nwmo news

Nuclear Waste Management Organization

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The NWMO issues Reconciliation Policy, calls on corporate Canada to join discussion



The NWMO Reconciliation Policy was formalized and blessed through an Indigenous Sunrise Ceremony in King City, Ont., that included members of the NWMO's executive team, Board of Directors, and Council of Elders and Youth.

On Oct. 17, 2019, the Nuclear Waste Management Organization (NWMO) issued a Reconciliation Policy that sets out how the organization will contribute to Reconciliation. Under the policy, the NWMO commits to respectful and meaningful engagement with Indigenous peoples and communities, providing cultural awareness and Reconciliation training to staff and contractors, and annually publishing a Reconciliation implementation plan.

The policy builds on existing commitments, articulated in the NWMO Reconciliation Statement issued in 2018, to work by co-creating a shared future built on rights, equity and well-being with First Nation and Métis communities. The policy also builds on our commitment to collaboratively implement Canada's plan for the safe, long-term management of used nuclear fuel.

"We have taken the next step in our journey by establishing a Reconciliation Policy, which commits to developing an annual implementation plan where we will measure and report on our progress," said Laurie Swami, President and CEO of the NWMO. "It is important that the actions we take moving forward demonstrate the words behind our commitment to contribute to this important national conversation."

See Reconciliation Policy, p. 6

The NWMO continues to lead with technical innovations

The NWMO has designed, developed and fabricated a first-of-a-kind system to clad our used fuel containers (UFCs) with copper through an electroplating process. The copper will prevent corrosion of the steel UFCs, which will eventually be used to contain and isolate Canada's used nuclear fuel in a deep geological repository.

"The Nanovate Testing System (NTS) tank is purpose-built specifically to coat our used fuel containers with copper," said Derek Wilson, Chief Engineer and Vice-President of Contract Management at the NWMO. "Many factors – such as temperature, chemical solution and surface finish – can affect the outcome. With careful consideration of these factors, we have had success."

The NWMO worked with an industry partner to develop the innovative electroplating technologies. After immersing the used fuel container in the copper-based electroplating solution for approximately 10 days, copper cladding four to five millimetres thick forms. Although electroplating has been around for at least 100 years – it is typically used to make copper pennies – this is one of the first adaptations of the technology to create thick cladding.

See The NWMO continues to lead, p. 8

MESSAGE FROM THE CEO

Living up to our principles

Reconciliation is more than a governmental commitment; it requires all of us – including organizations like the NWMO – to come together and find a better path forward.

It is about owning the historical wrongs of Canada's past and working together as a country to address them. For organizations like the NWMO, it is about working to acknowledge those wrongs while seeking to do better.

That is why I am so pleased that we have taken another step on that journey by formalizing our Reconciliation Policy. This document will guide our work and employees across the NWMO to ensure we are living up to the principles of Reconciliation and working to incorporate Indigenous Knowledge into everything we do.

It requires every employee to receive Reconciliation training, including our senior leadership. And it contains a commitment to real metrics that will track our progress annually.

It is a big step, but it is important to remember this policy is just that: one step of many.

Since our beginning, from our early studies to implementation now underway, we have involved Indigenous peoples every step of the way.

We are working towards partnerships with First Nation and Métis communities. They are helping us gain and incorporate invaluable traditional knowledge and perspectives to help make Canada's plan a reality.

Reconciliation is a journey, and it happens one step at a time. So with this issue of our newsletter and upon the launch of this important policy, I ask everyone in the NWMO community and anyone who touches Canada's plan to move forward with those same principles in mind.



Laurie Swami
President and CEO

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WHAT WE DO

The NWMO is responsible for implementing Canada's plan for the safe, long-term management of used nuclear fuel.

The plan, known as Adaptive Phased Management (APM), emerged through dialogue and was selected by the Government of Canada in 2007.

APM involves constructing a deep geological repository in which to contain and isolate the used fuel. The repository must be located in an area where communities, including First Nation and Métis communities, are willing hosts, working in partnership with the NWMO to implement it.

We are currently working with communities in a number of siting areas and expect to identify a preferred site by 2023.

SCIENCE INDIGENOUS KNOWLEDGE INTERNATIONAL ENGAGEMENT CORPORATE

Viewpoint

James Wagar
Senior Indigenous Engagement Advisor



The act of reconciling must be a collaborative two-way dialogue. We must listen to each other, find common goals and work together to achieve them. We all have a role to play in Canada's Reconciliation with Indigenous peoples.

Before joining the NWMO in 2018, I came from the engagement and consultation field where I worked with Indigenous communities. For over 10 years, I have worked diligently to ensure Indigenous communities are meaningfully and effectively consulted on new proposed projects that may affect their treaty and/or Indigenous rights.

A major component of my work at the NWMO includes collaborating with interested communities to better understand their well-being and how the project may positively contribute. The NWMO's Reconciliation Policy serves to support this work, not just through effective consultation, but also through all aspects that we are undertaking. Our Reconciliation Policy serves as the thread weaved through all our activities – something of which we hope all our partners will be proud to be a part.

Reconciliation to me means coming to terms with our history, acknowledging our past and moving forward to better inform our collective futures. The first step towards Reconciliation is establishing trust and respect so that a path forward of learning and sharing can be developed collaboratively.

