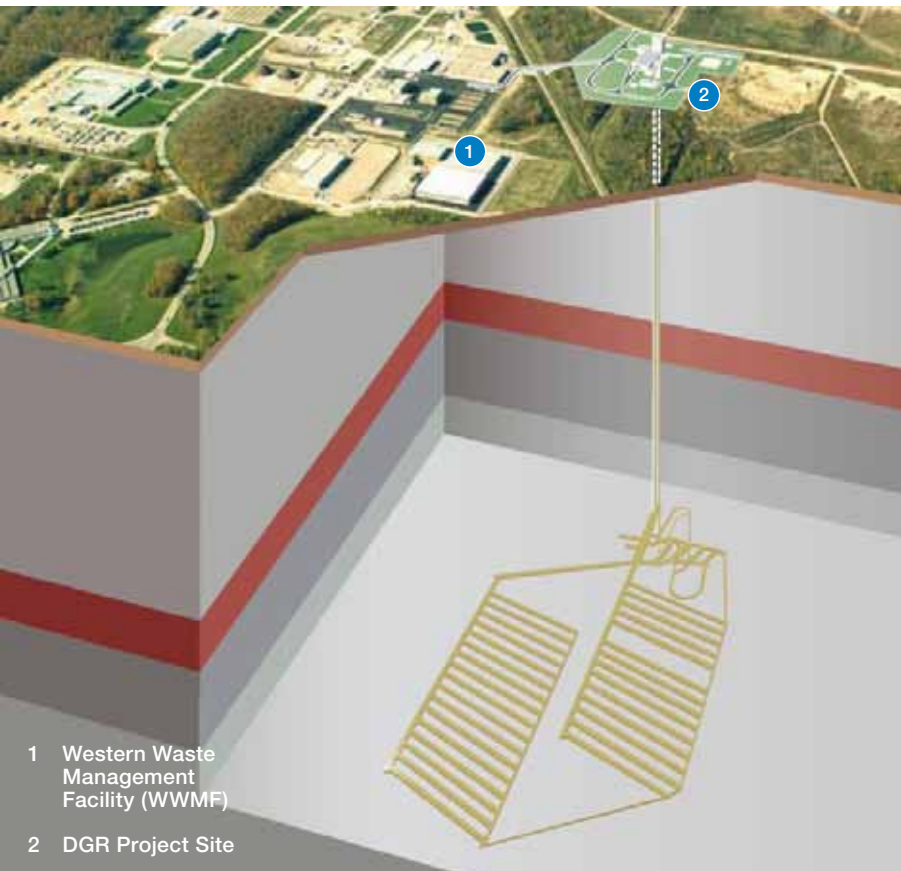


OPG's DEEP GEOLOGIC REPOSITORY PROJECT

For Low & Intermediate Level Waste



Ontario Power Generation (OPG), with the support of Bruce County municipalities, is proposing to construct and operate a Deep Geologic Repository (DGR) for the long-term management of low and intermediate level nuclear waste.

The Low and Intermediate Level Waste (L&ILW) DGR will be located adjacent to OPG's Western Waste Management Facility (WWMF) at the Bruce nuclear site, in Kincardine, Ontario. The DGR facility would manage about 200,000 cubic metres of low and intermediate level waste. Only low and intermediate level waste from OPG-owned or operated nuclear generating stations in Ontario will be accepted in the DGR. Under a separate process, the Nuclear Waste Management Organization (NWMO) is responsible for implementing Adaptive Phased Management, for the long-term management of used fuel.



L&ILW DGR Overview

ONTARIO **POWER**
GENERATION

OPG's Western Waste Management Facility (WWMF) currently manages and provides interim storage for the low and intermediate level waste that is received from OPG's Pickering and Darlington nuclear stations and the Bruce Power stations. Much of the waste that will be placed in the DGR is already at the WWMF – safely stored on site in engineered storage structures.

Western Waste Management Facility



- 1 Low level storage buildings
- 2 Waste volume reduction building
- 3 Transportation package maintenance building
- 4 In-ground intermediate level waste storage containers
- 5 Intermediate level waste above-ground storage quadricells
- 6 Used fuel dry storage facility
- 7 Refurbishment waste storage buildings
- 8 Proposed site of L&ILW DGR

What is low and intermediate level waste?

Low level waste consists of industrial items that have become contaminated with low levels of radioactivity during routine clean-up and maintenance activities at nuclear generating stations. Low level waste includes items such as mop heads, cloths, paper towels, floor sweepings and protective clothing. Low level waste may be processed through incineration or compaction to reduce its volume before storage. Intermediate level waste consists primarily of used reactor core components and resins and filters used to purify reactor water systems. Of the total amount of low and intermediate level waste received at the WWMF, ninety-five percent of the waste is low level and five percent is intermediate level.



