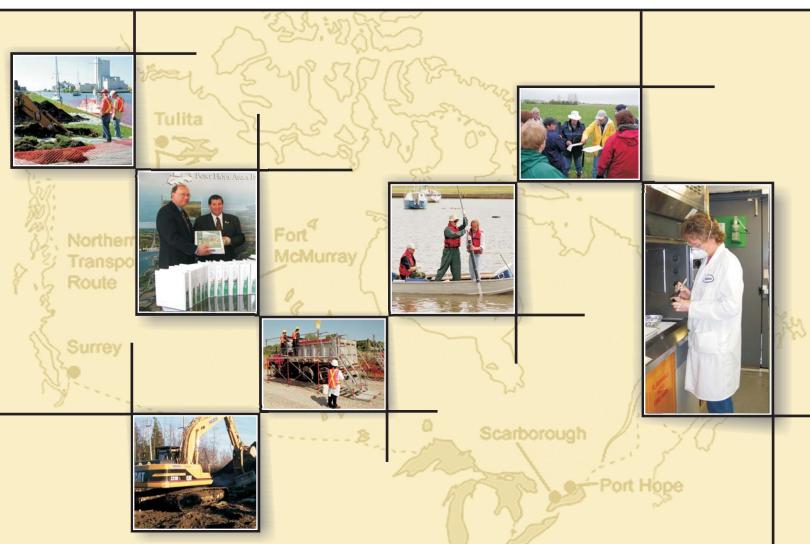
# 

# LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT OFFICE



WORKING TOWARDS COMMUNITY SOLUTIONS...



CC1-1/2008E-PDF ISBN 978-0-662-48566-7

LLRWMO-513430-041-04000 ISO 9001:2000 certified

### **FOR MORE INFORMATION**

Port Hope Office Ottawa Office

5 Mill St South 1900 City Park Drive Port Hope, Ontario Suite 200 L1A 2S6 Ottawa, Ontario

Phone: (905) 885-9488 K1J 1A3

Fax: (905) 885-0273 Phone: (613) 998-9442 Fax: (613) 952-0760

> info@llrwmo.org www.llrwmo.org





Natural Resources Canada Ressources naturelles Canada



# TABLE OF CONTENTS

| Director's Message                        | 3    |
|---|------|
| Historic Waste Program                    | 4    |
| Historic Low-Level Radioactive Waste      | 4    |
| Northern Transportation Route             | 5    |
| Fort McMurray                             | 6    |
| Toronto (Malvern)                         | 6    |
| Other Historic Waste Program Activities   | 7    |
| Port Hope Area Initiative:                |      |
| Projects - Environmental Assessment       | 8    |
| Projects - Licensing                      | 9    |
| Interim Waste Management Program          | 9    |
| Communication and Information Initiatives | 11   |
| Project Status                            | 11   |
| Property Value Protection Program         | 13   |
| Ongoing Waste Program                     | . 14 |
| CNSC Licences Held by the LLRWMO          | 14   |
| Information Program                       | 15   |
| Acronyms                                  | 15   |
| Financial Review                          | 15   |
| Audit Statement                           | 16   |

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 (AECL) through a cost-recovery agreement with Natural Resources Canada (NRCan), the federal department that funds and sets national policy for low-level radioactive waste management.

### MANAGEMENT

### Robert L. Zelmer

Director

**Glenn Case** 

Manager, Projects & Facilities Development

**Paul Arthurs** 

Mark Gardiner (Acting)

Manager, Operations and Environmental

Services

Bernard Gerestein Heather Kleb (Acting) Manager, Stakeholder Relations & Communications

Robert L. Zelmer (Acting)

Manager, Business

Management & Operations

### Mr. T. Wallace

Director General Electricity Resources Branch Natural Resources Canada 580 Booth Street Ottawa, Ontario K1A 0E4

### Mr. D. McCauley

A/Director Uranium and Radioactive Waste Division Electricity Resources Branch Natural Resources Canada 580 Booth Street Ottawa, Ontario K1A 0E4

### Ms. J. Miller

General Manager Decommissioning and Waste Management A/Director Liability Management Unit Atomic Energy of Canada Limited Chalk River Laboratories Chalk River, Ontario K0J 1J0

I am pleased to present the Annual Report of the Low-Level Radioactive Waste Management Office for the fiscal year ending March 31, 2008.

