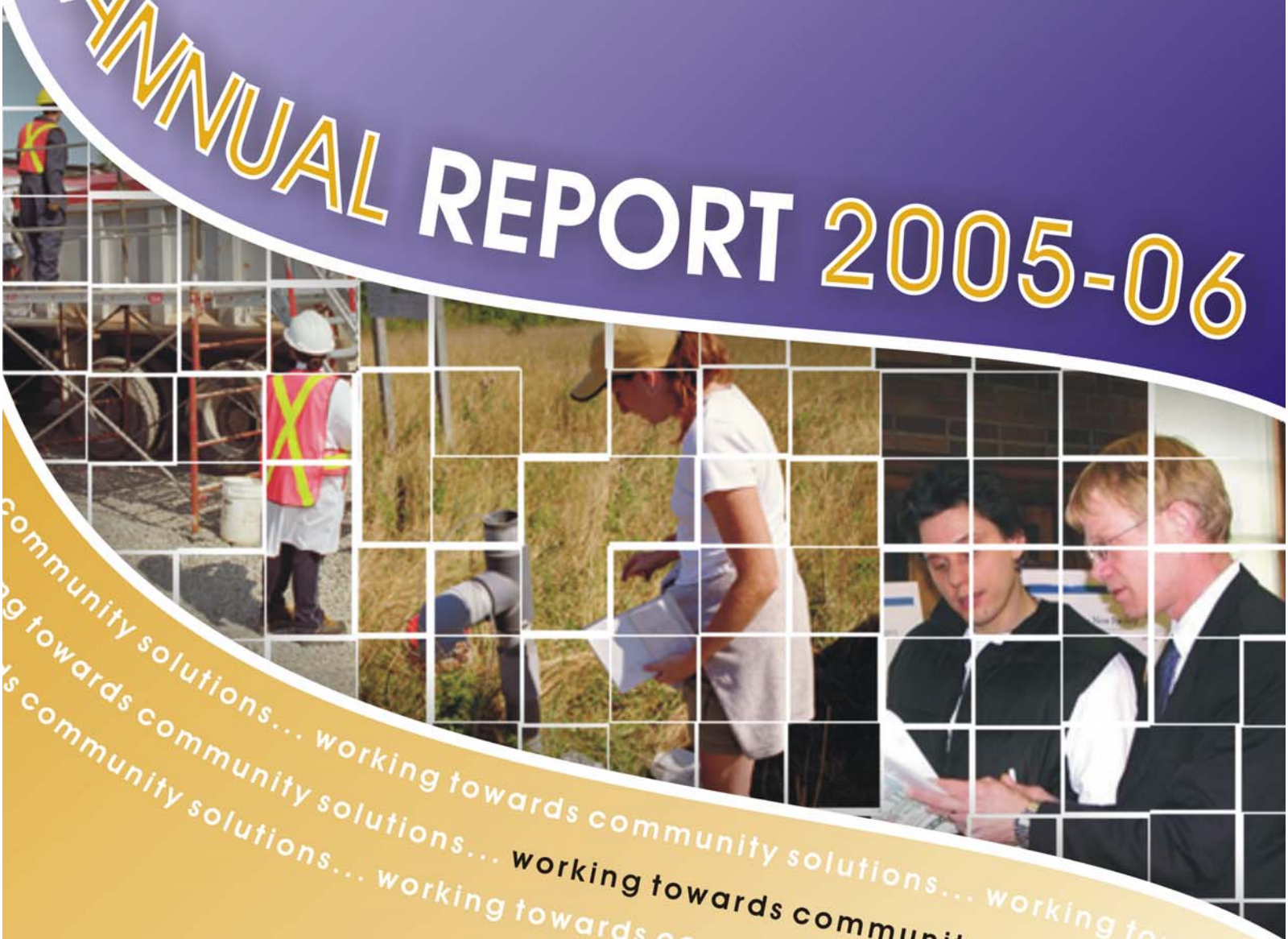
Low-Level Radioactive Waste Management Office

ANNUAL REPORT 2005-06



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AECL Atomic Energy of Canada Limited EACL Énergie atomique du Canada limitée

Canada

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The Low-Level Radioactive Waste Management Office (LLRWMO) was established in 1982 to carry out the responsibilities of the federal government for historic low-level radioactive waste in Canada. The LLRWMO is operated by Atomic Energy of Canada Limited through a cost-recovery agreement with Natural Resources Canada, the federal department that funds and sets national policy for low-level radioactive waste management.

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Dear Sirs:

I am pleased to present the Annual Report of the Low-Level Radioactive Waste Management Office for the fiscal year ending March 31, 2006.

This report has been prepared in accordance with Section 5.2 of the Memorandum of Understanding between Energy, Mines and Resources Canada (now Natural Resources Canada) and Atomic Energy of Canada Limited, for the operation of the Low-Level Radioactive Waste Management Office.

