



Dear South Bruce Residents:

I am happy to introduce this issue of Ear to the Ground. I grew up on a Bruce County dairy farm on the Teeswater River, and have lived on a South Bruce farm for the past 21 years. I have five children and five grandchildren, most of whom also reside in South Bruce. I am concerned about protecting the environment from greenhouse gases and other pollutants, and have worked in the nuclear power industry for over two decades.

This Willing to Listen newsletter includes more of what we learned at the International Conference on Geological Repositories (ICGR). We want to share this information because **science is a process for reducing uncertainty**. Scientists and engineers have been conducting experiments and analyzing data at underground research labs since the 1970s. The science is strong. Solutions exist for the safe and secure disposal of nuclear waste.

We encourage you to form opinions based on facts, not fear.

It's helpful to give some thought to what will happen if South Bruce expresses willingness to host the project and is identified by NWMO as the preferred location. There will be a comprehensive

regulatory review process before construction on the DGR could begin. This would cover the entire lifecycle of the repository and associated facilities to ensure that the project will be implemented in a manner **that protects the safety of people and the environment**. The regulatory review would take **at least eight years** and involve a number of federal and provincial regulatory agencies and **public consultation**.

This is a marathon, not a sprint. We can rest assured this project will only proceed if the regulators are convinced it is safe. And while the project faces a lengthy and extensive regulatory process, we will also have time to decide how we want the project to be integrated into our community.

Studies describing the expected effects of the project are being presented at South Bruce Community Liaison Committee meetings throughout the summer. If you want to read the studies in your own time, print copies will be available at the Municipality of South Bruce office and the local libraries. Digital versions will be posted to the South Bruce website.

Tony Zettel

Underground research labs

An underground research lab is an underground facility in which site characterization and testing activities are carried out along with technology development and demonstration activities, in support of the development of Deep Geological Repositories for nuclear waste. Generic underground research labs are developed for generic research and testing purposes at a site that will not be used for waste disposal, but provide information that may support disposal elsewhere. Site-specific underground research labs are developed at a site that is considered a potential location for waste disposal and may be a precursor to or the initiating stage of developing a repository at the site. Canada operated a generic research lab in Manitoba for 40 years before decommissioning of the site began in 2003. Canada has also participated in research conducted at many research labs around the world.

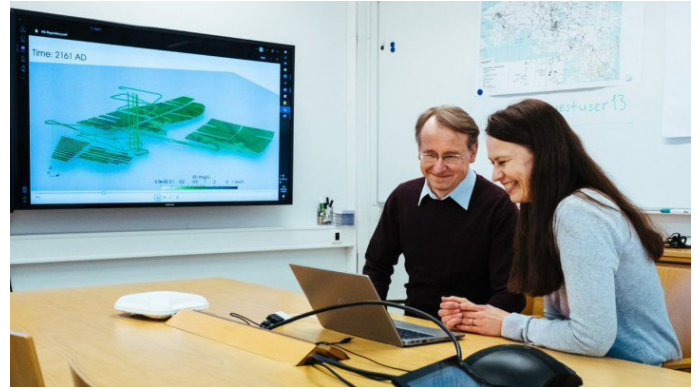
We can learn a lot from Finland. ONKALO is an example of a site-specific underground research lab constructed at Olkiluoto, Finland, to confirm the site's suitability for final



The Äspö Hard Rock Laboratory is a generic underground research lab in Sweden, located in the Misterhult Archipelago close to the Oskarshamn nuclear power plant. At this site, researchers study the interaction of bentonite clay and copper canisters with the rock in realistic conditions. The NWMO has been collaborating on research at Äspö since 2004 relating to repository technology development, multi-barrier performance, damage to the rock mass associated with excavation, fracture parameterization, and specialized site characterization techniques. (Source: SKB)



The location of the ONKALO Underground Research Lab, Encapsulation Plant and Repository in Olkiluoto, Finland. (Source: Posiva)



Scientists using supercomputers to model the groundwater chemistry in bedrock of the final disposal site in Olkiluoto, Finland. (Source: Posiva/ Tapani Karjanlahti)

disposal of spent nuclear fuel. Results of investigations, tests, mapping and monitoring carried out in Olkiluoto and in the ONKALO demonstration area are compiled into geological, hydrogeochemical, hydrogeological, rock mechanics and transportation property models. The key product of this work is a descriptive model to understand the evolution of the site to the present day and into the future. Research reports are available at www.posiva.fi.

computers in the world, changes occurring in groundwater chemistry as a result of geological and climatic changes will be analyzed over a future timeline of up to a million years!

Bedrock and groundwater studies have been carried out in Olkiluoto for four decades to find technical solutions which will not be affected by even major global changes. A project for modelling groundwater chemistry in the bedrock far into the future was recently launched. Using one of the most efficient

Generic underground research labs have helped build the case over time that geological repositories are a viable solution for long-term nuclear waste. Speakers at the ICGR agreed that not every country needs a generic underground research lab and highlighted strong collaboration and information sharing between countries.

However, a site-specific lab is necessary to confirm that the repository will be able to be operated and maintained as it was designed and intended, within the specific characteristics of the chosen site.

Bottle drive

Our bottle drive to raise funds for the Teeswater Medical Centre has been extended. Drop your empties off at 16 Shannon St., Teeswater, until the end of June. If you can count cans and label your bags with totals, we would appreciate it!



Keeping our Ear to the Ground 🗣️

We'd like to hear from South Bruce residents on topics and issues related to the DGR site selection process. In February, NWMO announced the Property Value Protection program to protect property values near the South Bruce site.

Please go to our Willing to Listen website (willingtolisten.ca/feedback) to rate the following statement:

"The Property Value Protection Program gives landowners piece of mind that property values will be protected."

Strongly Agree / Agree / Neutral / Disagree / Strongly Disagree

You will also have an opportunity to enter comments.

If you have any questions or comments for us at Willing to Listen, please reach out via the Facebook page or email willingtolistensouthbruce@gmail.com

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