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

In 2007, the Low-Level Radioactive Waste Management Office (LLRWMO) celebrated 25 years as Canada's agent for addressing and responding to low-level radioactive waste issues across the country, a significant milestone for us and for our colleagues at Natural Resources Canada (NRCan) and Atomic Energy of Canada Limited (AECL).

Over the past quarter century, the LLRWMO has undertaken environmental remediation throughout Canada with waste management activities in British Columbia, Alberta, the Northwest Territories, and Ontario. On the occasion of its 25th anniversary, the Honourable Gary Lunn, Minister of Natural Resources, commended the work of the Office. In his letter to the LLRWMO, Minister Lunn stated that "the employees



Robert Zelmer Director, LLRWMO

of the LLRWMO, both past and present, are indeed to be congratulated for their commitment to successfully resolving some of Canada's most complex waste management problems in a manner that recognizes both the technical and community-based challenges involved."

The success of the LLRWMO clearly lies in our collaborative partnership involving government, communities, business and the public, as reflected in a report released by NRCan's Audit and Evaluation Branch in August 2007.

The report stated the work done by the Office to date on Phase 1 of the Port Hope Area Initiative (PHAI) "has been conducted in a cost effective manner." Furthermore, the Office is proud that the Initiative - a first-of-its-kind project in Canada involving radioactive waste management remediation in a combined industrial/urban setting - "compares positively to the work done in other countries, particularly on the technical and public consultation criteria" and that the LLRWMO "is held in high regard by international officials familiar with radioactive waste management projects."

There is much work yet to be completed. I am confident the Port Hope Area Initiative will continue to move forward with the collaboration of all those involved including the municipal councils in Port Hope and Clarington and the residents of these communities.

On the national front, planning efforts during the past year will soon come to fruition with the removal of the low-level radioactive waste (LLRW) from the Hamlet of Tulita, Northwest Territories (NWT). Along the Northern Transportation Route (NTR), in Fort McMurray, in Toronto and in other areas, the Office continued to fulfill its obligation to manage LLRW and contaminated materials.

I extend to all my congratulations on the successful achievement of the silver anniversary of our organization, and my thanks in appreciation of each person's unique role in our ongoing success.

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.

The LLRWMO manages LLRW at several large and numerous small historic waste sites located throughout Canada, including locations in Ontario, Alberta and the Northwest Territories. Small volumes of LLRW are removed to the LLRWMO storage buildings at Atomic Energy of Canada Limited's (AECL) Chalk River Laboratories (CRL), whereas larger volumes of waste are typically managed at or near the site.

At some of the historic waste sites, materials have been placed in interim storage pending the development and implementation of a long-term management approach. The LLRWMO provides ongoing monitoring, inspection and maintenance at these sites.

Historic waste at these sites includes radiumcontaminated soil, building materials and other contaminated items.

### **Port Hope Area**

The Port Hope, Ontario area contains the vast majority of Canada's historic LLRW, in excess of 90 percent. The LLRW 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 early 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 federally-funded initiative to clean up and safely manage historic LLRW in Port Hope and Clarington for the long term. The PHAI comprises the Port Hope and Port Granby Long-Term Low-Level Radioactive Waste Management Projects.

# The mandate of the LLRWMO includes:

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

### The goals of the LLRWMO Historic Waste Program are:

- to clean up and manage for the long term, Canada's historic wastes including, but not restricted to, the historic waste found in Port Hope and Toronto, Ontario, in 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 long-term management 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 responsibilities of the federal government for historic waste.

Included in the PHAI is the LLRW located at the Welcome Waste Management Facility (closed in 1955) in the Municipality of Port Hope and at the Port Granby Waste Management Facility (closed in 1988) in the neighbouring Municipality of Clarington. Cameco Corporation currently owns and maintains these sites, which were originally developed by Eldorado Resources Limited, a federal Crown Corporation. Each site will come under federal ownership once licenses are issused by the Canadian Nuclear Safety Commission (CNSC).

### Northern Transportation Route

### BACKGROUND

In the early 1990s, the LLRWMO identified twenty 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 Great Bear, Mackenzie, Slave and Athabaska Rivers) south to Fort McMurray.

Between 1991 and 1996, the LLRWMO surveyed the potential transfer points along the NTR. The Office remediated some residential properties in Tulita, NWT in 1992 and in 2001.

During the period of 1993-2003, the LLRWMO removed approximately 42,500 m³ of uranium-contaminated soil from nine different sites in Fort McMurray, Alberta and consolidated the LLRW in an engineered storage mound. Radiological characterizations and volume delineation work conducted in the South Slave area by the LLRWMO in 2004 and 2006, suggest that the potential volume of unconsolidated historic waste is approximately 7,000 m³.