Sincerely,

R. L. Zelmer, P.Eng., RPP
Director

DIRECTOR'S MESSAGE

Building on the success of the previous year, the Low-Level Radioactive Waste Management Office (LLRWMO) has continued to press forward in all its program areas in fiscal year 2005-2006. Both local and international interest and support of our program activities continues.

Rick Norlock MP (seated) and Bob Zelmer review the Port Hope Project Environmental Assessment

In its role as "Proponent" for the Port Hope Area Initiative, the LLRWMO, working with the communities of Port Hope and Clarington as well as the Responsible Federal Authorities (Natural Resources Canada, Fisheries and Oceans Canada, the Canadian Nuclear Safety Commission), completed many documents for review by government departments and agencies under the federal Environmental Assessment process. During the year the LLRWMO addressed issues raised by technical and scientific specialists. The final Environmental Assessment Study Report report for the Port Hope Project is expected to be submitted early in the next fiscal year. The Port Granby Project report will follow once additional issues raised by Clarington are researched, resolved and included. Staff from the LLRWMO investigated comparable waste management facilities, either completed or under construction, in the United States and Europe, and attended international radioactive waste management conferences in the United States and the United Kingdom. Our goal is to deliver the very best solution for managing long-term radioactive waste.

The LLRWMO continues its licensing responsibilities for facilities across Canada and is pleased to report that all obligations placed on the Office during the year by the Canadian Nuclear Safety Commission were met. The LLRWMO manages facilities and monitors locations in Ontario, Alberta and the Northwest Territories.

The LLRWMO continued its active role supporting Canada's international commitments in the area of environmental remediation and radioactive waste management through the International Atomic Energy Agency (IAEA). The LLRWMO was once again a contributor to the Environmental Modelling for Radiation Safety (EMRAS) program of the IAEA (Urban Working Group) and also a contributor to a second IAEA program establishing a comprehensive international waste inventory records-keeping system entitled the Net Enabled Waste Management Database (NEWMDB).

In conclusion, I express my sincere thanks to the municipal councils in Port Hope and Clarington for their continued support; to the people of the communities for their valuable input during the environmental assessment phase; to Natural Resources Canada, the Canadian Nuclear Safety Commission and Fisheries and Oceans Canada for their ongoing participation and direction on behalf of the Government of Canada; to our colleagues at Atomic Energy Canada Limited; and, of course, to the staff of the LLRWMO who are directly responsible for our success to date.

R.L. Zelmer, P.Eng., RPP
Director

HISTORIC LOW-LEVEL RADIOACTIVE WASTE

The Low-Level Radioactive Waste Management Office (LLRWMO) was established in 1982 to carry out the responsibilities of the federal government for historic low-level radioactive waste (LLRW) in Canada.

There are several large historic waste sites as well as numerous smaller sites throughout Canada. At many of the sites, materials have been placed in interim storage pending the development and implementation of a long-term management approach. Ongoing site monitoring, inspection and maintenance are conducted at these sites.

Wastes at some of these sites include contaminated building materials. Other sites contain large volumes of radium-contaminated soils with low levels of radioactivity.

Small volumes of contaminated soils from cleanups at small sites as well as small volumes of contaminated items and building materials from larger sites, are removed to the LLRWMO storage buildings at Atomic Energy of Canada Limited (AECL) Chalk River Laboratories (CRL). Larger volumes of LLRW are managed at or near the source.

The mandate of the LLRWMO includes:

- resolving historic low-level radioactive waste problems that are a federal responsibility;
- addressing public information needs concerning low-level radioactive waste.

The goals of the LLRWMO Historic Wastes Program are:

- to clean up and manage for the long term, Canada's historic wastes including, but not restricted to, the historic wastes found in Port Hope, and Toronto, Ontario, Fort McMurray, Alberta and at various locations in the Northwest Territories;
- to perform interim remedial work as may be required at the aforementioned sites to protect human health and the environment, prior to the availability of permanent disposal facilities;
- to provide technical assessments and advice to NRCan for the development of government policies for the management of historic wastes; and
- to discharge the long-term residual responsibilities of the federal government for historic waste.

Historic waste is managed by the LLRWMO at various locations across Canada including sites in Ontario, Alberta, and the Northwest Territories. The LLRWMO is responsible for the cleanup and the long-term management of the waste at these sites.

Port Hope Area

The Port Hope, Ontario area contains the vast majority of Canada's historic LLRW, in excess of 90%. The waste dates back to the 1930s when radium was extracted from pitchblende ores for medical and industrial applications at a refinery in the municipality. The LLRW is primarily soil contaminated with waste material from the refinery. The LLRWMO is working closely with the municipalities of Port Hope and Clarington on the Port Hope Area Initiative (PHAI). The PHAI is a major federally-funded initiative to clean up and safely manage historic LLRW in Port Hope and Clarington for the long term. The PHAI

HISTORIC LOW-LEVEL RADIOACTIVE WASTE

comprises the Port Hope and Port Granby Long-Term Low-Level Radioactive Waste Management Projects (the Projects).

