



Update on Nuclear Waste Management and Deep Geologic Repository

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ONTARIOPOWER
GENERATION



Overview

NUCLEAR WASTE MANAGEMENT

STEWARDSHIP
LASTING SOLUTIONS
PEACE OF MIND

- Over 40 years of safe operation
- Knowledgeable and responsible stewards
- Responsibilities include:
 - Protection of the environment
 - Health and safety of persons
 - Maintenance of national security and safeguards

Stewardship



Type B Transportation Package

- Stewardship means safe and careful handling of the waste
- In 40 years, OPG has *never* had a transportation accident resulting in radioactive release or serious personal injury
- Waste minimization project:
 - Sorting materials for incineration, compaction, or (if zero radioactivity) recycling



Waste Sorting and Minimization



WWMF Licence Renewal



Aerial view of OPG's Western Waste Management Facility, and the site for the proposed DGR, at the Bruce nuclear site in Kincardine, Ontario.

- Applying to Canadian Nuclear Safety Commission to renew licence for next 10 years.
- Hearings in April 2017.
- Seeking licence to expand capacity at current site for continuing “business as usual.”
- Proposed DGR is not part of this licence process – it is a separate regulatory process.



PWMF Licence Renewal

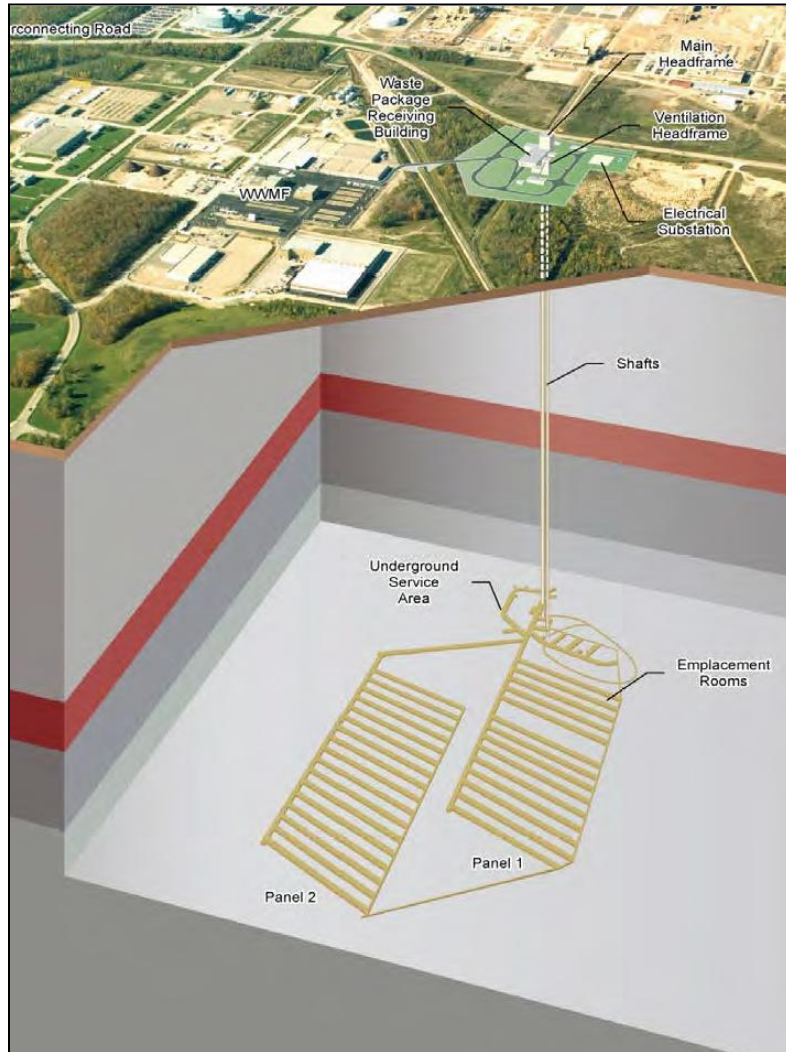


Aerial view of OPG's Pickering Waste Management Facility

- Applying to Canadian Nuclear Safety Commission to renew licence for next 11 years
- Hearings in April 2017
- Planned expansion of three additional used fuel dry storage buildings, and a new Dry Storage Container Processing Building
- To accommodate DSCs from Pickering until the end of commercial operation



Lasting Solutions – the DGR



- Deep Geologic Repository (DGR) will safely and permanently store all low- and intermediate-level waste from OPG-owned nuclear facilities
 - 680 meters underground in ancient, impermeable geologic formations
 - At the Bruce nuclear site
- Plan is supported by fact-based science and analysis
- Validated by a rigorous federal Environmental Assessment (EA) review



DGR – Regulatory Process



- In 2015, the federal Joint Review Panel report stated that:
 - Bruce nuclear site is appropriate for DGR
 - Public health and safety is protected
 - Lake Huron is protected
 - Project should proceed “now rather than later”
- In 2016, the federal Minister of Environment and Climate Change asked OPG for 3 additional reports – completed in December
 - Study on alternate locations found that environmental effects are greater at other locations, and costs are higher, with no additional benefits in safety to public or the environment



DGR – Next Steps

- Canadian Environmental Assessment Agency to prepare analysis and recommendations for federal Minister
- Minister's decision on EA expected by end of 2017
- Approval of the EA would be followed by:
 - OPG application for site clearance construction licence (2018)
 - Further design work
 - Construction – earliest completion would be 2026
 - Application for operating licence



Human Performance



Applying Lessons Learned

- Nuclear Waste Management division aligned with wider Nuclear Fleet
- Healthy nuclear safety culture
- Continuous improvement



Procedural Use and Adherence



Use of Event-free Tools



Environmental Stewardship



Stack Monitoring Equipment



Snake Winter Shelters



Meadowlark Breeding Area

- Environmental Management System certified to ISO 14001
- Emissions far below limits
- Supporting biodiversity initiatives

Public Safety



Full Response Capability



Drills and Training

- Comprehensive on-site and off-site emergency response capability
- Applying lessons learned from drills
- Fire Protection Program improvements

Public Information & Engagement



Hundreds of Tours Conducted



24 Newsletters Issued

- Commitment to openness and transparency
- Information provided on a regular basis using a range of tools:
 - Social Media
 - Community Newsletters
 - Website
 - TV Advertising

Indigenous Relations



On-going Support



Facility Tours to Build Understanding



On-going Engagement

- Effective Indigenous engagement program
- Committed to long-term, respectful, mutually beneficial relationships