In late summer 2006, the LLRWMO initiated a program to address the long-standing

commitment for the removal of historic waste from Tulita. The LLRWMO packaged 900 m<sup>3</sup> of uranium-impacted soil in anticipation of the transfer of these materials to an acceptable location for the long term.

### **2007-2008 ACTIVITIES**

In early October 2007, the LLRWMO participated in a sequence of inter-agency meetings convened by Natural Resources Canada (NRCan) in Yellowknife to discuss potential waste management options that would address the remaining historic wastes located in the Sahtu and South Slave segments of the NTR.

At the request of NRCan, the LLRWMO provided technical support to Indian and Northern Affairs Canada (INAC) Phase IIIA Environmental Site Assessment at the Sawmill Bay site in the Northwest Territories. The LLRWMO team measured and documented surface gamma radiation levels throughout selected areas of the Sawmill Bay site.

In regard to the Tulita historic waste, the LLRWMO initiated discussions and planning to remove the waste material from the Hamlet of Tulita during the 2008 navigation season on the Mackenzie River.

### What is low-level radioactive waste?

In Canada, **low-level radioactive waste** (LLRW) 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 LLRW. Most of Canada's LLRW 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. The LLRW 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 for its long-term management.

### FORT McMurray

### **BACKGROUND**

For a 25 year period between the mid 1930s and 1960, uranium and radium ore was shipped by barge from Great Bear Lake, NWT, through a system of lakes and rivers to docking sites at Waterways (now Fort McMurray, Alberta) where it was loaded onto rail cars for shipment to the refinery in Port Hope, Ontario. The accidental spillage of the ores during loading operations resulted in the contamination of several sites, within the community.

The LLRWMO first began remedial efforts in Fort McMurray in 1992. 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<sup>3</sup> of marginally contaminated soil from several sites in this northern Alberta city.

The waste is now located in an engineered storage facility within Fort McMurray's Beacon Hill landfill property. This facility is maintained and monitored by the LLRWMO through an annual monitoring program conducted pursuant to an agreement between the LLRMWO and the Regional Municipality of Wood Buffalo and consistent with CNSC requirements.

### **2007-2008 ACTIVITIES**

The annual inspection for the Fort McMurray facility was conducted in mid-summer 2007 by LLRWMO personnel in selected locations on the management site within the Municipality's Beacon Hill landfill property.

The inspection included visual inspections of the slopes for slumping, the perimeter fence, wells and ground water level monitoring and sampling, a gamma radiation survey, in addition to replacement of the passive radon monitors.

The 2007 monitoring results indicate that there are no effects on the surrounding environment. The monitoring is carried out in accordance with CNSC requirements.

# TORONTO (MALVERN)

### **BACKGROUND**

Radium-contaminated soil was discovered in 1980 on residential properties and in 1990 on development lands in the urban community of Malvern in Toronto, ON. Between 1995-1996, the LLRWMO undertook a full-scale remediation of the development lands and residential property sites. The LLRWMO moved the marginally contaminated soil to an engineered storage mound, known as the Passmore Avenue Temporary Storage Site. The licensable material was separated from the contaminated soil and transferred to the LLRWMO's licensed storage facility at CRL.

The LLRWMO established a construction monitoring program, modelled in part after the Port Hope experience, to ensure that future municipal servicing projects or construction in the vicinity of the remediation sites would identify unexpected occurrences of related contamination.

The LLRWMO monitors the Passmore Avenue Temporary Storage Site on a yearly basis under a cost recovery program with the Province of Ontario. Monitoring results are reported annually to the City of Toronto, the CNSC, the Ontario Realty Corporation and the Ontario Ministry of the Environment and provided to the Malvern Public Library.

### **2007-2008 ACTIVITIES**

Environmental monitoring reports for the last ten years clearly indicate that the storage of mildly contaminated soil is not adversely impacting the local environment. Therefore in April 2007, in consultation with the CNSC, the LLRWMO revised the frequency of the monitoring program at the Passmore Avenue site from monthly to quaterly sampling. The results for the 2007-08 program were consistent with the results from the previous ten years.

Continued...

### Continued from Page 6

The LLRWMO continues to carry out the environmental monitoring program demonstrating continued compliance with Malvern Remedial

Project (MRP) Action Levels and ensures that mitigative measures are initiated, if levels are exceeded.

