TP 13970E

TRANSPORT CANADA

ENVIRONMENTAL PERFORMANCE REPORT 2001

Transport Canada's second Sustainable Development Strategy **presented to Parliament on February 14, 2001, along with the strategies of 27 other federal departments and agencies** outlines 29 new commitments to ensure that Canada has a safe, efficient and environmentally responsible transportation system for the future.

TCEPR 2001

Transport Canada Transports Canada

Canada

Cat. no. T1-12/2001
ISBN 0-662-66756-5

TABLE OF CONTENTS

1.0 INTRODUCTION

Transport Canada's second Sustainable Development Strategy – presented to Parliament on February 14, 2001, along with the strategies of 27 other federal departments and agencies – outlines 29 new commitments to ensure that Canada has a safe, efficient and environmentally responsible transportation system for the future.

The strategy's 29 commitments for action include concrete targets and performance indicators for measuring the strategy's success. New initiatives focus on air and water pollution problems, urban transportation, advanced technology vehicles, climate change, research and development in Intelligent Transportation Systems, sustainable transportation indicators, data improvement and modal integration.

A key challenge in the new strategy is "Improving Environmental Management for Transport Canada Operations and Lands". The government of Canada, as one of the largest organizations in the country, can provide leadership by setting an example in environmental management. Transport Canada has developed an Environmental Management System (EMS) that helps the department better understand the nature of its environmental impacts and act accordingly. By showing leadership on environmental management, Transport Canada can reduce its own environmental impacts and set an example for others in the transportation sector. Additionally, by the nature of its size, the government of Canada can support emerging environmental technologies in the marketplace, for example, by purchasing alternative fuel vehicles for its fleet.

Transport Canada is responsible for a wide range of operations and 1,110 properties as both landlord and, to a lesser extent, operator. The department's operations and properties include a fleet of aircraft and vehicles, as well as stores, warehouses and offices across Canada in both central and remote sites.

Although the department no longer directly operates many components of the transportation system, it retains the role of landlord and overseer for major components, including the National Airport System (NAS) airports. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its lands and facilities.

This annual report details progress made in meeting the challenge of environmental stewardship through the development and delivery of environmental programs that target both operations of the department and those on its lands.

2.0 ENVIRONMENTAL MANAGEMENT PROGRAM

2.1 ENVIRONMENTAL MANAGEMENT SYSTEM

Transport Canada's Environmental Management System was first developed in 1997 to address the environmental impacts of the departments' operations under a consolidated framework. Since that time, the EMS has evolved to accommodate the new role of Transport Canada as the principal regulator and policy-maker but no longer a significant operator. In the course of the development of a new Sustainable Development Strategy in 2000, consultations with Transport Canada management and staff resulted in a number of specific objectives that address the areas over which the department has direct control or influence.

The new Sustainable Development Strategy commits the department to achieving six objectives and targets related to internal operations. Table 1 summarizes progress on each of these targets.

OBJECTIVE	TARGET	STATUS
1. AIR EMISSIONS	Establish an accurate greenhouse gas emissions baseline by 2001/2002. Report departmental Greenhouse gas emissions annually, from 2001.	1998/1999: 70 300; 1999/2000: 63 500*; 2000/2001: 48 600* *(kilograms of carbon dioxide equivalent)*
	Adopt a formal Greenhouse gas emissions reduction target, based on a share of the federal reduction target, by 2001/2002.	**Federal target:** -12% from 1998 by 2008-2012 **TC target:** -4% from 1998 by 2008-2012
	Ensure 50 per cent of vehicles purchased between 2001 and 2003 are low emission vehicles.	**ON TRACK** 23 alt fuels of 60 purchased in 2001(ie. 40%)
2. CONTAMINATED LAND	Develop a contaminated site management framework by 2001/2002.	**ON TRACK** for 2002
	List inventory and remediate or risk manage all sites by 2003/2004.	**ON-GOING** 564 sites identified 478 investigated 54 suspected
3. NON-HAZARDOUS WASTE	Implement or increase non-hazardous waste recycling at selected Transport Canada Centres.	**ON TRACK** recycling programs in place at Transport Canada regional offices facilities and some Transport Canada centres.
4. STORAGE TANKS:	Ensure 100 per cent compliance with Canadian Environmental Protection Act Tank Technical Guidelines.	**ON-GOING** 110 tanks (26 Underground storage tanks and 84 aboveground storage tanks)
5. ENVIRONMENTAL EMERGENCIES	Revise and/or develop emergency plans for all Transport Canada-owned and operated facilities by 2003/2004.	**ON-TRACK** 17 remaining Transport Canada airports have plans-Atlantic ports and harbours
6. ENVIRONMENTAL AWARENESS	Measure baseline awareness level of Transport Canada employees by 2001/2002.	**ON-TRACK** for 2002
	Deliver targeted environmental management and sustainable development awareness programs by 2003/2004.	Program development initiated

**reductions in Transport Canada's Greenhouse gas emissions primarily due to divestiture.*

2.2 ENVIRONMENTAL PROTECTION

The environmental protection program focuses on ensuring the department's compliance with applicable environmental laws, regulations and policies. This requires active participation on a number of interdepartmental working groups and also the coordination of information to fulfill government-wide initiatives such as the Federal House in Order initiative that is trying to reduce greenhouse gas emissions from federal operations.

Federal House in Order

As part of its commitment to reduce greenhouse gas (GHG) emissions from federal operations, Transport Canada had compiled a baseline of GHG emissions for the 1998/1999 fiscal year and has since measured its GHG emissions annually. The carbon dioxide equivalent (CO^2E) emissions are calculated by converting energy consumption data (fuel and electricity) collected from the department's operations. The table below summarizes this information.

Category	1998-1999	1999-2000	2000-2001
	CO^2E (t)	**CO^2E (t)**	**CO^2E (t)**
On-Road	2,476	3,107	2,048
Aircraft	14,334	13,207	13,207
Marine	13,656	15,216	15,216
Field	16,287	10,706	6,605
Transportation	46,754	42,236	37,076
Buildings	23,600	21,400	11,700
Subtotal	**70,354**	**63,636**	**48,776**

In 2001, the government of Canada announced its intention to reduce greenhouse gases from its own operations by 31 percent of 1990 levels by 2008-2012. As one of the principal operational departments, Transport Canada took on a share of the target that is equivalent to a 4 percent reduction from our 1998 GHG baseline by 2008-2012. The summary table above shows a significant decrease in Transport Canada's GHG emissions from 1998 but it should be noted that these reductions are attributed primarily to the divestiture of facilities and operations such as airports.

