

## **HISTORIC LOW-LEVEL RADIOACTIVE WASTE FEDERAL POLICIES, PROGRAMS AND OVERSIGHT**

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The management of radioactive waste is one of the most serious environmental problems facing Canadians. From the early industrial uses of radioactive material in the 1930s to the development of nuclear power reactors and the medical and experimental use of radio-isotopes today, there has been a steady accumulation of waste products. Historic waste is low-level radioactive waste for which the federal government has accepted responsibility for long-term management. This paper will outline the policy framework used to govern institutional and financial arrangements for the disposal of radioactive waste by waste producers and owners and the major radioactive projects in which the Government of Canada is currently involved. It will provide an overview of the organizations established for the management of historic radioactive waste and NRCan's oversight role. Finally, an overview of the historic waste program activities managed on behalf of the federal government through these organizations in the Port Hope area, the Greater Toronto Area, in Fort McMurray, Alberta and along the Northern Transportation Route is provided.

Canada's Policy Framework for Radioactive Waste, sets out principles that govern the institutional and financial arrangements for disposal of radioactive waste by waste producers and owners. According to the Policy Framework:

- The federal government will ensure that radioactive waste disposal is carried out in a safe, environmentally sound, comprehensive, cost-effective and integrated manner.
- The federal government has the responsibility to develop policy, to regulate, and to oversee producers and owners.
- The waste producers and owners are responsible, in accordance with the principle of "polluter pays", for the funding, organization, management and operation of disposal and other facilities required for their wastes. Arrangements may be different for nuclear fuel waste, low-level radioactive waste and uranium mine and mill tailings.

Natural Resources Canada's (NRCan's) Uranium and Radioactive Waste Management Division (URWD) provides policy direction and funding to two specific Offices within Atomic Energy of Canada (AECL), which operate on a cost recovery basis as NRCan's proponents for the management of historic waste: the Low-Level Radioactive Waste Management Office (LLRWMO), and the Port Hope Area Initiative Management Office (PHAI MO). For policy purposes historic waste is defined as low-level radioactive waste 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

The LLRWMO was established in 1982 as Canada's agent for the management of historic LLRW. Its ongoing mandate also includes the provision of public information on low-level

radioactive waste management generally. It provides services such as characterization, identification, management, remediation, and removal of LLRW soils, artefacts and structures as well as radiological, planning, and technical expertise in the field. Through oversight of these activities NRCan ensures the proper management of LLRW for which the federal government has accepted responsibility. The LLRWMO also operates community co-existence programs which facilitate safe occupancy and use of land and structures awaiting final remediation at various locations in Canada. Regulatory requirements are met in accordance with the requirements of the Canadian Nuclear Safety Commission (CNSC). From time to time new sources of contamination are identified, although this is now less frequent than when the LLRWMO was first established.

LLRWMO activities are carried out under three programs: historic waste, ongoing waste, and information. Under the Historic Waste program, the LLRWMO carries out cleanup and long-term management of this waste on behalf of the federal government. Through the Ongoing Waste program, the LLRWMO supports NRCan in its development and implementation of national policies and strategies for the disposal of wastes and in meeting its commitment to international organizations such as the International Atomic Energy Agency. The Information program addresses public information needs related to specific historic waste projects and to low-level radioactive waste management in general.

The PHAI MO was established in 2009 to perform similar activities as the LLRWMO but to focus solely on managing the clean-up of historic waste located in the Port Hope area where over 90% of Canada's known historic waste is located. The clean-up is being addressed through Canada's Port Hope Area Initiative (PHAI). The mandate of the PHAI MO to manage the implementation of the PHAI will extend through the completion of Phase 2 of the PHAI.

The PHAI MO is a tripartite organization, established within AECL and involving the participation of Public Works and Government Services Canada and NRCan. It is accountable to a Steering Committee, chaired by NRCan, which provides strategic direction. The PHAI MO activities are carried out under two primary projects – the Port Hope Project and the Port Granby Project. In addition to the construction of long-term waste management facilities and the remediation of sites contaminated with historic waste its responsibilities also include delivery of various community-related programs established under the PHAI

An overview of the historic waste program activities managed on behalf of the federal government through these organizations in the Port Hope area, the Greater Toronto Area, in Fort McMurray, Alberta and along the Northern Transportation Route is provided.

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