### OTHER HISTORIC WASTE PROGRAM ACTIVITIES

The LLRWMO hosts regular meetings, chaired by the CNSC, to keep NRCan and the LLRWMO abreast of licensing issues and to maintain and strengthen working relationships. Regular meeting topics include updates on regulatory changes, the PHAI, and the status of projects elsewhere in the country.

The LLRWMO continues to provide radiological inspections and assessments (and removal where required) on public and private properties, providing the owners with the necessary information, guidance and support regarding the remediation of their properties.

### Peterborough

 LLRWMO field staff from Port Hope conducted follow-up surface and sub-surface gamma radiation monitoring as part of a geotechnical investigation of properties adjacent to a previously remediated site. The monitoring programs did not find any impacted material.

### **Toronto Area Properties**

 The LLRWMO completed extensive radiological monitoring and decontamination work with the removal of radium contaminated materials during interior renovations at a downtown Toronto building, formerly the site of a radium-dial painting operation.  On a rural property near Toronto, the LLRWMO field staff from Port Hope supervised the removal of material from the ground floor of one of the buildings on the property. Guidance provided by the LLRWMO included radiation protection briefings, issuance of personal protective equipment, and radiological monitoring during the work.

### Other Radioactive Material

- The LLRWMO advised a recycling company in Burnaby, BC on how to deal with a bale of scrap metal that had set off their facility's portal monitor.
- A private citizen contacted the Office regarding design specifications for a sub-floor radon ventilation system for his home near Belleville, ON.
- The Canadian Real Estate Association contacted the Office regarding available technologies for the measurement of radon in homes. The LLRWMO provided details on the various types of monitoring equipment available.
- LLRWMO advised a number of building officials on radon testing equipment and consulted on building code requirements following reduction in Health Canada's standard from 800 to 200 Bequerels per cubic metre of air.

# PORT HOPE AREA INITIATIVE: PROJECTS - ENVIRONMENTAL ASSESSMENT

### **BACKGROUND**

The Port Hope Area Initiative is a communitybased program for the development and implementation of a safe, local long-term

management solution

for the historic LLRW in the Municipalities of Port Hope (the Port Hope Project) and Clarington (the Port Granby Project). In 2001, NRCan and the municipalities

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

entered into a Legal Agreement for the management of historic LLRW, within the communities, in aboveground facilities designed to last several hundred years.

The Environmental Assessment (EA) of the Port Hope Project resulted in the recommendation to consolidate all of the historic LLRW into a single facility at the site currently occupied by the Welcome Waste Management Facility and the adjacent auto recycling operation.

The Port Granby Project EA determined that the recommended approach was to remove the LLRW from its current location on the shore of Lake Ontario and transport the waste north to a new facility on a neighbouring site about 700 m away from the lake.

### **2007-2008 ACTIVITIES**

### Port Hope

Following acceptance of the EA by the Responsible Authorities (RAs) (NRCan, CNSC and Fisheries and Oceans Canada) in March 2007, the LLRWMO focused its attention on the preparation of the Licensing Submission.

The Licensing Submission will include an environmental management and protection program intended to fulfill the requirements of the Nuclear Safety and Control Act and supporting regulations. In fulfilling these regulatory requirements the program will also be fulfilling the majority of the Followup Program requirements outlined in the Screening Report for the Port Hope Project.

In August 2007, the LLRWMO submitted a

proposal to NRCan outlining an approach to the development of the Port Hope Project EA Followup Program. The proposal included recommending that an approach be taken allowing the federal authorities that expressed an interest in participating in the development of the Followup Program, the opportunity to provide feedback.

The EA Followup Program was separated into two different monitoring streams in recognition of the different processes and authorities responsible for the various followup activities. The environmental components and considerations will be addressed partly through the environmental management and protection requirements of the licensing process led by the CNSC. A review will be conducted by NRCan on the Followup activities related to potential effects on the socio-economic environment, as well as any effects on the biophysical environment not addressed by the CNSC.

In March 2008, the required assessments and analyses were completed to demonstrate that changes made to the engineering design of the Project subsequent to the completion of the EA Study Report (as well as the rendering of the federal EA Decision) did not alter the validity of the EA conclusion, i.e., no likely significant adverse effects.

# **Port Granby**

Throughout summer 2007 the LLRWMO continued its focus on the resolution of federal/provincial review comments on the Port Granby Project EA Study Report.