Our strategy to actively reduce emissions has been focused on emissions from our vehicle and marine fleet. By purchasing more fuel efficient vehicles and equipment for our vehicle and marine fleet, it is anticipated that the department will minimize the impact of its transportation-related emissions.

In 2001, 40 percent (23 out of 60) of Transport Canada's new vehicle purchases had alternative fuel technology. This includes 12 electric/gasoline hybrids, seven natural gas conversions and four vehicles capable of running on ethanol blends.

PACIFIC REGION SUCCESS STORY

Sandspit Airport, Moresby Island
Queen Charlotte Islands, B.C.

Life in a remote coastal community has both rewards and challenges: untamed wilderness, rich Haida Gwaii culture, a slower-paced living – and the in-your-face reality of the limited carrying capacity of a remote island community located 128 km from the northwest coast of British Columbia and 720 km north of Vancouver.

When two of Sandspit Airport's underground storage tanks holding waste heating oil required replacement, Transport Canada realized an opportunity to reduce operational costs, prevent a potential source of future contamination, and reduce its GHG emissions by adding propane heating to its armada of clean heating technologies.

In 1995 a new terminal building was constructed with a geothermal heat pump system engineered to heat and cool the new building more efficiently than the oil fuelled boiler system used in the old building. Geothermal technology extracts heat stored in the earth (or in the building during the summer) and pumps it through an exchanger using a liquid medium in and out of the facility. In 1991 the residential housing units were retrofitted to propane heat from underground oil storage tanks. In 2001, a large store building leased to Parks Canada was retrofitted with propane fuelled furnaces significantly reducing the need and associated costs for heating oil transportation, storage and disposal to and from the island.

As a result of the upgrades, Sandspit has significantly reduced its operational costs and risk potential for hydrocarbon leaks and spills, and reduced its overall GHG emissions that contribute to global climate change by over 65 percent.

Clean Air

According to several recent studies, air pollution poses a serious threat to the health of people with cardiac and respiratory illness, and to the environment. Scientists and physicians have linked air pollution to premature deaths, illnesses and hospitalization in major Canadian cities. There is a cost to air pollution related illness and a threat to local economies. Even a small increase in air pollution increases health impacts, especially in vulnerable populations.

Ground-level ozone is a principal constituent of smog. The formation of ozone is in part a function of solar radiation and ambient heat. Global climate change may cause more episodes of ground-level ozone in urban centres as summers become warmer. Fossil fuel combustion especially by motor vehicles is responsible for most of the air pollution originating locally. Emissions include carbon monoxide, nitrogen oxides and sulphur oxides.

Transport Canada's role in addressing clean air is focused on building partnerships and awareness with the transportation sector and other levels of government.

ONTARIO REGION SUCCESS STORY

In 2001, Transport Canada's Ontario Region initiated a Corporate Smog Action Plan, an approach to reducing emissions of pollutants which cause smog. Environment Canada Smog Advisories are issued directly to the Region which, with the support of senior management, notifies employees that a Smog Advisory has been issued for the next day. Employees are reminded that smog may cause adverse health effects, and are advised to refrain from strenuous physical activity outdoors, especially during afternoon and early evening. Employees are advised of what they can do to help reduce smog:

- Reduce car use by teleconferencing, rescheduling meetings, carpooling, or taking public transit
- Avoid the use of gasoline or diesel-powered equipment, e.g. lawnmowers, trimmers, leaf blowers (at work or at home)
- Avoid refueling vehicles between 8 a.m. and 8 p.m. (when the sun will create ozone from escaping vapours)
- Avoid the use of pesticides or solvents
- Refrain from idling vehicles
- Potentially working from home

SUCCESS!!

A survey was conducted to determine the extent of employee response to this program. Survey results were very encouraging!

More than one in three people surveyed made the effort to respond, lending statistical validity to the results. Responses indicate that Transport Canada employees are aware and motivated, as evidenced by:

- 99 percent are aware that transportation plays a significant role in the generation of smog.
- 85 percent believe that public servants should be called upon to make some modifications to their work routine to help alleviate smog generation, and 79 percent believe public servants should do so off the job as well.
- Over 50 percent of respondents knew that the Minister had committed Transport Canada to having a notification system in place this past summer

The response of employees was also very encouraging. An astonishing 89 percent of respondents indicated that they modified their actions on smog days. The most common actions taken were:

- Avoiding refueling of vehicles between 8 a.m. and 8 p.m. (72 percent)
- Avoiding the use of gasoline or diesel powered equipment (70 percent)
- Taking public transit (46 percent)

Thirty per cent of respondents made the effort of visiting web sites for further information. Many valuable insights were provided as well as suggestions for adding to and improving the program. These are undergoing review for implementation in the coming season.

Air Monitoring Program

Transport Canada's Mobile Air Monitoring Laboratory was quite active in 2001. In June, a one-year study was completed at Dorval Airport that included data from the Transport Canada air monitoring vehicle. The results of this study were compiled and presented in a paper entitled *Air Quality Study in the Vicinity of Montréal-Dorval International Airport: Regional Comparison and Control Measures.* The air truck was then moved to Halifax International Airport where a 3-month study was conducted to profile emissions from that airport's operations. In November, the air truck was driven cross-country to Victoria International Airport for an extended monitoring study with objectives to collect and record present levels of air pollution at Victoria International Airport and to measure gaseous and particulate air pollutants [Carbon Monoxide (CO), Nitrogen Oxides (NOx), Ozone (O3), Total Hydrocarbons (THC), Particulate matter (PM10) and Total Suspended Particulates (TSP)].

Smog Summit II

From June 11-21, 2001, community, industry and government leaders from around the world met in Toronto to explore solutions to smog. An international declaration was signed by 16 cities from Europe, Central/South/North America, and Africa, calling for governments around the world to reduce their greenhouse emissions by 50 percent. At the same time, Canadian federal, provincial and municipal governments signed an intergovernmental declaration committing to the establishment of a GTA Clean Air Council to tackle smog and climate change emissions. In addition, a community conference was held at Metro Hall, bringing together 400 leaders to share best practices and inspire action.