LLRW is located at the Welcome Waste Management Facility (closed in 1955) in the Municipality of Port Hope and the Port Granby Waste Management Facility (closed in 1988) in the neighbouring Municipality of Clarington. Cameco Corporation now owns and maintains these sites which were originally developed by Eldorado Resources Limited, a federal Crown Corporation. The waste at both sites is included in the PHAI and the sites are to come under federal ownership upon receipt by the LLRWMO of licences from the Canadian Nuclear Safety Commission (CNSC).

What is low-level radioactive waste?

In Canada, **low-level radioactive waste** is defined by exclusion. If a waste is radioactive, but is neither nuclear fuel waste (also called high-level waste) nor uranium mine and mill tailings, then it is classed as low-level radioactive waste (LLRW). Most of Canada's low-level radioactive waste consists of soil that became contaminated over the past 70 years. It also includes contaminated soils and related wastes resulting from the very early operations of Canada's nuclear industry. Low-level radioactive waste being produced today is the result of activities relating to nuclear energy generation, nuclear research and development, and the production and use of radioisotopes in medicine, education, research, agriculture and industry. LLRW is grouped into two broad categories, as follows:

Ongoing Waste: LLRW that is generated from ongoing activities of organizations that are currently in operation, for example, nuclear electricity generators. Owners of ongoing waste are responsible for its management.

Historic Waste: LLRW that was managed in the past in a manner no longer considered acceptable but for which the owner cannot reasonably be held responsible and for which the federal government has accepted responsibility.

NORTHERN TRANSPORTATION ROUTE

BACKGROUND

In the early 1990s, the LLRWMO identified 20 contaminated sites along the Northern Transportation Route (NTR), a 2,200-km route used in the past to transport uranium and radium ores and concentrates from the Northwest Territories to northern Alberta. The NTR extends from the Port Radium Mine site on Great Bear Lake, via a system of lakes and rivers (including Great Bear and Great Slave Lakes, and the MacKenzie, Slave and Athabaska Rivers) south to Fort McMurray.

Initial surveys in 1991 of transfer points were complemented by further investigations each year until 1996. During the period of 1993-2003, approximately 42,500 m^3 of uranium-contaminated soil was removed from nine sites in Fort McMurray and consolidated into one local engineered storage mound.

In 2004, the LLRWMO conducted a radiological characterization program in the South Slave section of the NTR. The preliminary results of these investigations indicate that historic waste (pitchblende spillage) is present at Fort Fitzgerald, Bell Rock, Fort Smith and along the portage routes. Subsurface work will be required.

In 1996, the LLRWMO conducted remediation on a residential property in Tulita and removed the material to a temporary storage mound in the community.

2005-2006 ACTIVITIES

During this fiscal year, consultants engaged by the LLRWMO submitted the final report on the "2004 Radiological Surveys Bell Rock to Fort Fitzgerald." The data from the 2004 investigation program suggest that the potential volume of historic waste in the South Slave area could be in the order of 2,000 to 10,000 m^3. More definitive subsurface fieldwork will be required to better refine this estimate. This potential volume is substantial in comparison to the existing mound in Fort Smith and a strategy will be developed to address this material. This is particularly important for the Fort Fitzgerald community where there is a potential for new housing now that the area has been serviced with electrical power and residential phone service. "Status Report for the Historic Northern Transportation Route" draft report was completed describing the current status of efforts to identify and manage contamination by uranium ores on NTR sites and/or communities.

TORONTO (MALVERN)

BACKGROUND

Radium-contaminated soil was discovered in 1980 at the site of a former farm, now part of the urban community of Malvern in Toronto. In 1996, a full-scale cleanup and remediation of development land and residential property sites was undertaken and completed, including the construction of an engineered storage mound.

The licensable material was recovered and transferred to the LLRWMO's licensed storage warehouse facility at CRL. The mildly contaminated soil was placed in the engineered storage mound referred to as the Passmore Avenue Temporary Storage Site. A construction monitoring program, modelled in part after the Port Hope experience, was established to ensure that future municipal servicing projects or reconstruction in the vicinity of the cleanup sites would identify unexpected occurrences of related contamination.

2005-2006 ACTIVITIES

Environmental monitoring at the Passmore Avenue Temporary Storage Site is carried out by the LLRWMO under a cost recovery program with the Province of Ontario. Monitoring results are reported annually to the City of Toronto and are available to the public at the Malvern Public Library. To date, results indicate no environmental effects on the surrounding environment.

FORT MCMURRAY

BACKGROUND

For a 25 year period between the 1930s and the 1960s, uranium and radium ore was shipped by barge from Great Bear Lake, Northwest Territories, through a system of lakes and rivers to docking sites at Waterways (now Fort McMurray), Alberta where it was then sent by railway to a refinery in Port Hope. Contamination at several sites occurred with the accidental spillage of some materials, primarily at the transfer points.