In August 2007, the LLRWMO submitted Revision 1 of the Port Granby Project EA Study Report to the RAs, federal and provincial

# PORT HOPE AREA INITIATIVE: PROJECTS - ENVIRONMENTAL ASSESSMENT

agencies and other key stakeholders. Upon review of the revised report, many RAs and agencies indicated that they had no further comments with the exception of the feedback on the revisions from the CNSC in late 2007. Most of the efforts to disposition the CNSC comments on the EA Study Report were accepted. However, there were some outstanding comments relating to water treatment requirements at both the current and the proposed facilities for Port Granby.

During the process of resolving issues raised, it was agreed that for a limited few issues, the LLRWMO's response would be provided in an Addendum Report to the EA Study Report Revision 1.

In fall 2007, the LLRWMO commissioned a technical assessment to address the issue of Water Treatment Requirements and aqueous discharge objectives applicable to the Port Granby Project. This first stage was completed in March 2008.

### PORT HOPE AREA INITIATIVE: PROJECTS - LICENSING

### **BACKGROUND**

The LLRWMO is preparing a series of documents for submission to the CNSC in support of an application for obtaining a waste nuclear substance licence for the Port Hope Project. In February 2007, a series of licensing submissions were made that included information relating to radiation protection, health and safety, environmental protection, security and emergency management.

### **2007-2008 ACTIVITIES**

During 2007-2008, the LLRWMO focused on the dispositioning of comments received on the February 2007 submission as well as the remaining licensing submission documents. One principal activity was to advance the development

of the "safety case" and supporting documents for the Port Hope Project. The safety case, once complete, requires approval and review by AECL's Safety Review Committee.

Beginning late fall 2007 and early next fiscal year the focus of activity under licensing will be the finalization of the Licensing Manual and supporting documents which will complete the formal licence submission to the CNSC.

Other Port Hope Project licensing activities include follow-up on engineering and design changes, a cleanup verification report, and completion of the Port Hope Harbour Waste Excavation Management Plan confirmation studies and the Port Hope Facility Water Treatment development studies.

### PORT HOPE AREA INITIATIVE: INTERIM WASTE MANAGEMENT PROGRAM

### **BACKGROUND**

For over twenty years, the LLRWMO has overseen the interim management of historic LLRW in Port Hope on behalf of the federal government. Currently, there is LLRW at four licensed sites and nine major unlicensed sites. The LLRWMO provides regular inspection and ongoing monitoring of these sites and any sites that are discovered during routine construction.

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).

The LLRWMO operates the CMP in cooperation with the Municipality of Port Hope. 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 (PSE TSS).

### PORT HOPE AREA INITIATIVE: INTERIM WASTE MANAGEMENT PROGRAM

The LLRWMO also operates the PCP which responds to inquiries regarding the radiological status of properties and provides information to property owners, their real estate agents, or their lawyers.

# The Interim Waste Management **Program in Port Hope comprises:**

**CMP** Construction Monitoring Program **PCP** Property Compliance Program

**Environmental Monitoring Program EMP** 

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

Over the past year,

geothermal heating and cooling systems have increased in popularity in the Port Hope area but building permits are not required for these inground systems. The LLRWMO, therefore added area geothermal suppliers to the "Call before you dig" contractor notification list.

The PCP ensures timely production of radiological status letters, the collection of new radiological data to update individual property files and cleanup of properties that exceed the criteria for remedial action.

Through the EMP, the LLRWMO regularly monitors the environment in the vicinity of major licensed and unlicensed historic LLRW sites in Port Hope. The monitoring results of the licensed sites are reported to the CNSC on an annual basis.

### **2007-2008 ACTIVITIES**

# **Construction Monitoring Program**

Under the CMP, a total of 283 m<sup>3</sup> of contaminated soil was excavated and transported to the licensed PSE TSS in the Municipality of Port Hope.

The importance of the CMP in the local community is reflected in the sustained activity levels year to year. Personnel from the LLRWMO followed-up on 186 requests from CMP services during 2007-2008.

The volume stored at the PSE TSS on both Pad I and Pad II combined is now approximately 6,850 m<sup>3</sup>, slightly over 50 percent of the licensed

# **Property Compliance Program**

In 2007-2008, the LLRWMO conducted 72 property surveys and issued a total of 629 radiological status letters. Approximately 221 of these letters were dealing with properties outside of Port Hope, mostly in the Greater Toronto Area and other areas in southern Ontario.