Specific transportation initiatives announced at the Smog Summit include:

- a $40-million Urban Transportation Showcase Program, a component of the Government of Canada *Action Plan 2000 on Climate Change*, which will provide funding over five years to enable Canadian communities to create showcases that demonstrate and evaluate ways of reducing greenhouse gas emissions from transportation.
- VIA Rail was asked to prepare a commuter strategy for the Greater Toronto and Greater Montreal areas to complement the services offered by GO Transit and l'Agence métropolitaine de transport.
- Almost $30-million has been allocated over five years to fund the development, integration and deployment of Intelligent Transportation Systems (ITS) across Canada. ITS includes applications such as advanced systems for traveler information, traffic management, public transport, commercial vehicle operations, emergency response management and vehicle safety.
- Recent amendments to the *Motor Vehicle Safety Regulations* establish a safety standard for the protection of occupants in electric vehicles and harmonize the Canadian requirements with those of the U.S. An electric vehicle is any vehicle that uses batteries to provide electricity to power an electric motor. As with all motor vehicles in Canada, electric vehicles must be certified by the manufacturer to conform with the safety standards under the *Motor Vehicle Safety Act*. The amendment puts in place a series of crash tests to protect occupants from the hazards that are unique to electric vehicles, such as electric shock, electrolyte spills from batteries, and the potential injury arising from the battery assembly entering the passenger compartment. The new standard applies to electric passenger cars, multipurpose passenger vehicles, trucks and buses.

Canadian Environmental Protection Act (CEPA) Issues

ETHYLENE GLYCOL

In the interest of flight safety, airlines spray a heated glycol-based fluid on aircraft surfaces prior to departure during periods of inclement winter weather. Up to 50 percent of the de-icing fluid applied to the aircraft surface by airlines drains onto the apron surface and subsequently enters drainage runoff or percolates into subsurface soils.

Although some glycol has been found in the air and groundwater, the most significant concern is associated with stormwater discharges to surface waters. As glycol has a high biochemical oxygen demand (BOD), the discharge of untreated runoff containing aircraft de-icing fluids into receiving waters creates an unacceptable pollution problem and a potential hazard to aquatic life.

To ensure that airport effluent does not negatively impact on the environment, Transport Canada airports have implemented a program of sampling and analyzing stormwater from airports throughout Canada. Water quality programs have also been established at Local Airport Authorities and Canadian Airport Authorities. Although existing environmental legislation does not specifically require water monitoring, federal, provincial, and municipal laws do specify water quality standards and guidelines to be followed by industry.

To ensure responsible environmental management of glycol, both Transport Canada airports and local airport authorities have implemented, in conjunction with air carriers, detailed glycol mitigation plans and procedures.

Under the *Canadian Environmental Protection Act* (CEPA), a total glycol concentration limit of 100mg/L has been established. This is the accepted level of glycol at the discharge point into receiving waters. The guidelines are applicable to all airports that are owned or operated by the government of Canada or located on land that is owned by the government of Canada.

Of the airports that Transport Canada still owns and operates, only one airport reported an exceedance of the 100mg/L glycol discharge limit.

ROAD SALT

A comprehensive five-year scientific assessment by Environment Canada determined that in sufficient concentrations, road salts pose a risk to plants, animals and the aquatic environment. A recommendation was made that road salts be added to Schedule 1 under the *Canadian Environmental Protection Act* (CEPA). The government will make a final decision on this legal step following a complete review and consideration of public comments received.

Transport Canada recognizes the importance of road salts in protecting roadway safety. Road salts play a large role in keeping Canadian roads safe and efficient during winter. Winter maintenance activities, including the use of road salts, keep transportation moving and help to reduce injuries and loss of life. Consultations will be launched next year on better ways to manage road salts so that harm to the environment is reduced.

Under CEPA, Environment Canada has two years to develop management measures to reduce the impact of road salts on the environment. A broad range of management actions will be studied, including improved application technologies and better storage and handling techniques. These measures will be selected and developed by the Government of Canada with input from and building upon work already done by others, including the provinces and territories, municipalities, road maintenance authorities, the road salt industry and environmental groups. The proposed risk management regime will be presented to the government for a further 60-day consultation period. If the regime is accepted, this will be followed by a period of 18 months to finalize the measures. It is fully expected that these measures will reduce road salt loss into the environment without affecting road safety.

International Civil Aviation Organization

Transport Canada participates on various working groups of the International Civil Aviation Organization (ICAO) focused on aviation and the environment.

Transport Canada is a co-chair of one such working group, "Airports and Operations", which has produced international guidance material on environmental protection and land use at airports. This document is the ICAO *Airport Planning Manual - Part 2 - Land Use and Environmental Protection*, which outlines the best practices employed by airports to mitigate environmental impacts on air, water, and land.

Transport Canada is also involved on a working group focused on reducing ground air emissions at airports resulting from aviation and airport activities. Guidance material in the form of an ICAO circular has been produced and will be promoted through international workshops in various regions around the world. The document is the *Operational Opportunities to Minimize Fuel Use and Reduce Emissions*, which provides guidance to both airport and air carriers.

CHURCHILL AIRPORT NATURAL RESOURCE INVENTORY

PRAIRIE AND NORTHERN REGION

The Churchill Natural Resource Inventory was identified as a commitment in Transport Canada's Sustainable Development Strategy. The Churchill region is an ecologically sensitive area. The Churchill Airport is located in this area at the South end of Hudson Bay in a transition zone between the Boreal Forest ecozone and a Southern Arctic ecozone.

Due to the sensitivity of the area and Transport Canada's airport operations the completion of a Natural Resource Inventory (NRI) of the Churchill Airport was an important step to ensure protection of the sites' natural resources.

The NRI will characterize the natural resources, determine potential impacts and develop effective management plans that balance operational activities with principles of environmental protection and stewardship.

Issues such as identifying and monitoring rare species, the establishment of protected areas, integrating habitat requirements of rare species into management plans, and developing recovery plans are all being studied.

Based on this work, Transport Canada will develop a video and guide for use at other departmentally owned and operated airports.