Remediation work in Fort McMurray first began in 1992. Between 1993 and 1996, the LLRWMO excavated and removed mildly contaminated soil from eight riverside properties. The completion of the Fort McMurray Waterways project in the summer of 2003 marked the resolution of a decade-long endeavour to clean up and safely manage about 42,500 m^3 of marginally contaminated soil from several sites in this northern Alberta city. The Waterways property is now part of the community's public park and trail system. The mound is a local, closed long-term term facility monitored by the LLRWMO and inspected by the CNSC.

2005-2006 ACTIVITIES

During this fiscal year, staff from the Port Hope Field Services Office surveyed the Long-Term Management Facility (LTMF) in Fort McMurray, as part of an annual field inspection program of selected sites along the Northern Transportation Route NTR. The inspection included a visual inspection of the site and passive radon monitoring equipment. Gamma radiation measurements were taken around the perimeter of the site and within the fenced compound. The inspection did not identify any issues of concern.

The LLRWMO continues to provide ongoing monitoring and analysis of groundwater, leachate and radiation levels annually. This program is conducted pursuant to the agreement between the LLRMWO and the Regional Municipality of Wood Buffalo and consistent with requirements of the CNSC.

OTHER HISTORIC WASTE PROGRAM ACTIVITIES

In December 2005, LLRWMO staff attended a CNSC Commission meeting in support of an application for exemption from licensing for certain historic waste management mounds managed by the LLRWMO. The Commission granted the exception until December 31, 2009. The mounds are located at Tulita and Fort Smith in the NWT, Fort McMurray, Passmore and Peterborough.

Radium Artifacts

Several requests for disposal of radioactive material were received in 2005-2006. These were from private individuals, one provincial agency and one municipality. Not all the requests pertained to historic waste. One involved coal ash that tripped a portal monitor at a landfill site. Appropriate guidance was provided in response to all requests.

Commercial Site - Peterborough

Staff from the LLRWMO assisted consultants with the cleanup of a commercial site in Peterborough, Ontario. Contamination at the site was detected by the LLRWMO staff during a general inspection of the area following a pickup of legacy waste. The cleanup was conducted with the assistance of detailed surface gamma radiation surveys conducted across the entire site. Through a systemic scanning and ore-piece removal program, approximately 2,500 kilograms of waste was recovered from the site and subsequently transferred to the licensed storage facilities at CRL. The remaining contamination is being managed appropriately by the site owner.

Toronto Property

A radiological and non-radiological characterization Environmental Site Assessment of a Toronto property was completed. The total volume of contaminated soil on the site is estimated to be approximately 2,700 m^3.

PORT HOPE AREA INITIATIVE: PROJECTS - ENVIRONMENTAL ASSESSMENT

BACKGROUND

In July 2001, Natural Resources Canada (NRCan) designated the LLRWMO as proponent to act on Canada's behalf to carry out the work required to fulfill its obligations as set out in the Legal Agreement, in which the Government of Canada has committed to the cleanup of historic wastes in the Port Hope area and the long-term management of these wastes in new facilities to be developed in the local area.

The Port Hope Area Initiative (PHAI) comprises the following three phases:

Phase 1: Environmental Assessment, Preliminary Design, Engineering & Regulatory Approval
Phase 2: Construction & Cleanup
Phase 3: Long-term Monitoring & Maintenance

The PHAI began in April 2001 and by the middle of 2003 it became evident that Phase 1, originally expected to be completed in five years, would require more time to complete due to extensive consultation with stakeholders. At the close of this fiscal year, the environmental assessment component of Phase 1 was nearing completion.

ORGANIZATION

The LLRWMO has organized activities under the PHAI into two separate projects, one for the Municipality of Port Hope (Port Hope Project) and one for the Municipality of Clarington (Port Granby Project).

The recommended approach in Port Hope was to consolidate all the Port Hope historic LLRW into one new facility at the site currently occupied by the Welcome Waste Management Facility and adjacent auto recycling operation.

In Clarington, the recommended approach was to remove the waste from its current location on the shores of Lake Ontario to a new facility on an available neighbouring site about 700 m away from the lake.

2005-2006 ACTIVITIES

The Port Hope Environmental Assessment Study Report (EASR) was submitted to federal Responsible Authorities in May, 2005. This report is the result of over three years of intensive public consultation, technical and scientific study.

Port Hope

During much of 2005-2006, the LLRWMO responded to federal review comments on the draft Port Hope Project EASR by explaining study results, investigating additional aspects of the Project as required and doing additional modelling of environmental effects to support study conclusions. A 1,259 page revised Port Hope Project EASR and a 664 page revised Geology and Groundwater Environmental Effects Assessment Report were submitted in January 2006 to the authorities.

