*. The report showed that the Real Property Services Branch has reached three of the long-term targets leading to its sustainable development goals:

- reduce office waste sent to landfill from PWGSC Crown-owned facilities to 81 kg/FTE (target was maximum 95kg/FTE/year);
- reduce refrigerant losses resulting from chiller maintenance to about 0.4 per cent annually (target was maximum 0.4 per cent losses/year);



PWGSC encourages practices which reduce the amount of demolition materials sent to landfills.

- complete the registry of PWGSC storage tanks in compliance with regulations under the new *Canadian Environmental Protection Act*.

Working with the Commission of the Environment and Sustainable Development, PWGSC explored the implementation of a performance-measurement system

for sustainable development. The results of this study, published in the Auditor General's report *Greening of Government Operations*, recognizes RPS's progress in implementing the sustainable development strategy's environmental management system and notes that PWGSC's 1997-98 departmental performance report was the most comprehensive of any department.

EMS Implementation

By March 2000, PWGSC intends to complete the implementation of an environmental management system (EMS) that is consistent with the International Organization for Standardization's ISO 14004 Environmental Management System Guidelines on Principles, Systems and Supporting Techniques. PWGSC estimates that the RPS Branch has incorporated more than half of the ISO 14004 elements into its management systems so far.

PWGSC also reviewed its leasing activities and identified areas where environmentally-related clauses could be included into the standard leasing document. These areas include hazardous waste management, asbestos management, PCB management, and water and energy efficiency.

Review and Improvement

PWGSC established environmental baselines for facilities managed by private and public sector organizations. This work involved integrating the environmental auditing/review process into the key performance monitoring framework for 289 buildings across the country.

Greening the NMS

PWGSC is building environmental considerations into the National Master Specifications (NMS) and has rewritten about 150 sections, or 20 per cent, of the NMS. By introducing environmentally-responsible choices into the NMS, the Department will promote energy efficiency, prevent pollution and encourage the use of materials and practices that reduce the amount of construction, renovation and demolition materials sent to landfills.

Greening the project delivery system

PWGSC has incorporated environmental considerations into the generic request for proposal document and the project managers' practice standard. The Department has also produced three documents to promote environmentally responsible building practices: an update to the *Architect's Guide for Sustainable Design of Office Buildings*, the *Construction, Renovation and Demolition Non-Hazardous Waste Management Protocol* and the *Environmentally-Responsible Construction and Renovation Handbook*.

Greening the project delivery system can have a significant impact on the environment and the bottom line. Demonstrations indicate that 50 to 90 per cent of

construction, renovation and demolition waste can be diverted from landfill sites. Waste disposal costs (usually 10 per cent of overall project costs) can be cut by 30 per cent.

"Green Buildings" initiatives

The Canadian Construction Association, PWGSC and other federal departments have developed a strategy to encourage environmentally-responsible approaches to managing construction, renovation and demolition (CRD) waste. As part of the strategy, the group studied the challenges and opportunities for CRD waste diversion across Canada. It prepared a plan to address the challenges and an industry survey of environmental best practices. The final stage involves creating a protocol for CRD.

PWGSC delivered 16 half-day "green buildings" workshops in all regions to share expertise and promote environmentally- and fiscally-responsible building practices. Participants included project managers, architects, engineers and asset managers. Highlights included a session on the green features of the Revenue Canada office accommodation in Surrey, B.C. This PWGSC-managed project was selected to represent Canada at the international Green Building Challenge '98 conference in Vancouver.

Environmental leadership

PWGSC and the Office of the Auditor General co-chair the Committee on Performance Measurement for Sustainable Government Operations. This committee updated a list of common indicators for environmental performance measurement and drafted an interpretation guide based on input from all major federal custodians.

Recycling for the nation

The TD&T program is supporting a project to install multi-material recycling facilities in all PWGSC buildings across Canada. These facilities would meet local community recycling standards for collecting paper, polystyrene, glass and metal. The environmental payoff is threefold: less solid waste goes to landfill sites, more materials are reused, and greenhouse gases are reduced. The system was tested in several PWGSC buildings, and initial results from Place du Portage Phase III show a nearly 30 per cent increase in waste diversion. Results from the tests will help to build a business case for full implementation of the system.

Safeguarding Regulatory Harmonization *people and property*

Objectives

The TD&T program looks for cost-effective ways to meet federal real property regulations and policies, and to harmonize local, provincial and federal requirements in such areas as accessibility, environment, seismic safety, fire safety and energy codes.

Fire Protection

PWGSC and other major custodians have joined the new Interdepartmental Client Consultation Group on Fire Protection created by HRDC's Labour Branch. The mandate of the group is to revamp the Treasury Board Secretariat's policy on fire protection. Participation in the committee lets PWGSC further its regulatory harmonization initiative, which focuses on reducing costs and making real property management more efficient. Some of the issues PWGSC will bring to the table include the application of federal fire codes on leased buildings, duplication and overlap between provincial, municipal and federal fire protection agencies, and the use of new technology such as FIRECAM.

Photoluminescent material

A field study to assess the use of photoluminescent material (PLM) in emergency signage has yielded interesting results. Working with public and private sector partners, PWGSC conducted an evacuation drill of a building occupied by Statistics Canada. The results show that PLM provides a better wayfinding system in emergency situations. It is easy to see and can be placed at baseboard and eye levels — particularly important if smoke is

present. Evidence indicates that the system's total life cycle costs may also be lower than traditional emergency lighting systems since it requires relatively little maintenance. Economic and regulatory assessments are required before the PLM wayfinding system can be installed in federal buildings.