3.0 ENVIRONMENTAL MONITORING PROGRAM

As landlord and custodian of over 1,100 properties across Canada, the department has a significant responsibility to ensure the environmental stewardship of its operations and of those that take place on its lands. While the environmental management system targets the operations over which the department has direct control, it currently excludes the operations of tenants on leased lands. In order to have an indication of the condition of Transport Canada lands and operations, a comprehensive environmental monitoring program was launched in 2000 with the following objectives:

- To ensure compliance with applicable legislation and regulations;
- To ensure conformance with government of Canada and Transport Canada policies and practices;
- To ensure environmental clauses in ground lease agreements are being met; and
- To ensure operations are consistent with good environmental practices and sustainable development principles.

To achieve these objectives, five distinct environmental monitoring protocols were developed as tools for Transport Canada personnel to employ while evaluating the department's various operations and land holdings.

Environmental Monitoring Protocols

Transport Canada's Environmental Monitoring Program involves five evaluation protocols. These protocols are used within specific circumstances and as such, while related, they differ in terms of their application and use.

1) ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS) AUDIT

Prepared by the Environmental Protection Branch of Environment Canada, this protocol is very comprehensive and is applicable to all federal departments who have developed and implemented EMSs. The protocol is used to evaluate Headquarters and Regional EMSs with respect to their accordance and implementation of ISO 14001 guidelines and procedures.

2) ENVIRONMENTAL COMPLIANCE EVALUATION

The department uses this protocol when evaluating facilities that are owned and operated by Transport Canada or when we wish to evaluate a facility that the department has leased from a third party. For example, the protocol may be used to evaluate a property or facility that we have leased from Public Works Government Services Canada. The protocol is used when evaluating the department's performance in relation to environmental practices that are federally regulated. (As a general rule, provincial and municipal regulations do not apply to federal facilities and operations).

3) ENVIRONMENTAL CONFORMANCE EVALUATION

The department uses this protocol when evaluating facilities that are owned and operated by Transport Canada or when we wish to evaluate a facility that the department has leased from a third party. The protocol is used when evaluating the department's performance in relation to environmental practices that are not presently regulated. For example, the protocol is used to evaluate a facility's conformance to government of Canada and departmental policies regarding waste reduction, water conservation or energy usage.

4) ENVIRONMENTAL PROPERTY EVALUATION

This protocol is used to evaluate properties that Transport Canada has turned over to third parties. It is used to evaluate whether or not the operators of a leased facility or property have complied with the agreements in place between themselves and the department. To date the protocol has been used exclusively to evaluate the performance of Airport Authorities with respect to the ground leases they have with Transport Canada. In turn, it has been applied to 17 of the country's 26 National Airport System (NAS) facilities.

5) ENVIRONMENTAL ASSESSMENT QUALITY ASSURANCE PROGRAM (QAP)

Each government department is committed to implementing a Quality Assurance Program – the QAP – that would gather information on whether its environmental assessments comply with the requirements of the *Canadian Environmental Assessment Act (CEAA)*.

Since the launch of the program, a number of evaluations have been completed.

EVALUATIONS COMPLETED TO DATE:

- 17 Property evaluations have been carried out using the Environmental Property Protocol.
- Two Environmental Assessment reviews have been finalized as part of the Quality Assurance Program (QAP).
- Two Environmental Management System Audits have been conducted.
- Two Conformance evaluations (waste reduction program and national energy baseline study).

4.0 CONTAMINATED SITES PROGRAM

4.1 CONTAMINATED LAND

Transport Canada, as operator, landowner and landlord, continues to manage properties such as airports and ports. A history of commercial and industrial activity has resulted in contaminated sites at some of these facilities.

Transport Canada has set the following EMS target for the management of its contaminated sites and is on track to successfully complete both targets by the due dates.

Transport Canada's EMS Target for Land Management

- Inventory and remediate or risk manage all sites by 2003/2004.
- Develop a contaminated sites management framework by 2001/2002.

Transport Canada is committed to managing its contaminated sites in a responsible manner. To ensure this commitment is addressed, Transport Canada has an ongoing contaminated site management program and a management policy that requires all contaminated sites on Transport Canada lands to be identified, classified, managed and recorded in a consistent manner.

To assist with inventory tracking, reporting and liability cost accounting, the department maintains an electronic database, which contains basic parameters for each site, including site location, classification and status for each site.

The department continued in its efforts to identify sites with possible contamination issues. Currently, Transport Canada is tracking a total of 574 sites, of which 535 have been investigated and 39 are suspected of contamination. These sites are found at facilities where Transport Canada has a liability or contingency, and includes sites at transferred facilities. Sites have been classified in accordance with the Canadian Council of Ministers of the Environment (CCME) National Classification System (NCS).

LANDS OCCUPIED BY NAV CANADA

In 2001- 25 Air Navigation Sites were cleaned up at a cost of $419,000.00. These sites are occupied by Nav Canada and were leased to Nav Canada as part of the privatization of the Air Navigation System that occurred in 1996 . In accordance with the Transfer Agreement, Transport Canada is responsible for contamination that occurred prior to the transfer. This project will extend into 2002 and it is expected that a further 28 sites will be remediated at an estimated cost of $1,900,000.00.

CCME NCS CLASSIFICATIONS

1 ACTION REQUIRED

The available information indicates that action (e.g. further site characterization, risk management, remediation, etc.) is required to address existing concerns. Typically, Class 1 sites show a propensity to high concern for several factors, and measured or observed impacts have been documented.

2 ACTION LIKELY REQUIRED

The available information indicates that there is high potential for adverse off-site impacts, although the threat to human health and the environment is generally not imminent. There is a probably no indication of off-site contamination, however, the potential for this was rated high and therefore some action is likely required.

3 ACTION MAY BE REQUIRED

The available information indicates that this site is currently not a high concern. However, additional investigation may be carried out to confirm the site classification, and some degree of action may be required.

N ACTION NOT LIKELY REQUIRED

The available information indicates there is probably no significant environmental impact or human health threats. There is likely no need for action unless new information becomes available indicating greater concerns, in which case the site should be re-examined.

I INSUFFICIENT DATA

There is insufficient information to classify the site. In this event, additional information is required to address data gaps.