### **Environmental Monitoring Program**

The LLRWMO conducts environmental monitoring at 5 licensed sites and 13 unlicensed sites in Port Hope. Parameters measured monthly include radon in air, gamma radiation, radium/ uranium/ arsenic in ground and surface water, and groundwater levels.

The LLRWMO conducted 216 site inspections in addition to the annual inspections performed at the licensed sites by the CNSC.

# 2007-2008 INTERIM WASTE MANAGEMENT SUMMARY

| CMP Surveys                               | 186 |
|---|-----|
| PCP-originated Property Surveys           | 72  |
| Soil Volume to the PSE TSS (m³)           | 283 |
| Radiological Status Letters               | 629 |
| Non-Port Hope Radiological Status Letters | 221 |
|   |     |

### PORT HOPE AREA INITIATIVE: COMMUNICATION AND INFORMATION INITIATIVES

### **BACKGROUND**

For twenty five years the LLRWMO has conducted remedial projects across Canada and has provided open and transparent information and communication to communities and other stakeholders.

For the PHAI, the LLRWMO continues to provide information to the public and other stakeholders through its Project Information Exchange (PIE) office, presentations to the municipal councils, community groups, staff, public and on its website.

Throughout the preparation of the EA studies for both projects, the LLRWMO proactively communicated and consulted with Port Hope and Clarington residents. In addition to hosting workshops, open houses and meetings, LLRWMO employees staffed booths during home shows and fall fairs 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.

The LLRWMO worked closely with municipal staff and the public on issues related to the PHAI.

Numerous local media articles combined with 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.

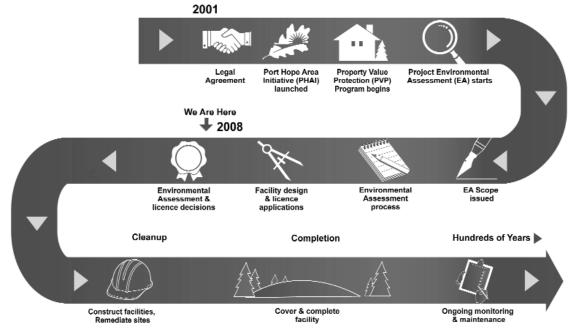
Awareness of the projects is also developed through interviews and briefings with key stakeholders such as elected officials, First Nations representatives and nearby residents. The LLRWMO continues to provide briefings on both projects to the area Members of Parliament (MP) and Members of Provincial Parliament (MPP).

The Port Hope PIE office is also a satellite repository for information and documents on the Public Registry for the EA of the Port Hope and Port Granby projects.

### **2007-2008 ACTIVITIES**

The LLRWMO continues to strengthen ties with the local real estate agencies providing liaison

### Port Hope Area Initiative Project Status



# PORT HOPE AREA INITIATIVE: COMMUNICATION AND INFORMATION INITIATIVES

within the community to facilitate information reaching home-buyer service providers such as local lawyers and mortgage vendors.

The Office continues to provide regular Project updates to Port Hope and Clarington stakeholders including the public, area MPs, MPPs and local officials. Direct contact with the LLRWMO is handled through the PIE, website, briefings and mail-outs.

The LLRWMO key communication activities to increase better understanding and support of the PHAI among the public include regular meetings and strategic dialogue with municipal and other government stakeholders. Some highlights of ongoing communication initiatives include:

- Facilitation of community dialogue through discussion and advisory groups;
- Production and distribution of Project specific newsletters and other publications;
- Presentations to local officials and community groups;
- LLRWMO attendance at local fairs and trade shows;
- Production of displays on the liner systems for the facilities;
- Public attitude surveys;
- Public open houses and workshops; and,
- Media relations.

# 25th Anniversary of the LLRWMO

On October 26, 1982, the Federal Cabinet approved the establishment of a new office to carry out the federal government's responsibilities for LLRW in Canada. The Office was designated as the LLRWMO and AECL was assigned the responsibility for its operation. The Office's mandate includes resolving historic waste problems that are a federal responsibility and addressing general public information needs about LLRW. The broad mandate for the Office ensures that federal responsibilities for LLRW management in Canada are discharged in a timely and economical manner. Through a cost recovery agreement with NRCan, AECL continues to provide the staff, support services, and facilities to develop and implement LLRWMO programs and projects.

Over the past 25 years the Office has successfully directed and overseen remediation activities on numerous projects, varying in size, throughout Canada.



