Fact Sheet: Deep Geological Repository

In 2007, the Government of Canada, following the recommendations of the Nuclear Waste Management Organization (NWMO), chose Adaptive Phased Management as the long-term management solution for Canada’s used nuclear fuel. It is the NWMO’s responsibility to implement this management plan, which involves the construction of a deep geological repository (DGR) to store the used nuclear fuel.
Quick Facts about the DGR:

- It will be constructed at a depth of about 500 meters, depending on the geology of the site, in a stable crystalline or sedimentary rock formation.
- A willing and informed community will be required to host the repository site. The definition of what constitutes a “community” is a political entity such as a city, town, village, region, municipality, Aboriginal government, or a combination of these that is interested in the siting process. Private land owners are to be encouraged to work with the surrounding community and its accountable authorities. Municipal or Aboriginal communities interested in exploring the suitability of surrounding Crown land would be considered an “interested community” in collaboration with the provincial government. The provincial government could also be considered an interested community in the case of Crown land and unorganized territory in consultation with potentially affected Aboriginal peoples and nearby municipalities. Only communities that are interested in the project, and express this interest, will be considered.
- Site selection will be focused within the provinces directly involved in the nuclear fuel cycle: Saskatchewan, Ontario, Quebec and New Brunswick.
- The DGR will require a dedicated surface area of about 1x1 km or 250 acres. The subsurface area will be approximately 2.5 km by 1.5 km, or 930 acres.
- Used nuclear fuel containers will be transported through a series of shafts and tunnels to placement rooms, where they will be stored indefinitely but will remain retrievable until such a time as a future society decides to fill-in and close the repository and decommission the site.
- No foreign waste is to be stored at this facility.

The construction of the DGR, as well as transportation of used nuclear fuel to the DGR, may adversely affect Aboriginal and treaty rights. The NWMO has an obligation to consult with First Nations and will continue to work together with affected First Nations throughout the development of the project. The Crown has the duty to consult and if necessary, accommodate First Nations. The AFN will continue to play a supportive role to First Nations to ensure they are informed and have the capacity building funds to participate in the project, so the best decisions can be made for their communities.

For information about the multi-barrier containment of used nuclear fuel, see fact sheet on multi-barrier containment.