Transport Canada sites by CCME NCS Classification *

Class 1 =	49
Class 2 =	151
Class 3 =	104
Class N =	72
Class I =	196
	572

**Source: Transport Canada Database Ap. 30/02*

Contaminated Sites by Status *

Suspected	39
Under Assessment	177
Under Remediation	76
Remediated and under risk management	10
Under risk management	117
Remediation complete	17
Remediation by 3rd party	13
Assessed-no action required	123
	572

**Source: Transport Canada Database Ap. 30/02*

Transport Canada is required to submit inventory data to the Treasury Board Secretariat (TBS) on an annual basis at the end of every fiscal year for incorporation into the TBS's Federal Contaminated Sites and Solid Waste Landfills Inventory.

In order to meet Transport Canada's EMS target to inventory and remediate or risk manage all sites by 2003/2004, Headquarters has initiated a project that will ensure that all Transport Canada properties have been reviewed for potential contamination. The first task (ongoing) is to ensure that all Transport Canada sites have been identified. This will be accomplished by reconciling the departmental property records with known contaminated sites entered in the internal Transport Canada Contaminated Sites database. The second task will be to review remaining properties for potential contamination.

Transport Canada is an active member and co-sponsor of the Interdepartmental Contaminated Sites Management Working Group (CSMWG). Transport Canada has been working with the CSMWG in planning the implementation of the Canada Wide Standard for Petroleum Hydrocarbons in Soil for federal departments. In addition, Transport Canada, as a member of the CSMWG participated in the development of a draft Federal Contaminated Sites Management Framework which was undertaken by Treasury Board Secretariat. The framework is expected to consist of a series of policies and advisories that will promote a consistent federal approach to contaminated site management.

In the latter part of 2001, the Office of the Auditor General initiated a re-audit of the management of federal contaminated sites. This re-audit builds upon prior reports (1995 Report of the Auditor General, and the 1996 Report of the Auditor General), which included chapters dealing with the issue of federal contaminated sites. Follow up reports on these two audits were issued in December 1997 and December 1998. In cooperation with regions, Headquarters prepared a comprehensive response to the Office of the Auditor General.

AN ATLANTIC REGION SUCCESS STORY

for Contaminated Sites

During the Environmental Baseline Study conducted at the Gander International Airport, a barrel dump was discovered in a wooded area containing more than 1000, 205 Liter barrels. The majority of the barrels were filled with a bitumen material, which dated back to the construction of the airport in the late 1930s. The integrity of some of the barrels was questionable, and some material had leaked onto the ground surface.

Transport Canada, with the ingenuity of a local contractor, designed a system that would recycle the bitumen material and the barrels. The barrels were placed into an engineered oven, which liquefied the contents. Once the material was liquefied it readily flowed into a collection system. The bitumen material was used as heating fuel at a local asphalt plant and recycled. The barrels were cleaned and sent for metal recycling. In all, 1,010 barrels and their contents were recycled.

This project demonstrates how ingenuity and creativity can turn a potentially hazardous and costly situation, into a success story. Success involving the recovery, recycling and reuse of materials, that not only saved money but also made a significant contribution to bettering our environment.

HEADQUARTERS EFFORTS IN THE REGIONS

Transport Canada Headquarters is continuing a pilot bio-remediation project in Cambridge Bay, Nunavut. This project was started in 1999 in an effort to demonstrate that bio remediation can occur in cold climates contrary to popular belief. If successful it would mean that costly transportation of contaminated soils to southern locations could be avoided. The initial results were promising and were presented to a prestigious Conference on Contaminants in Freezing Ground, in Cambridge England. The project continued through 2001 and soil samples taken in October 2001 showed a significant reduction in Hydrocarbons indicating that the process is successful. It is anticipated that in 2002 the contaminated soil will be remediated to a level that will permit disposal in a local landfill, which is a considerable cost saving over the other disposal options. As a result of previous papers on this work and our success with this project, we have been invited to present the results to the Third International Conference on Contaminants in Freezing Ground in Hobart, Tasmania, organized by the Australian Antarctic Division.

4.2 STORAGE TANKS

Although the number of storage tanks on Transport Canada property continues to decline, the department continues to maintain its inventory of tanks. Improperly managed storage tanks can lead to contaminated sites, health and safety concerns and legal liabilities. The majority of these contain petroleum and allied petroleum products, including aviation fuel and glycol, which have the potential to contaminate the surrounding environment.

Transport Canada has set the following EMS target for the management of its underground and aboveground storage tanks.

- Ensure 100% compliance with CEPA Tank Technical Guidelines by conducting regional tank audits.

Transport Canada has previously met its target in managing aboveground and underground storage tanks by achieving 100 per cent registration and upgrade of its tanks consistent with the CEPA *Registration of Storage Tank Systems for Petroleum Products and Allied Petroleum Products on Federal Lands Regulations.*

In Atlantic Region, no audits or inspections of tanks were carried out in 2001, however, action was taken on the findings of audit/inspections completed in 2000. A consultant was hired to inspect and determine tanks in non-compliance with applicable codes or technical guidelines. As a result of this report, 9 tanks were removed, six were upgraded and five new tanks were installed.

In Ontario Region, Transport Canada has no owned and operated storage tanks.

Quebec Region did not inspect or audit any tanks in 2001/02 as all the tanks found at airports were inspected in 2000/01. Based on the 2000/01 results, the region upgraded 9 tanks in Sept-Îles and Îles-de-la-Madeleine airports. These tanks are now in compliance with the *Federal Aboveground Storage Tank Technical Guidelines* or the *Federal Underground Storage Tank Technical Guidelines.* In 2002/03, funding permitting, the region is planning to replace 12 tanks and upgrade 3 tanks. Quebec region is planning to inspect all tanks located at harbors in 2002/03.

In Prairie and Northern Region (PNR), Transport Canada owns and operates petroleum storage tanks at Churchill Airport that meet CEPA technical guidelines. In the coming fiscal year, PNR intends to hire a contractor to inspect/audit the tanks to ensure compliance with the same.

Pacific Region completed several tasks associated with storage tanks. The Prince George Environmental Baseline Study (EBS) inspected six Transport Canada tanks, four were found to be in compliance while two were in non-compliance. The two non-compliant aboveground storage tanks were removed and replaced with new tanks.