Seismic guidelines

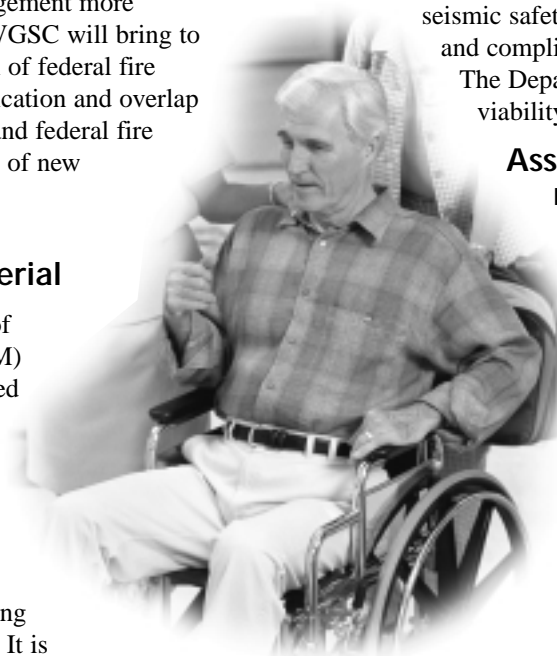
PWGSC developed a draft guideline to ensure both the seismic safety of buildings during a major retrofit and compliance with the applicable jurisdictions. The Department is studying the impact and viability of the proposed approach.

Assessing building renewal costs

An assessment of the current unit cost for office building renewal was conducted using industry and government figures for new construction and renovation. The findings provide useful figures for comparison with PWGSC's own unit costs and for inclusion in the department's long-term capital plan.

Policy on Duty to Accommodate

On June 30, 1998, the *Canadian Human Rights Act* was amended to explicitly include a provision for "duty to accommodate." Employers



PWGSC has developed a new policy on "duty to accommodate".

and service providers must accommodate the needs of people who are protected under the Act, except when this would cause undue hardship in terms of cost, health and safety.

In response to this amendment, PWGSC has developed a policy to reaffirm that both Crown-owned and leased real property will accommodate appropriately the needs of people with physical disabilities concerning facility access and use, particularly when these needs exceed the requirements of the Treasury Board Real Property Accessibility policy. PWGSC held national consultations with internal and external stakeholders and prepared information materials on the policy for clients.

Barrier-free design

The TD&T program is continuing its work with a technical committee of the Canadian Standards Association (CSA) to harmonize the *National Building Code* with the accessibility requirements in the CSA standard for barrier-free design. These requirements should be in the next edition of the Code planned for 2003.

Putting innovations Technology Transfer to work

Objectives

Through technology transfer, the TD&T program supports the implementation of new technologies and ensures that employees and clients learn about proven innovations and PWGSC's supporting expertise.

Internet/Intranet

PWGSC began developing an independent site to promote technology on the Intranet. This site will feature information about Technology's activities, products, services and publications such as *A Tradition of Innovation*.

Technology display

PWGSC completed construction of the Technology Showcase in its offices at Place du Portage, Phase III. This space is designed for static displays, electronic presentations and hands-on demonstrations of technologies developed by TD&T. It features a central computerized workstation with master control capabilities and dedicated software that can track and display energy demand, energy consumption, system operation and system troubleshooting. The workstation is connected to the adjacent dynamic test site. Visitors can watch the systems on the computer monitor and look through a sliding glass door to see the technologies at work in the office.

Dynamic test site

The dynamic test site lets PWGSC pre-test new equipment and systems to determine whether they merit more extensive evaluation. In 1998-99, this

area was retrofitted with air jets and state-of-the-art integrated lighting, giving people total control over HVAC and lighting through their personal computers.

Regional TD&T team

The PWGSC regional technology champions attended a second annual national workshop to discuss regional technology needs and opportunities from an operational perspective. They identified strategies to ensure that TD&T products address regional requirements and are implemented in regional operations.

National Master Specifications (NMS)

The NMS Secretariat is upgrading the software for the NMS database system to increase customer service and efficiency and create more accurate reports. When completed in 1999, the new system will allow the NMS Secretariat to conduct global searches of the entire database, produce lists of contents automatically, generate product update instructions for NMS publishers and end users, and produce date-based section review priority lists.

The NMS Web site now has 29 links to construction-related associations and standards-writing organizations. PWGSC employees can get access to



A new showcase in Place du Portage allows PWGSC to display various technologies.

their standards inventory lists and order standards electronically which are not currently referenced in the NMS. The NMS Secretariat is negotiating an agreement with the Canadian Standards Association and other similar associations to receive standards on CD-ROM or in other electronic formats.

Real Property Services Documentation Centre

Since the Centre's mandate was expanded to provide service to all RPS sectors, holdings of technical documents have increased to 2,300 titles. The database has been enhanced, and catalogues for both internal and external audiences have been published. The Centre also uses Internet technology to deliver documents electronically. In 1998-99, it processed over 800 requests for titles and distributed 9,000 copies of various paper, audio-visual and electronic documents.

The Centre's Intranet site provides greater access to RPS documents and is among the top sites consulted on PWGSC's Intranet. The Centre is also working actively with the RPS Policy Network to incorporate all RPS policies, procedures, guidelines, best practices and lessons learned into a new design for the Documentation Centre Intranet site.