# **LLRWMO** highlights over the past 25 years.

- Scarborough 1982 1996
- McClure Crescent cleanup
- McLevin Avenue cleanup
- Passmore Avenue Mound
- Surrey 1984 2000:
- Surrey Siting Task Force
- Thornton Yard cleanup
- Anvil Way cleanup
- Fort McMurray & NTR 1992 - Present:
- Northern Transport Route Investigation
- Fort McMurray cleanup
- Waterways cleanup
- Beacon Hill Mound
- Tulita cleanup

### Port Hope 1982 - Present:

- Consolidations at Rollins & Strachan Ravines
- Construction Monitoring Program
- Support Siting Task Force & Community liaison Groups
- Interim Waste Management Program
- MOU & Legal Agreement Development
- Proponent for Port Hope Area Initiative
- **Greater Toronto Area**
- Communication & Information Initiatives
- International Recognition

# PORT HOPE AREA INITIATIVE: PROPERTY VALUE PROTECTION PROGRAM

### **BACKGROUND**

Established as a requirement under the Legal Agreement for the PHAI, the Property Value Protection (PVP) Program was launched in October 2001. The PVP Program is designed to compensate owners of

# Key features of the PVP Program include:

- A claim process;
- · An appeal process; and
- Independent Compensation Officers to hear appeals.

residential, commercial or industrial properties in designated parts of the municipalities of Port Hope and Clarington if they realize a financial loss on the sale or rental of their property or experience mortgage renewal difficulties as a result of the PHAI. Key features of the program include a uniform claim process, a two-stage appeal process and the appointment of independent Compensation Officers to hear appeals. The municipal councils of Port Hope and Clarington consider the PVP Program to be an important socio-economic mitigation measure.

### **2007-2008 ACTIVITIES**

The PVP program continued to provide property owners with information and assistance, particularly in cases where properties have a potential for project-related effects and appear difficult to sell.

The area real estate market remained strong throughout the 2007-2008 year, consistent with baseline communities showing no evidence of generalized effects related to the projects.

The PVP Program office met with potential claimants to explain the PVP process. To date 14 claims have been made:

- ← Eight claims approved in full (or part)
- *◄* Six standard claims were denied in full.
- ✓ Two of the six denied claims were appealed at a mediation hearing.
  - $\triangleleft$  of the two decisions appealed;
    - one resulted in the Compensation

- Officer ordering partial compensation be paid, and
- one resulted in the Compensation Officer upholding the PVP decision not to award compensation.

In all cases where the PVP program denied compensation, it was because it found, on analysis, that there had been no general or specific effect of the PHAI.

Within the fiscal year 2007-2008 two requests for pre-sale appraisals were approved. The PVP Program also received a conditional claim for loss on sale resulting in compensation award approval.

Available statistics for 2007 show that real estate prices and the average days it took to sell a property within the project area remained consistent with other nearby communities that would not be affected by the Initiative. In urban Port Hope, where numerous sales can be tracked, the PVP office observed healthy gains in residential prices and no clear evidence of a generalized effect related to the Project.

As part of its ongoing communications and stakeholder relations efforts, program staff provided updates and consulted with elected officials, stakeholder groups, residents and prospective property owners. Throughout the year, PVP staff worked to improve the quantity, accuracy and analysis of available real estate sales data and worked closed with many realtors.

Overall, the PVP Program continues to respond quickly to ensure the role of the program, as established by the Legal Agreement for the projects, is fulfilled.

### ONGOING WASTE PROGRAM

Electrical utilities, nuclear research organizations, nuclear fuel manufacturers, and the producers and users of medical and other radioisotopes continue to generate LLRW. These producers are responsible for the wastes they produce.

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 International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency of the Organization for Economic Co-operation and Development.

The LLRWMO continued to distribute its publication entitled "Inventory of Radioactive Waste In Canada" upon request and to address questions from the public and stakeholders on general radioactive waste issues. In the fourth quarter of this fiscal year the LLRWMO began the work to compile the data for the next version of the "Inventory of Radioactive Waste In Canada" which will include reporting inventory levels up to December 31, 2007. The update will be complete with publication and distribution occurring in the latter part of the upcoming fiscal year 2008-2009.

The Office continued to support the NRCan Country Coordinator with respect to the data entry for the Net Enabled Waste Management Database (NEWMDB) of the International Atomic Energy Agency.