The Aircraft Services Directorate (ASD) owns and manages two underground and five aboveground storage tanks. An inspection of the ASD Headquarters' underground storage tank was completed in 2001. In the upcoming fiscal year, ASD intends to audit and inspect each of the five aboveground storage tanks, and the underground storage tank in Moncton.

During 2001/02, Transport Canada was involved in the development and testing of the Fuel Tank Liability Modelling Project (FTLMP). The objective of the FTLMP was to develop a model to estimate contaminated sites liability associated with fuel storage tanks. This model was developed by Public Works and Government Services Canada with the cooperation and participation of departments within the Contaminated Site Management Working Group (CMSWG).

Currently, Transport Canada has an inventory of 110 tanks (26 UST and 84 AST) in the FTLMP database. The tank inventory is comprised of 23 properties with a total of 82 tank systems.

5.0 ENVIRONMENTAL AWARENESS PROGRAM

5.1 OUTSIDE EMISSIONS

The term “outside emissions” has been coined to apply to specific sources of emissions. These emissions are not directly attributable to the government of Canada but result from federal employee activities such as workplace commuting and business travel. When driving to work or traveling on business, GHG emissions are being generated.

The Government of Canada has approximately 300,000 employees who commute to work. While at work, many employees also travel to meetings and conferences, ranging from across town to around the world. Employee commuting and business travel generates a substantial amount of greenhouse gases (GHG) and other air emissions. A recent analysis by Transport Canada estimated that the GHG emissions from federal employee commuting and business travel total approximately one-and-a-half million tones annually (40 percent from commuting and 60 percent from business travel). This is roughly equivalent to the annual GHG emissions from 350,000 Canadian cars – about as many as there are in all of Newfoundland and Labrador.

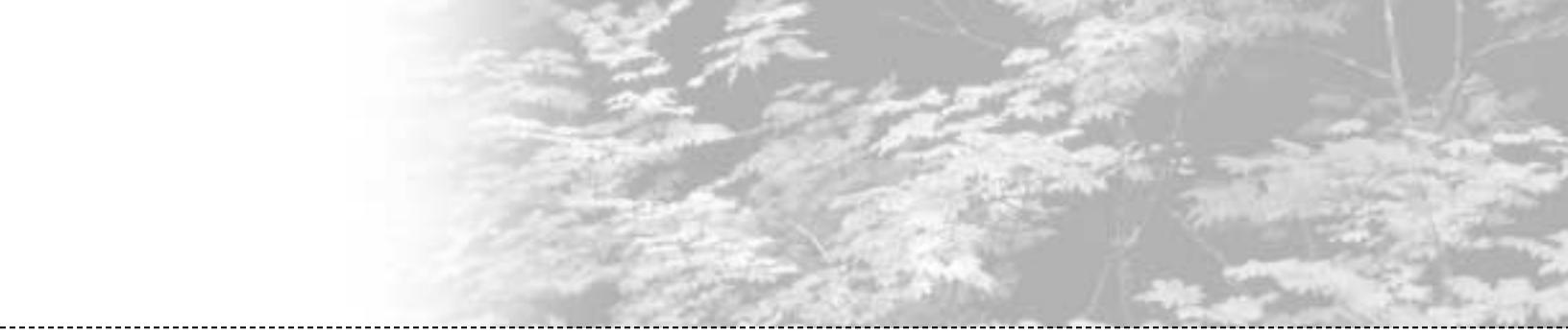
The Outside Emissions Reduction program lead by Transport Canada shows leadership by reducing GHG and other air emissions that are not directly attributed to government of Canada operations, but arise from government work-related activities, such as business travel and employee commuting. These emissions are estimated to be similar in amount to total direct emissions from federal buildings. The Outside Emissions Reduction program provides government of Canada employees with the opportunity to participate in the reduction of GHG emissions. The intended outcome of this program is to reduce GHG and other air emissions from the operation of private vehicles by facilitating increased use of mass transit, car pooling, walking, running, and bicycling by federal employees. Through a range of policy and communication instruments, this program also aims to reduce GHGs and other air emissions by exploring options to replace business travel, such as telecommuting and videoconferencing. More information about the Outside Emissions program can be found at http://www.fhio.gc.ca

5.2 GREEN COMMUTING

Transportation emissions account for approximately 25 percent of Canada's total emissions of greenhouse gases. Three quarters of these emissions come from road transport, primarily from personal vehicle trips. Reducing the number and distance of vehicle trips through Transportation Demand Management (TDM) will be an essential aspect of Transport Canada's Green Commute Program. The desired outcome of this project is that employees will not only “green” their commuting, but also will become conscious of all of their travel patterns and make changes to reduce their overall vehicle use.

The primary objective of this project is to promote 'green' commuting and sustainable transportation in general, a major effort will be made to generate enthusiasm and sustained commitment among employees so that Transport Canada employees become change leaders for sustainable transportation habits in the community at large.

Transport Canada is the first federal department to launch an extensive TDM program with its employees



in the National Capital Region. Transport Canada through the Sustainable Development Strategy has also made a commitment to expand the Green Commute Program by developing and disseminating a toolkit and by providing one-day training workshops. Over the coming year Transport Canada will be providing training for various employers including other government departments. For more information on the program please visit the Transport Canada website (www.tc.gc.ca).

5.3 AWARENESS HIGHLIGHTS

Transport Canada is very committed to promoting environmental action on the part of the public, the other federal departments and the private sector. Over the past year many initiatives have taken place to encourage such action.