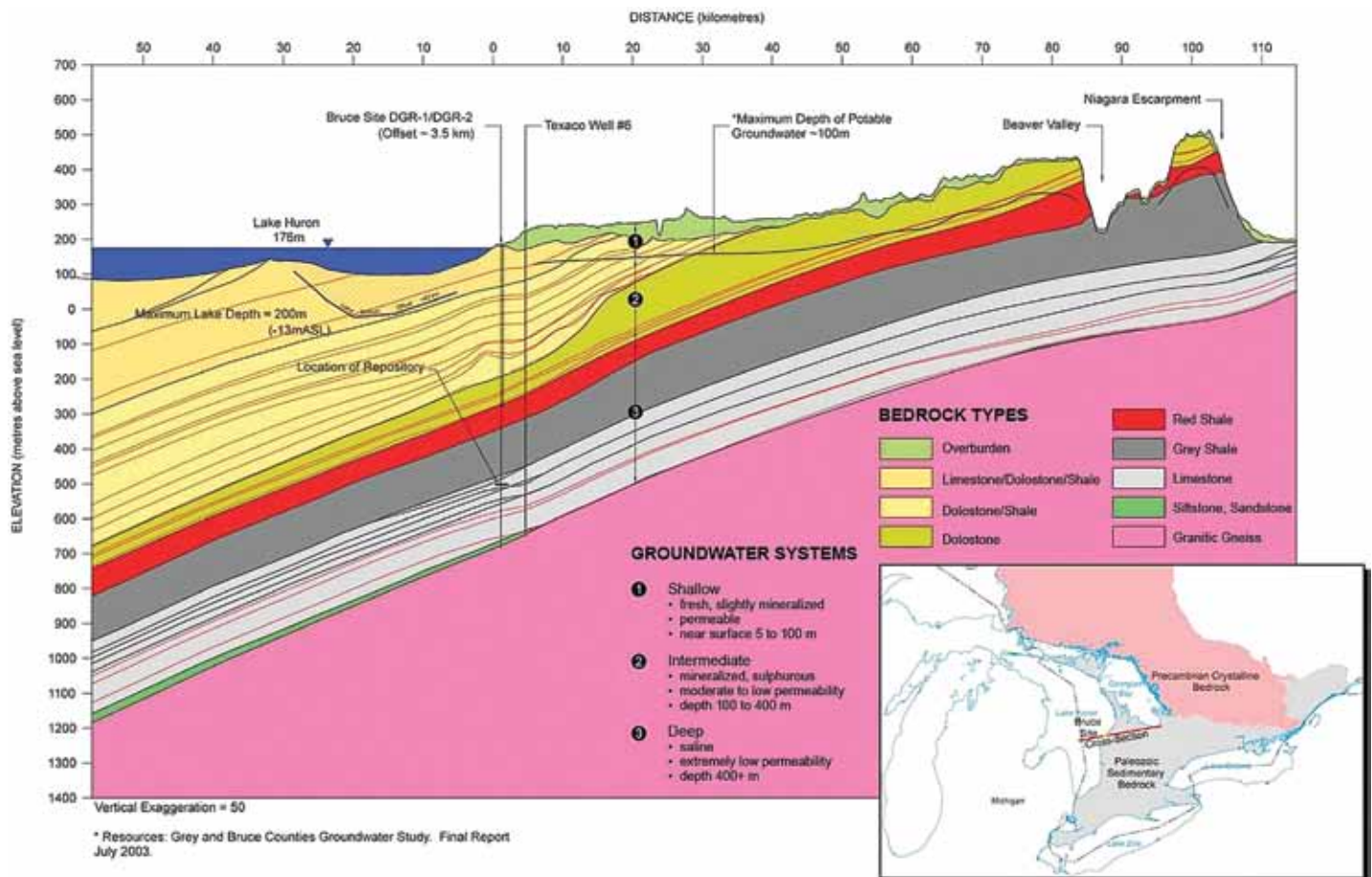
TOP: Low level waste being received at the WWMF

BOTTOM: Intermediate level waste being lowered into an in-ground storage container at the WWMF

DEEP GEOLOGIC REPOSITORY ENVIRONMENTAL AND SAFETY CASE

The DGR is proposed to be located about 680 m (2230 feet) below ground surface in low permeability limestone, beneath a 200 m (660 feet) thick layer of low permeability shale. These sedimentary bedrock formations, that provide multiple natural barriers, will safely isolate and contain the low and intermediate level nuclear waste for many thousands of years and beyond.

GEOLOGIC SETTING FOR THE DEEP GEOLOGIC REPOSITORY



Key elements that provide confidence in the safety of the DGR and protection of the public include:

- The DGR is isolated from surface and drinking waters;
- Low permeability rock formations under and above the DGR provide multiple natural barriers to safely isolate and contain the waste;
- The 450 million-year-old rock formations have remained stable through tectonic events, climate changes and several ice ages, and are expected to remain stable for at least the next few million years;
- The DGR site is within the tectonically stable interior of the North American continent, which is a region characterized by low rates of seismicity where large magnitude earthquakes are unlikely;
- The radioactivity in the low and intermediate level waste will decay with time; most of the waste volume contains primarily shorter-lived radionuclides; and
- The properties of the host rock and shaft seals will limit the movement of radioactivity to very slow rates.

