Canadian Decommissioning and Waste Management Activities

EnergySolutions Client Conference
Heather R. Kleb, Vice President CNA
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Overview
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Nuclear Fuel Waste

- Deep Geologic Repository
- Pickering Decommissioning
- Gentilly-2 Decommissioning
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Low & Intermediate Level Waste

- Deep Geologic Repository
- Nuclear Legacy Liabilities Program
- Port Hope Area Initiative
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Uranium Mining and Milling Waste
Canadian Nuclear Association

- Established in 1960 to represent the nuclear industry in Canada
- Promote the development and growth of nuclear technologies for peaceful purposes
- 100+ members, representing 60,000 Canadians employed directly or indirectly in the nuclear industry
Canada’s Decommissioning and Waste Management Sites
Nuclear Fuel Waste

- Governed by Canada’s 1996 Radioactive Waste Policy Framework and “Polluter Pays” principle
- Established a national approach to long-term management of used nuclear fuel
- Licensed for interim storage at reactor sites under the *Nuclear Safety and Control Act*
- Long-term management governed by the 2002 *Nuclear Fuel Waste Act*
Deep Geologic Repository
Fuel Waste

- Established the Nuclear Waste Management Organization in 2002
- Selected Adaptive Phased Management approach to the development of Deep Geologic Repository
- 20 Ontario and Saskatchewan sites to be assessed for suitability by the end of 2014
- Final selection phase to be carried out in next 3-5 years, prior to seeking regulatory approvals
Pickering Nuclear Generating Station

- Ontario Power Generation’s 8 reactors located on North shore of Lake Ontario in Pickering, Ontario
- Licensed to operate 6 reactors (2 in safe storage) until 2020
- Targeted for deferred decommissioning with 30 years safe storage prior to dismantling, demolition, and site restoration
Gentilly Nuclear Generating Station
Gentilly Nuclear Generating Station

- Hydro-Quebec’s 2 reactors located on the South shore of the St. Lawrence River in Bécancour, Quebec
- Gentilly-2 reactor shut down in December 2012 for transitioning to safe storage by mid-2014 and eventual decommissioning
- Also host to partially decommissioned prototype power reactor Gentilly-1, which is awaiting dismantling
Low and Intermediate Level Waste

• Governed by Canada’s 1996 Radioactive Waste Policy Framework and “Polluter Pays” principle

• Adopted regional solutions for low and intermediate level waste (L&ILW)

• Licensed under the Nuclear Safety and Control Act for the handling and disposal of waste
Deep Geologic Repository

- Ontario Power Generation’s proposed Deep Geologic Repository to be located adjacent to the Western Waste Management Facility on Lake Huron, in Ontario
- Completed Environmental Assessment and Site Preparation and Construction Licence hearings in October 2013
- Site to be prepared and Deep Geologic Repository constructed over a 5-7 year period following receipt of approvals
Port Hope Area Initiative
Port Hope Area Initiative

- Atomic Energy of Canada Limited’s projects for the long-term management of historic low-level radioactive waste in Port Hope and Port Granby, Ontario
- Assumed responsibility for the Port Granby licence and amended Port Hope licence in 2012 to authorize remediation and construction activities
- In January 2012 Government announced decision to invest $1.28 billion over 10 years
Nuclear Legacy Liabilities Program
Nuclear Legacy Liabilities Program

- Atomic Energy of Canada Limited’s program for the management of Canada’s nuclear legacy liabilities such as:
  - Shutdown buildings at Chalk River Laboratories, Ontario to be decommissioned and dismantled
  - Partially decommissioned facilities at Whiteshell Laboratories, Manitoba
  - 3 partially decommissioned prototype reactors (2 Ontario, 1 Quebec) in storage with surveillance
  - In June 2006, Government committed $520M for first 5 years
Uranium Mining and Milling Waste
Uranium Mining and Milling Waste

- Governed by Canada’s 1996 Radioactive Waste Policy Framework and “Polluter Pays” principle
- Implemented regional solutions for uranium mining and milling waste, on site
- Safety and licensing issues governed by the Nuclear Safety and Control Act
Historic & Abandoned Mine Sites
Historic & Abandoned Mine Sites

- Joint initiative to clean up the legacy left by the former owners of the historical mining, refining, and manufacturing site at Deloro, Ontario.

- Joint Cleanup of Abandoned Northern Sites (CLEANS), including Gunnar, Lorado and 36 other uranium mine and mill sites in northern Saskatchewan.
Future of Decommissioning and Waste Management
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