- This year during Environment Week, June 6, 2001, the National Capital Region (NCR) participated in the National Commuter Challenge. This five-day event is an annual competition to see which city in Canada can reduce its pollution the most by using sustainable methods of transportation. One of today's leading causes of air pollution and greenhouse gas emissions is the use of fossil fuels like gasoline for fuelling our vehicles. In order to reduce pollution levels, participants used “green” methods of transportation throughout the week such as walking, cycling, in-line skating, transit, car-pooling and telecommuting. Transport Canada made a significant contribution to the Challenge finishing second among businesses with more than 1000 people. A total of 46 percent of Transport Canada employees participated in the NCR, who, by not taking their cars to work that week, reduced vehicle emissions by 25.7 tones (25708.34 Kg).
- Transport Canada's Environmental Affairs directorate staffed a booth at the Transportation Association of Canada Conference in Halifax. Information was available on the work being done on the Sustainable Development Strategy and Environmental Management System for the department.
- Transport Canada has for the past four years provided funding to Environment Canada for vehicle inspection clinics which are held in various cities across Canada. The clinics are provided free to the public with the aim of increasing motorist awareness about air pollution and climate change, and how their behavior can affect change.
- The Environmental Affairs directorate also provides articles for the Transport Canada Express, which is a national employee environmental newsletter. The articles help to raise the general awareness of Transport Canada employees on issues related to the environment.
- On Clean Air Day June 6, 2001, Transport Canada co-sponsored an awareness campaign in partnership with the Canadian Urban Transit Association. The campaign provided clean air and climate change messages on buses to 61 cities across Canada. This campaign was sponsored in order to convince Canadians to adopt a more sustainable mode of transportation.

No Waste Initiative

Transport Canada Headquarters introduced the No Waste initiative in the summer of 1997. Since that time the No Waste program has resulted in employees diverting 86 percent of what was previously thought of as garbage into various recycling streams. Transport Canada is committed to improving the No Waste program and recognizes that its on-going success is dependent upon continuous maintenance and periodic implementation of added initiatives. Accordingly, Transport Canada has implemented the following initiatives to maintain the Program's efficacy:

- The expansion of the recycling program to include a greater variety of products;
- The installation of multi-material recycling stations in each of the five departmental boardrooms and in the corporate boardroom on the 15th floor;
- The addition of duplexers on all LAN printers, and
- Green Tips for each month are place at the recycling centers to remind employees of ways they can reduce their impact on the environment.
- Communications initiatives to increase employee awareness about the materials that are acceptable in the various multi-material recycling streams such as displays at all recycling centers.

QUEBEC REGION SUCCESS STORY

In 2001–02, Quebec Region expanded the scope of its awareness activities considerably, as it undertook to do in the Department's Sustainable Development Strategy 2001–2003.

A booth on sustainable development was designed, along with a series of four brochures: two on sustainable transportation, one describing the daily activities that affect the environment in Quebec Region, and one on Quebec Region's Environmental Management System. The booth was set up at events for internal clients (Transport Canada Senior Management Conference), for federal partners (Conference of the *Conseil fédéral du Québec*), and for external clients (*Colloque de la maîtrise en environnement de Sherbrooke*, Symposium of the *Association québécoise du transport et des routes - direction maritime*). Participating in these activities increased the team's visibility and enhanced public awareness of sustainable transportation.

During Environment Week, Environmental Affairs and Transfers and Real Estate Development teamed up to organize an activity called "Take it Back!", which provided an opportunity for Dorval Regional Office employees to dispose of household hazardous waste. For one day, employees could bring their household hazardous waste to work, and a company specializing in recycling was on hand to dispose of it in accordance with applicable laws and regulations. About 1,400 litres of paint, oil, solvents and chemical products were recycled, along with tires, batteries and propane tanks.

Environmental Management Systems in the Air Transport Sector

On September 7, 2001 in Montréal, Transport Canada and Airports Council International North America (ACI-NA) held a joint workshop dealing with the development and implementation of Environmental Management Systems (EMS) for airport and airline operations. The workshop was held immediately prior to ACI's World and North American Conference and Exhibition, an event that drew an audience of over 2000 airport professionals from over 20 countries.

Some 70 delegates attended the workshop that presented a showcase of the current trends and developments within EMS in the air transport sector. Eight different private sector experts participated in the event by making presentations and sharing their experience and expertise with the delegates. Copies of the presentations delivered were provided to each workshop participant and a delegate's feedback survey was carried out. The survey results have proved useful in helping to scope and define what additional work the department is considering in this area.

The organization and delivery of this workshop is identified as a commitment in Transport Canada's Sustainable Development Strategy 2001-2003 and effectively represents part of the department's effort to improve the education and awareness of sustainable transportation. As indicated from the delegate feedback survey, the event met this commitment and was a strong success.

PRAIRIE NOTHERN REGION – WASTE MINIMIZATION SUCCESS!

When the Waste Minimization Program was implemented in the spring of 2001 at the MacDonald Building in Winnipeg, it presented some unique challenges however, the program achieved a considerable level of success. The program contributes to the goals of Transport Canada's Environmental Management System target of increasing the diversion rate of non-hazardous waste from landfill.

By September 2001, just six months after the program was implemented, a Waste Re-Audit report showed that 76 percent of waste at the MacDonald Building is being diverted from landfill annually, equal to the volume of one medium size grain car.

More Facts…..

- The fibre being diverted is equal to saving 220 mature trees annually
- The building is capturing 93 percent of all material eligible for collection
- Waste diversion rates 1999-24 percent 2000-58 percent 2001-76 percent

Following the success of the Waste Minimization Program in Winnipeg, Environmental Affairs will continue its efforts by implementing the program at other Transport Canada Centres in the Region with Canada Place in Edmonton being scheduled for 2002.

6.0 ENVIRONMENTAL ASSESSMENT [EA] PROGRAM

Transport Canada's environmental assessment program directly supports two of the seven strategic challenges in the sustainable development strategy. In support of Challenge 2, "Developing Tools for Better Decisions", the department is committed to implementing a policy and associated tools for conducting Strategic Environmental Assessments (SEA). In support of Challenge 4, which deals with improving environmental management for Transport Canada operations and land, the department is committed to ensuring that entities operating on Transport Canada lands, particularly port and airport authorities, are brought under the *Canadian Environmental Assessment Act*. In addition, Transport Canada is continuing to improve its well established EA program in the regions and headquarters for Transport Canada projects.

6.1 PROJECT ENVIRONMENTAL ASSESSMENT

Under the *Canadian Environmental Assessment Act* (CEAA), an EA is required when Transport Canada:

a) is the proponent of a project, (e.g., construction on a Transport Canada operated airports);
b) grants money or other financial assistance to a project (e.g., funding under an assistance program);
c) grants an interest in land to enable a project to be carried out (e.g., Transport Canada sells, leases, or otherwise transfers control of land to a municipality, or other group or individual); or
d) exercises a regulatory duty in relation to a project, such as issuing a permit or licence, that is covered under the *Law List Regulations* (e.g., R*ailway Safety Act*).