These revised reports were the culmination of several rounds of review to address a total of 286 written comments from 11 different agencies. Proposed responses to review comments were distributed to the agencies and they provided feedback regarding the acceptability of the draft responses. Also, a series of meetings were held with NRCan and the CNSC to resolve outstanding comments.

In early 2006, the RAs requested clarification on a small number of issues and the LLRWMO is currently preparing a response in the form of an addendum to the draft EASR. Staff from the LLRWMO also assisted the Port Hope End Use Committee in developing potential future uses for the waste management facility and worked closely with the Port Hope Municipal Peer Review Team on the development of cleanup criteria for the Project. The End Use Committee report and cleanup criteria are expected to be finalized early in the next fiscal year.

Port Granby

Due to a request made by Clarington Municipal Council that further studies be conducted, the draft EASR documents for the Port Granby Project were not released in tandem with the Port

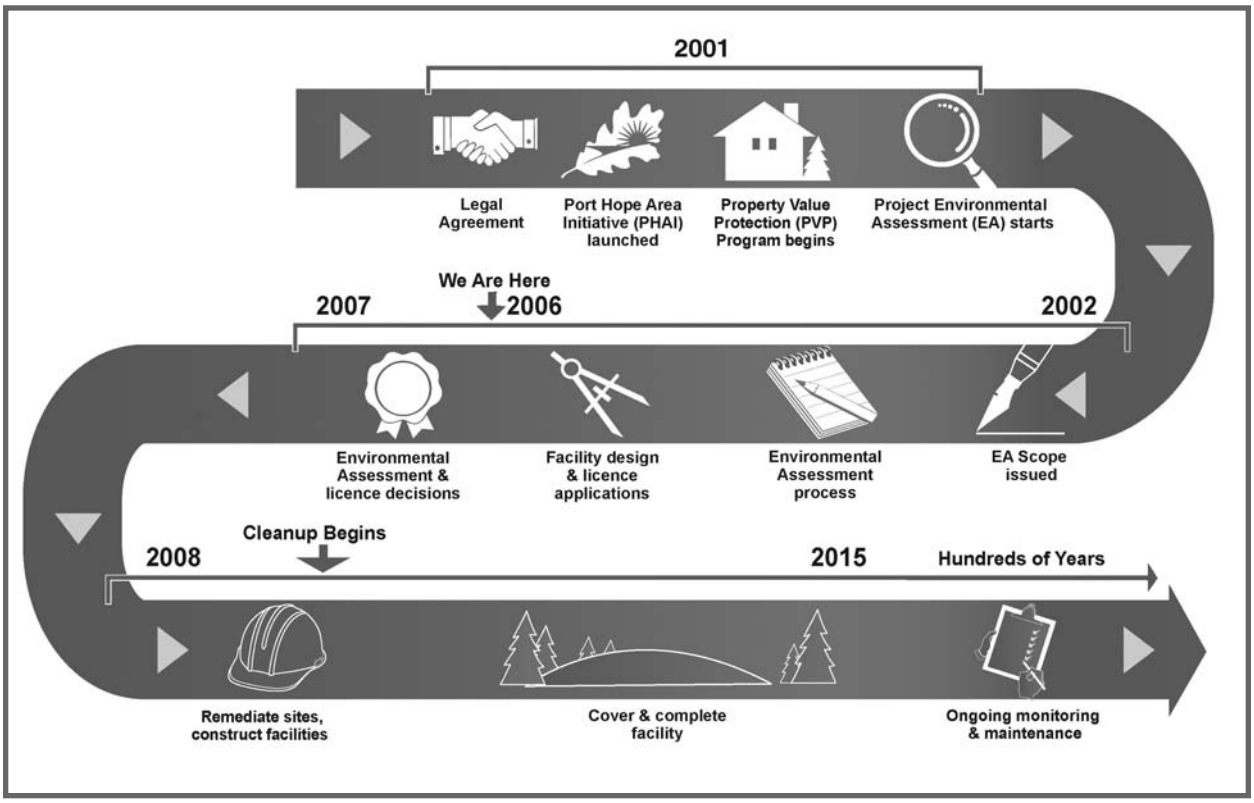
PORT HOPE AREA INITIATIVE: PROJECTS - ENVIRONMENTAL ASSESSMENT

Hope project EASR reports. Clarington Municipal Council, prior to considering the preferred option, requested that further study be conducted on three topics:

- *an additional base liner for the proposed facility;*
- *a grade separation at Lakeshore Road connecting the current and proposed waste management sites;and*
- *pre-construction upgrades for municipal roads to be used to bring construction material to site.*

The LLRWMO began an extensive investigation into these subjects. The LLRWMO engaged in numerous discussions with Clarington staff, the Municipal Peer Review Team, municipal officials and the public regarding the proposal to incorporate a Capillary Drainage Layer in the cap of the Port Granby LTWMF rather than a second liner. Pending Municipal Council approval of the revised documents, the Port Granby EASR is expected to be forwarded to the RAs for review in early 2006-2007.