### 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<br>NUMBER & TYPE  | DESCRIPTION  | EXPIRATION DATE               |
|---|---|--|-------------------------------|
| Port Hope Field Services<br>Office Laboratory   | 20004-7-11.2 Nuclear Substances<br>& Radiation Devices Licence  | Licence for the LLRWMO Laboratory in Port Hope   | Sept 30, 2011                 |
| Pine Street Extension<br>Temporary Storage Site | WNSL-W1-182.0/2011, Waste<br>Nuclear Substance Licence          | Licence for the Pine Street Extension Temporary Storage Site in Port Hope, Ontario   | Dec 31, 2011                  |
| Port Hope Waste<br>Management Facility          | WNSL-W1-344-1.4/ind, Waste<br>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 |
| Historic Waste<br>Remediation Operations        | WNSL-W2-2202.1/2016, Waste<br>Nuclear Substance Licence         | Historic low-level radioactive waste management at Canadian sites.   | Nov 30, 2016                  |
| X-Ray Fluorescence<br>Analysis                  | 20004-15-11.0 Nuclear Substances<br>& 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, 2011                  |

A further five 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 Stockpile.

### 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 telephone, letter, e-mail and in person. The LLRWMO's web site received over 4,500 visits per month in 2007-2008. On a daily basis, 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.

In the final quarter of this fiscal year, the LLRWMO provided significant support to federal authorities in their development of responses to five Auditor-General petitions and other public information requests.

### **A**CRONYMS

AECL: Atomic Energy of Canada Limited MP: Member of Parliament

CMP: Construction Monitoring Program MPP: Member of Provincial Parliament

CNSC: Canadian Nuclear Safety Commission NEWMDB: Net Enabled Waste Management Database

CRL: Chalk River Laboratories NRCan: Natural Resources Canada EΑ **Environmental Assessment** NTR: Northern Transportation Route EMP: **Environmental Monitoring Program** PCP: Property Compliance Program IAEA: International Atomic Energy Agency PHAI: Port Hope Area Initiative

INAC: Indian & Northern Affairs Canada PIE: Project Information Exchange

LLRW: Low-Level Radioactive Waste PSE TSS: Pine Street Extension Temporary Storage Site

LLRWMO: Low-Level Radioactive Waste Management PVP: Property Value Protection Office

Office RA: Responsible Authority

MOU: Memorandum of Understanding

### 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, 2008. The table illustrates how funding provided by NRCan was allocated to the LLRWMO's mandated business lines in 2007-2008. For comparison, 2006-2007 is also provided.

# FINANCIAL REVIEW

|   |           | Total Expenditure (\$ THOUSANDS) |  |
|---|-----------|----------------------------------|--|
| HISTORIC WASTE PROGRAM                                |           |                                  |  |
| Program Areas   | 2006-2007 | 2007-2008                        |  |
| PORT HOPE AREA INITIATIVE                             |           |                                  |  |
| Port Hope Area – Long-Term Management Projects        | 3 425*    | 2 871                            |  |
| Port Hope Area – Property Value Protection Program    | 258       | 245                              |  |
| Port Hope Interim Waste Management                    | 512       | 548                              |  |
| Subtotal: Port Hope Area Initiative                   | 4 195     | 3 664                            |  |
| Northern Sites Initiative                             |           |                                  |  |
| Fort McMurray   | 18        | 24                               |  |
| Northern Transportation Route                         | 552       | 140                              |  |
| Subtotal: Northern Sites Initiative                   | 570       | 164                              |  |
| OTHER HISTORIC WASTE INITIATIVES                      |           |                                  |  |
| Toronto (Malvern)                                     | 22        | 20                               |  |
| Historic Waste at Other Locations                     | 106       | 176                              |  |
| Subtotal: Other Historic Waste Initiatives            | 128       | 196                              |  |
| OTHER MANDATED ACTIVITIES                             |           |                                  |  |
| Ongoing Waste Program                                 | 15        | 29                               |  |
| Information Program                                   | 108       | 110                              |  |
| LLRWMO Restructure                                    | 467       | 63                               |  |
| Subtotal: Other Mandated Activities                   | 590       | 202                              |  |
| Less Cost Recovery from Ontario for Toronto (Malvern) | (22)      | (20)                             |  |
| TOTAL EXPENDITURES FOR NRCAN FUNDING                  | 5 461     | 4,206                            |  |

<sup>\*</sup> Includes Payroll variance credit

# AUDIT STATEMENT

Atomic Energy of Canada Limited 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.