These actions are known as 'triggers'.

During 2001 Transport Canada conducted a total of 101 environmental assessments. Most of these were conducted in the regions. The following table shows the national total, by CEAA trigger.

Trigger	Total
Proponent	33
Funding	23
Land	44
Law List	1
Total	**101**

In an effort to ensure a consistent foundation for all Transport Canada personnel undertaking project EA, the department has recently completed a practitioners guide which focuses on typical Transport Canada projects and EA requirements.

As a result of the five-year review of the *Canadian Environmental Assessment Act*, the government has proposed several changes to the federal EA process. These changes are intended to provide a greater measure of certainty, predictability and timeliness to all participants in the process, to enhance the quality of assessments, and to ensure more meaningful public participation. One of the proposed changes will make it possible to develop EA regulations pertaining to Airport Authorities, and to close gaps in the existing EA regulations covering Canada Port Authorities. Transport Canada is working with the Canadian Environmental Assessment Agency to ensure satisfactory outcomes in this regard.

6.2 STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) AT TRANSPORT CANADA: POLICY STATEMENT

Introduction:

In March of 2001, Transport Canada implemented its SEA policy statement which reaffirms the Department's commitment to strategic EA. The policy specifies:

- the types of initiatives subject to SEA,
- the key components of the SEA process, and
- responsibilities for SEA within the department.

Background:

A 1990 Cabinet directive required federal departments and agencies to complete a non-legislated environmental assessment for all policy, plan, and program proposals submitted for consideration by Cabinet. In 1995, The Deputy Minister of Transport Canada issued a circular outlining the Department's responsibilities regarding the directive.

In its 1997 *Sustainable Development Strategy*, Transport Canada committed to undertaking a SEA for any program proposal involving direct budgetary transfers: grants, contributions, and other subsidy payments.

The Cabinet directive was revised in 1999 to clarify departments' and agencies' obligations. The 1999 Cabinet Directive on the *Environmental Assessment of Policy, Plan, and Program Proposals* states that (consistent with sustainable development goals) ministers expect a environmental assessment to be completed when either (or both) of two conditions exist:

- A proposal is submitted to a minister or Cabinet for approval; or,
- Implementation of a proposal may result in important environmental effects: either positive or negative.

The Intent of SEA:

SEA is a process of evaluating the potential for likely significant effects of a proposed policy, plan, program (or other strategic-level initiative) on the environment. In doing so, SEA contributes to decision-making by informing managers, ministers and Cabinet about:

- the positive and negative environmental effects of a proposal, and
- the means to optimize the positive effects and avoid, reduce, or eliminate negative ones.

SEA Activities in Transport Canada:

There have been other developments following the SEA policy statement implementation in March 2001. The Environmental Affairs Branch developed a "how to" manual in early 2002 to be used by policy and program staff responsible for completing SEAs of their proposed initiatives. Simultaneously, a companion document in the form of a SEA training module was completed to effectively train departmental staff. The training module is based on the SEA manual.

To date, Environmental Affairs has successfully completed a pilot SEA training session. The forum was comprised of Transport Canada policy and program staff from various departmental directorates. Staff attended from the regions as well as headquarters. The department has held three more sessions during the Spring of 2002 to train additional Transport Canada personnel. The successful completion of SEA training in the Department will provide a sound knowledge base for staff responsible for conforming with the Cabinet directive and the departmental SEA policy statement.

In addition, the Environmental Affairs Branch has developed and implemented a procedure whereby various Transport Canada policy, program and regulatory initiatives are identified and tracked to ensure all such proposals undergo a strategic environmental assessment (SEA) as required by Cabinet and the Department's SEA policy statement.

Strategically assessing potential environmental effects of its various planned policy and program initiatives will also aid Transport Canada in promoting the Government of Canada's sustainable development agenda.

6.3 ENVIRONMENTAL ASSESSMENT TRAINING AND AWARENESS

Transport Canada has developed an EA website as part of the department's environment site. This site will provide access to the necessary departmental EA information required by both practitioners and the public. As new tools are implemented such as the SEA policy statement, Transport Canada EA Guide and the SEA Manual, they will be provided on the departmental intranet.

In September 2001, a Transport Canada practitioners workshop was held in Montréal, Québec. This workshop brought together experts in the field to discuss issues such as the CEAA Five Year Review, the CEAA Public Registry, Regional EA initiatives and the necessary training and awareness tools to conduct effective EA's.

7.0 NEXT STEPS

Transport Canada's environmental programs will continue to focus on the direct and indirect impacts of the department's activities on the environment. In 2002, the department's environmental policy is being revisited with the purpose of aligning it more with the International Organization for Standardization (ISO) 14001 Environmental Management System (EMS) Standard and to possibly expand its scope beyond physical operations. It is hoped that the lessons learned through EMS implementation will give way to continual improvement and result in a system that responds more effectively to all environmental aspects of the department's activities.

The Environmental Programs Directorate will focus on the following environmental issues in 2002 in both headquarters and the regions:

Environmental Management

- Continue to meet the targets and objectives as set forth in the Transport Canada *Sustainable Development Strategy* (SDS).
- The development and implementation of a revised Environmental Management System.

Environmental Protection

- Continued participation, and development of the new *Canadian Environmental Protection Act* (CEPA) Hazardous Waste regulations.
- Continued participation with government industries in the implementation of management strategies for road salt.
- Work with the aviation sector to meet the CEPA *Glycol Guidelines*.
- Working with other departments and promoting the benefits of the Green Commute Program.

Environmental Assessment

- Tracking the Strategic Environmental Assessment (SEA) program.
- Implementation of regulatory initiatives of a revised *CEAA* upon proclamation of the Act.

Contaminated Sites

- Inventory and remediate or risk-manage all Transport Canada sites by 2003/2004 by reconciling the departmental property records with known contaminated sites entered into the Transport Canada Contaminated Sites database, and then reviewing the remaining properties for potential contamination.
- Work with the Interdepartmental Contaminates Sites Management Working Group (CSMWG) to implement the Canada Wide Standards for Petroleum Hydrocarbons in Soil for federal departments.