PORT HOPE AREA INITIATIVE: PROJECT TIMELINE



PORT HOPE AREA INITIATIVE: INTERIM WASTE MANAGEMENT PROGRAM

BACKGROUND

For over 20 years, the LLRWMO has overseen the interim management of historic LLRW in Port Hope on behalf of the federal government. Currently there is LLRW located at four sites licensed by the Canadian Nuclear Safety Commission (CNSC), nine major unlicensed sites and various other properties. Regular inspection and ongoing monitoring is provided by the LLRWMO.

The Interim Waste Management Program in Port Hope comprises the Construction Monitoring Program (CMP), the Property Compliance Program (PCP) and the Environmental Monitoring Program (EMP).

In cooperation with the Municipality of Port Hope, the LLRWMO operates the CMP to prevent the spread of contaminated soil. Any project requiring a building permit is automatically referred to the CMP. Under the CMP, the LLRWMO will test the soil at the proposed construction/excavation site and transfer any contaminated soil to its licensed Pine Street Extension Temporary Storage Site.

The LLRWMO also operates the Property Compliance Program (PCP) and responds to requests from the property owner, their real estate agent, or their lawyer to provide information regarding the radiological status of properties.

The PCP program ensures:

- *timely production of radiological status letters;*
- *collection of new radiological data to update individual property files; and*
- *cleanup of properties that exceed the criteria for remedial action.*

2005-2006 ACTIVITIES

Construction Monitoring Program

Under the CMP, a total of 183 m^3 of contaminated soil was excavated and transported to the licensed Pine Street Extension Temporary Storage Site (PSE TSS) in the municipality.

Activity this year illustrates the importance of the program for the local community.

As part of its ongoing capital works program, the Municipality of Port Hope performed roadwork during 2005 at sites throughout the municipality and the LLRWMO worked closely with the Municipality's engineering department as these various construction projects were underway.

The majority of CMP calls were service line connections, proposed additions, and interruptions of water services.

An extensive surface gamma radiation survey was completed by the Municipality of Port Hope Works. Separately, contamination control monitoring was provided in support of the installation of monitoring wells on the Centre Pier as part of waste delineation for the PHAI.

Meetings of the CMP Coordination Committee, with members from the LLRWMO and the Municipality of Port Hope, were held to review Municipal construction plans. This is a key element of the CMP that places emphasis on the cooperative relationship between the LLRWMO and the Municipality.

PORT HOPE AREA INITIATIVE: INTERIM WASTE MANAGEMENT PROGRAM

Property Compliance Program

The LLRWMO, under the PCP, conducted 94 radon/gamma surveys on properties in Port Hope. A total of 596 radiological status letters (RSLs) were issued with approximately 25% of the letters dealing with properties outside of Port Hope, mostly in the Greater Toronto Area and other areas in southern Ontario.

The Interim Waste Management Program in Port Hope comprises:

CMP	Construction Monitoring Program
PCP	Property Compliance Program
EMP	Environmental Monitoring Program

Environmental Monitoring Program

All environmental monitoring and reporting was conducted in a timely fashion, in accordance with a pre-determined schedule. Elevated uranium in surface water in the catch basin for the PSE TSS Pad 1 was reported to the CNSC, and a plan of remedial action will be carried out in the spring.

2005-2006 INTERIM WASTE MANAGEMENT SUMMARY

PCP-originated Radon & Gamma Surveys...	94
Soil Volume to the Pine Street Extension TSS (m^3)	183
Radiological Status Letters	596

PORT HOPE AREA INITIATIVE: COMMUNICATION AND INFORMATION INITIATIVES

BACKGROUND

For over 20 years the LLRWMO has conducted remedial projects in communities across Canada.

The PHAI is the largest project ever undertaken by the LLRWMO and the communications and consultation lessons learned from other projects have been applied in the Port Hope and Port Granby Projects.

The LLRWMO continues to provide information to the public and other stakeholders through its Project Information Exchange office, presentations to the Municipal Councils, and on its website.

Throughout the preparation of the Environmental Assessment studies for both Projects, proactive communication and consultation with Port Hope and Clarington residents has been encouraged. In addition to hosting workshops, open houses and meetings, knowledgeable LLRWMO employees staffed booths during home shows and fall fairs in order to take the discussion and the information to the broader community. Facility tours were also offered, focusing on the proposed new facilities and remedial activities to be undertaken.

2005-2006 ACTIVITIES

The LLRWMO worked closely with Clarington staff and the public on issues related to the Port Granby Project.

Three public information sessions were held in November 2005 to discuss recommended project enhancements and environmental effects with local residents. Draft terms of reference for a "Project Discussion Group" were vetted by the public prior to the initiation of discussion meetings in January and March.

