

# Key components of the repository

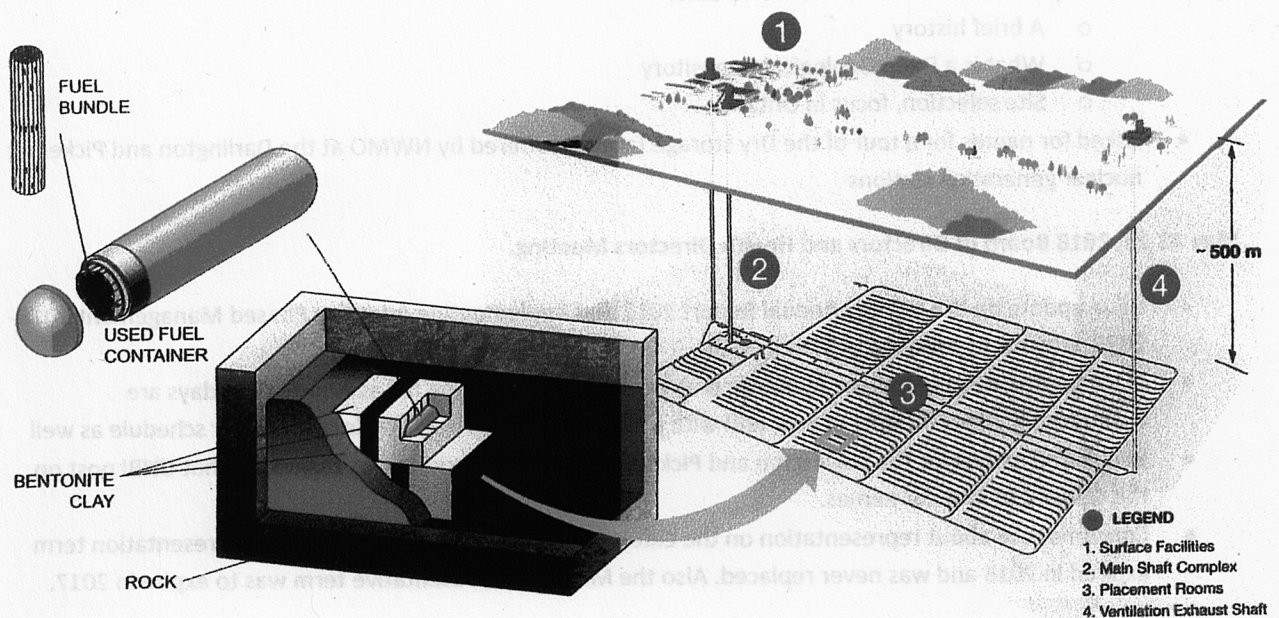
The deep geological repository is a multiple-barrier system designed to safely contain and isolate used nuclear fuel over the long term. It will be constructed at a depth of approximately 500 metres, depending upon the geology of the site, and consist of a network of placement rooms for the used nuclear fuel.

Surface facilities provide processes and equipment for receiving, inspecting, repackaging, and moving used fuel to the main shaft to transfer underground, as well as emplacement in the repository.

Before being transported underground to the repository, the used fuel is placed into specialized containers and encased in a bentonite buffer box in a Used Fuel Packing Plant. Once underground, these buffer boxes are to be stacked (e.g., two high) in the horizontal placement room, and any spaces are backfilled with bentonite pellets.

A robust safety case must be developed to demonstrate the project can be safely implemented, including transportation, and that it can meet or exceed the requirements of regulatory authorities.

For a more fulsome description of the project, please see *Description of a Deep Geological Repository and Centre of Expertise for Canada's Used Nuclear Fuel* at [www.nwmo.ca/backgrounders](http://www.nwmo.ca/backgrounders).



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