REGULATORY APPROVAL PROCESS

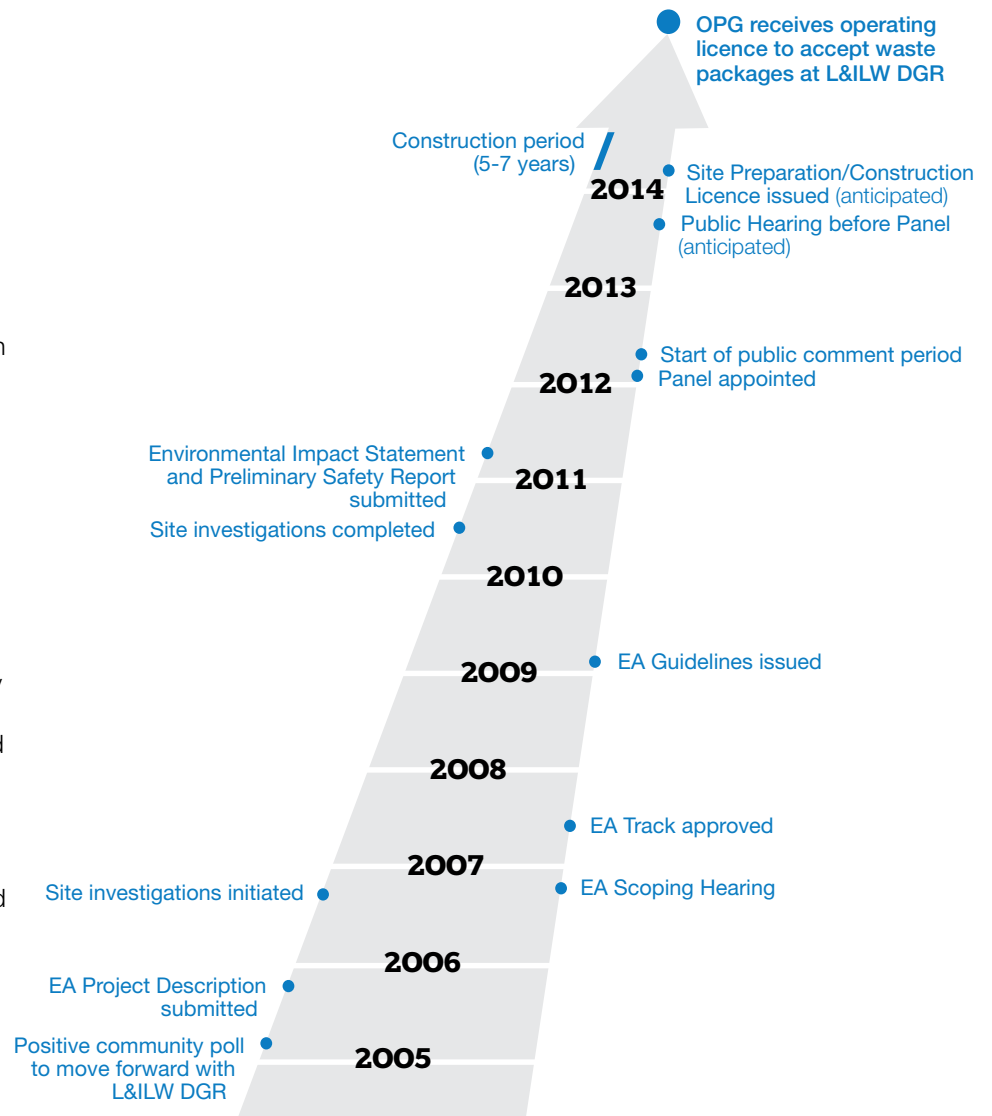
The DGR Project began in 2001 when the Municipality of Kincardine approached OPG to enter into preliminary discussions on the long-term management of low and intermediate level waste. In late 2005, following completion of an Independent Assessment Study, negotiation of a Host Community Agreement, and community poll indicating support for moving forward with the project, the regulatory approvals process for the DGR was initiated with the submission of the DGR Project Description.

A Scoping Hearing was held in 2006, and in 2007 the Minister of the Environment referred the environmental assessment (EA) for the Project to a Joint Review Panel (JRP).

In 2010, the DGR's four year program of studies, investigations and analyses was completed. Detailed findings are presented in the Environmental Impact Statement (EIS) and Technical Support Documents. These documents, along with the Preliminary Safety Report (PSR) and supporting documents, can be accessed at www.opg.com/dgr and www.ceaa-acee.gc.ca.

The EIS, PSR and supporting documents were submitted to the JRP in April 2011. Following the public comment period, the JRP will hold a public hearing, anticipated in 2013, where stakeholders will have the opportunity to present their feedback on the DGR Project.

Pending licensing approval, site preparation and construction of the DGR is anticipated to take approximately five to seven years to complete.



DGR EIS CONCLUSION

The conclusion of the EIS – taking into consideration the proposed design and mitigation measures – is that the DGR Project will likely not result in any significant adverse environmental effects. Specifically, no significant adverse effects on the health and safety of workers, the public or non-human biota are anticipated. It is predicted that the DGR Project will result in beneficial socio-economic effects for the local and regional communities.