In January the LLRWMO reported results of its investigations to Clarington Council with a focus on three issues:

- *the facility design;*
- *the crossing between the current and proposed facilities; and*
- *road improvements in the vicinity of the proposed facility.*

In February 2006, staff from the LLRWMO gave an update on the Port Hope Project to Port Hope Council. Numerous local media articles, electronic interviews and continued participation in community events and local presentations help to maintain a high level of awareness about the Long-Term Low-Level Radioactive Waste Management Projects.

Awareness of the projects is also developed through interviews and briefings with key stakeholders such as elected officials, First Nations representatives and nearby residents.

The LLRWMO provided briefings on both projects to the area MPs and the MPP.

The Project Information Exchange (PIE) office moved to a new location in Port Hope at 196 Toronto Road. This new location will also eventually house other LLRWMO PHAI project offices/labs as the LLRWMO moves to consolidate its offices in Port Hope.

The Port Hope PIE is also a satellite repository for information and documents on the Public Registry for the environmental assessment of the Port Hope and Port Granby Projects.

According to results of the 4th public survey, the level of awareness of the Port Hope Area Initiative continues to increase annually. This level of awareness is enhanced by newsletters and information mailings for both projects, media releases to appropriate local news organizations, advertising in local media and displays in prominent community locations such as the public libraries.

PORT HOPE AREA INITIATIVE: PROPERTY VALUE PROTECTION PROGRAM

BACKGROUND

Established as a requirement under the PHAI Legal Agreement, the Property Value Protection (PVP) Program was launched in October 2001 to compensate owners of residential, commercial or industrial properties in designated parts of the municipalities of Port Hope and Clarington if they realize financial loss on the sale or rental of their property or mortgage renewal difficulties as a result of the Initiative. The municipal councils of Port Hope and Clarington consider the PVP Program an important economic mitigation measure.

Key features of the PVP Program include:

- *A claim process;*
- *An appeal process; and*
- *The appointment of independent Compensation Officers to hear appeals.*

2005-2006 ACTIVITIES

From its main street location in Port Hope, the PVP Program provided information and assisted property owners on a one-on-one, confidential basis to resolve PHAI-related issues regarding the sale of their property. The area real estate market remained strong throughout the year, showing no evidence of generalized effects related to the Projects.

The PVP Program office met with potential claimants to explain the PVP process. It has also taken part in various planning meetings including meetings over the Port Hope Draft Official Plan and a meeting with developers to discuss the potential impact of the Port Hope Project development near proposed works.

To date 12 claims have been received under the PVP program and 7 have been paid, either in full or in part. The first Port Granby claim was in 2005-2006 and was resolved to the satisfaction of all parties.

A mediation hearing on a Port Hope Project appeal took place in February 2006. The Compensation Officer rendered his opinion, deciding not to award compensation on the basis that the sale was not affected by the Port Hope Area Initiative.

Overall, the PVP Program continues to operate well and provide timely information to area residents and to respond quickly to claims as required under the Legal Agreement.

ONGOING WASTE PROGRAM

Low-level radioactive waste continues to be generated by electrical utilities, nuclear research organizations, nuclear fuel manufacturers, and the producers and users of medical and other radioisotopes. These producers are responsible for the wastes they produce. The annual accumulation of such wastes in Canada is about 4,000 m^3.

Upon request, the LLRWMO assists NRCan by providing technical input when NRCan develops policies and strategies for the long-term management of this ongoing waste. The LLRWMO also assists NRCan, on request, in activities with international organizations such as the IAEA and the Nuclear Energy Agency of the Organization for Economic Co-operation and Development.

The LLRWMO is Canada's delegate to the Urban Working Group at the IAEA program on Environmental Modelling for Radiation Safety (EMRAS), in Vienna. The focus of this group is the release of radionuclides to particular types of environment (e.g. urban and aquatic environments), restoration of sites with radioactive residues and impact of environmental radioactivity on non-human species. In 2005, the LLRWMO attended both the May and November sessions held in Vienna.

CNSC LICENCES HELD BY THE LLRWMO

The LLRWMO currently holds five licences issued by the Canadian Nuclear Safety Commission for various operations and facilities. The following table summarizes the licensing obligations of the LLRWMO.

