

Frequently Asked Questions about the DGR

What is low level waste (LLW)?

LLW consists of minimally radioactive materials that have become contaminated during routine clean-up and maintenance in the generating stations. Materials include mop heads, cloths, paper towels, floor sweepings and protective clothing. No special protection is required when handling LLW.

What is Intermediate level waste (ILW)?

ILW consists of resins and filters used to keep the reactors' water systems clean as well as irradiated reactor core components associated with the refurbishment of reactors. This waste is more radioactive than LLW and requires shielding to protect workers during handling.

What assurance does the public have that OPG's DGR for L&ILW won't accommodate used fuel?

OPG has a hosting agreement with the Municipality of Kincardine which specifically states the DGR is for L&ILW only from OPG- owned reactors. OPG's environmental assessment and licensing process are for L&ILW only. A federally-mandated approach for the long-term management of all of Canada's used fuel called Adaptive Phased Management, which is completely separate and distinct from OPG's DGR for L&ILW, is currently at the very beginning stages of implementation.

In the interim, where is low and intermediate level waste being stored?

All of the L&ILW generated by OPG-owned or operated nuclear generators has been safely managed, on an interim basis, at OPG's Western Waste Management Facility at the Bruce nuclear site in the Municipality of Kincardine for over 40 years.

How long does it take for the radioactivity to decay?

The majority of the waste in the DGR will be LLW. The activity in this waste will decay within about 300 years. The remainder of the waste is ILW. Most of the ILW radioactivity will decay over many thousands of years.

Why was the Bruce nuclear site selected as a potential site for the DGR?

The proposed site has both a willing host municipality and suitable geologic attributes – two components that international experience has shown are essential for the successful implementation of the DGR concept.

Why did the Municipality request the DGR for long-term management of L&ILW?

The Municipality of Kincardine requested the DGR by council resolution because the DGR offered the highest margin of safety and permanent storage for all the L&ILW and was in keeping with best international practices.

How will the DGR protect the public and the environment?

Low permeability, predictable and stable rock formations under and above the DGR provide multiple natural barriers in which to safely isolate and contain the waste.

What about seismic activity/earthquakes?

The Bruce nuclear site is located in a region characterized by low rates of seismicity where large magnitude earthquakes are unlikely. A network of seismographs continues to confirm that the DGR is located in a seismically quiet region.

How will the DGR protect our drinking water?

The DGR located in low permeability limestone at 680 metres – deeper than the CN Tower is tall - and overlain by a 200-metre-thick layer of low permeability shale is well isolated from drinking water resources found around 100 metres of the surface.

How will the DGR protect the Great Lakes?

The proposed DGR is about one kilometre inland from Lake Huron and more than 400 metres below the depth of the lowest point of Lake Huron near the Bruce nuclear site. The multiple natural barriers within the geology will safely isolate and contain the waste.

How do you know the DGR is safe for the environment and the public?

A four-year program of geoscientific investigations, safety assessment, engineering and design and environmental field studies in support of the environmental assessment process has concluded the DGR will not cause significant adverse effects to the environment or the public. This documentation will be the subject of a very thorough and robust regulatory and public review process, held in an open and transparent manner, to ensure the proposed DGR is safe for the public and environment.

Are there examples internationally of DGRs similar to what is being proposed for the Bruce nuclear site?

There are several examples of other countries that are utilizing geologic repositories for the safe management of their L&ILW, including Sweden, Finland and the United States.