FACILITY*	LICENCE NUMBER & TYPE	DESCRIPTION	EXPIRATION DATE
Port Hope Field Services Office Laboratory	20004-7-06.0 Nuclear Substances & Radiation Devices Licence	Licence for the LLRWMO Laboratory in Port Hope	Sept 30 /06
Pine Street Extension Temporary Storage Site	WNSL-W1-182.1/2006, Waste Nuclear Substance Licence	Licence for the Pine Street Extension Temporary Storage Site in Port Hope, Ontario	Dec 31 /06
Port Hope Waste Management Facility	WNSL-W1-344-1.2/ind, Waste Nuclear Substance Licence	Licence for the Pine Street Extension Consolidation Site, Strachan Street Consolidation Site & Sewage Treatment Plant Temporary Storage Site in Port Hope, Ontario	Indefinite from date of issue (Jun 22/02)
Prescribed Substances at Unspecified Locations	WNSL-W2-2202.1/2006, Waste Nuclear Substance Licence	Historic low-level radioactive waste management at Canadian sites.	Nov 30 /06
X-Ray Fluorescence Analysis	20004-15-06.0 Nuclear Substances & Radiation Devices Licence	Licence issued for x-ray fluorescence analyzer used or stored at LLRWMO Field Services Office Laboratory in Port Hope, Ontario	Apr 30 /06

* *A further five unlicensed low-level radioactive waste storage mounds are also monitored by the LLRWMO. These are: Lakeshore Road Storage Mound and Passmore Avenue Temporary Storage Site, both in Toronto; the Fort McMurray Long-Term Management Facility in Fort McMurray, Alberta; and in the Northwest Territories, the Fort Smith Interim Storage Mound and the Tulita Interim Storage Mound.*

Information Program

The LLRWMO provides information about LLRW and its management in Canada. LLRWMO offices in Port Hope and Ottawa respond to public inquiries received by phone, letter, e-mail and in person. The LLRWMO's popular web site received well over 3,100 (approx. 105 per day) visits per month in 2005-2006. The Office responded to requests for information from people across Canada and abroad.

The LLRWMO is an active contributor of information and knowledge to colleagues within the international community. Significant strides are being made to ensure that the best radioactive waste management practices are implemented worldwide. In support of this international work, the LLRWMO welcomed international visitors from Belgium, France, Japan, and the United States at its Port Hope location.

Acronyms

AECL:	Atomic Energy of Canada Limited	**LTMF:**	Long-Term Management Facility
CMP:	Construction Monitoring Program	**NRCan:**	Natural Resources Canada
CNSC:	Canadian Nuclear Safety Commission	**NTR:**	Northern Transportation Route
CRL:	Chalk River Laboratories	**NTCL:**	Northern Transportation Company Limited
EASR:	Environmental Assessment Study Report	**PCP:**	Property Compliance Program
EMRAS:	Environmental Modelling for Radiation Safety	**PHAI:**	Port Hope Area Initiative
IAEA:	International Atomic Energy Agency	**PHFSO:**	Port Hope Field Services Office
LLRW:	Low-Level Radioactive Waste	**PIE:**	Project Information Exchange
LLRWMO:	Low-Level Radioactive Waste Management Office	**PVP:**	Property Value Protection
		RA:	Responsible Authority

Financial Review

LLRWMO operations are funded by NRCan through a cost recovery agreement (Memorandum of Understanding) with AECL. The LLRWMO's accounts and financial control systems conform to those of AECL.

Prior to the start of each fiscal year, the LLRWMO submits a business plan to NRCan for approval. The plan describes how the LLRWMO intends to carry out NRCan's priorities with the available funding. Each quarter, LLRWMO staff and representatives from NRCan's Uranium and Radioactive Waste Division review and adjust the plan as necessary.

The financial statements in this annual report detail the LLRWMO's financial performance for the fiscal year ending March 31, 2006. The table illustrates how funding provided by NRCan was allocated to the LLRWMO's mandated business lines in 2005-2006. For comparison, 2004-2005 is also provided.

Financial Review

	Total Expenditure ($ thousands)	
Historic Waste Program		
Program Areas	2004-2005	2005-2006
Port Hope Area Initiative		
Port Hope Area – Long-Term Storage Projects	6799*	5 465*
Port Hope Area – Property Value Protection Program	237	286
Port Hope Interim Waste Management	896	497
Subtotal: Port Hope Area Initiative	**7 932**	**6 248**
Northern Sites Initiative		
Fort McMurray	33	52
Northern Transportation Route	171	73
Subtotal: Northern Sites Initiative	**204**	**125**
Other Historic Waste Initiatives		
Toronto (Malvern)	30	39
Historic Waste at Other Locations	158	243
Subtotal: Other Historic Waste Initiatives	**188**	**282**
Other Mandated Activities		
Ongoing Waste Program	67	56
Information Program	155	124
LLRWMO Restructure	57	85
Subtotal: Other Mandated Activities	**279**	**265**
Less Cost Recovery from Ontario for Toronto (Malvern)	(30)	(39)
TOTAL EXPENDITURES FOR NRCAN FUNDING	**8 573**	**6 881**

* *Includes Payroll variance credit*

Audit Statement

Atomic Energy of Canada Limited (AECL) is audited annually by the Office of the Auditor General of Canada and Ernst & Young. The audit is conducted in accordance with generally accepted auditing standards. The review of the LLRWMO's financial statements falls within the scope of that audit and the opinions expressed in the AECL audit report are equally applicable to the LLRWMO's financial results.