At the NWMO, we want to effectively interweave Indigenous Knowledge into Canada's plan in collaboration with First Nation and Métis communities. We want to be respectful of First Nation and Métis communities' history, culture and well-being by supporting those communities along with their aspirations by implementing cultural training initiatives, capacity funding and various Indigenous well-being programs.

Only together will we be able to overcome the division and the apparent inequality between Indigenous and non-Indigenous peoples, which is well understood to include issues related to capacity, health, income, living standards and life expectancy, prejudice, and racism. I am confident and proud that the NWMO and our efforts can positively contribute to Reconciliation and potentially even serve as the standard for others to follow.

The NWMO renews co-operation agreement with South Korean counterpart

On a regular day, NWMO engineers are a 13-hour flight away from their counterparts at the Korea Radioactive Waste Agency (KORAD). This summer, they found themselves in the same room.

Derek Wilson, Chief Engineer and Vice-President of Contract Management of the NWMO, and Dr. Sung-Soo Cha, President and CEO of KORAD, came together to renew our co-operation and knowledge-sharing agreement on Aug. 23, 2019. The signing ceremony took place at the NWMO headquarters in Toronto.

"The NWMO is proud to renew our agreement with KORAD. International co-operation and knowledge-sharing agreements are a key part of our commitment to international collaboration, as we work to implement Canada's plan for the safe, long-term management of used nuclear fuel," said Mr. Wilson.

"We look forward to continuing to build on our positive relationship with the NWMO and learning from each other," said Dr. Cha.

This renewed agreement joins accords already in place with nuclear waste organizations in Finland, Japan, Belgium, France, Sweden, Switzerland, and the United Kingdom.



Derek Wilson, Chief Engineer and Vice-President of Contract Management of the NWMO, and Dr. Sung-Soo Cha, President and CEO of KORAD, signed the agreement at a ceremony held at the NWMO Toronto headquarters on Friday, Aug. 23, 2019.

NWMO lunch and learn provides opportunity for staff to share pride in Métis identity

NWMO staff recently participated in a lunch and learn on Métis identity. The presentation gave NWMO staff members the opportunity to learn from one another and gain new knowledge and perspectives.

The eagerness to learn left a mark on Rebekah Wilson, our Indigenous Relations Associate at the NWMO. "It means a lot to me to be able to share about my proud Métis heritage because unlike my ancestors, I am able to share it without facing scrutiny. It is great to see my colleagues eager to learn and understand more about why it means so much to me," she said.

Ms. Wilson's Métis roots originate in the Georgian Bay region of Ontario with connections to Quebec City (New France). She was 16 years old when she began her learning journey into her family's Métis heritage. "Now, after discovering my Métis background, I realize the cultural significance, and it means so much more. My grandfather was 80 years old before he started to open up about his Métis roots, and I love being able to carry on his legacy."

James Wagar, Senior Indigenous Engagement Advisor at the NWMO, also provided a personal account of his journey of self-discovery. After finding out about his Métis heritage at 25 years of age, Mr. Wagar described it as an "enlightening moment" of self-realization and wondering why his heritage was hidden from him for a number of years. To understand his own culture, Mr. Wagar received counsel from the Georgian Bay Métis Council, who he says played a vital role in his life.

The NWMO is committed to collaborate with the Métis to learn more about how they can effectively participate in Canada's plan for used nuclear fuel.



The sash is one of the most recognized garments worn by the Métis as a way to identify them to others, and was also used to serve practical functions like holding tools, as a wash cloth and towel, and holding closed their capotes.

Meet the team: Indigenous Engagement

The Indigenous Engagement team is the face of the NWMO in many First Nation and Métis communities. They are tasked with engaging these communities in dialogue about how Canada's plan may benefit each potential siting region, and answer any questions or concerns they may have.

From hosting drop-in sessions to having meetings with leadership, this team provides the information necessary for First Nation and Métis communities to make important decisions about their potential role in Canada's plan for used nuclear fuel.

The team also works closely with Indigenous Knowledge holders to ensure traditional knowledge is applied to both technical safety and community well-being aspects of the site selection process.

Much of this engagement work is conducted in northern Ontario, with Indigenous Engagement team members flying and driving up and down the length of the province each week.

"My office is in London, but I fly up north on Monday and fly back on Thursday or Friday," explained Joe Heil, Section Manager, Site Engagement for Indigenous communities in both northwest and southern Ontario. "Dryden is our base of operations up north, and we drive directly from there to engage with local Indigenous communities."

Some communities are even building on the NWMO's work and are helping to educate others too. For example, the Wabigoon Lake Ojibway Nation has invited members from the 27 other communities in the Grand Council Treaty #3 for a Learning and Sharing Gathering for each of the past four years. Each community sends an Elder, a Chief and a youth to learn more about the project. Members of the Wabigoon Lake Ojibway Nation lead the discussion, with support from the NWMO's Indigenous Engagement team.

"This is a community-driven approach that involves potential host communities in decision-making at every step," adds Mr. Heil. "Communities are willing to stay informed. It is all part of the learning process."

Elder Fred Kelly shares Indigenous water teachings with NWMO staff

At the NWMO, considering water through the lens of both contemporary science and Indigenous Knowledge is key to the safe planning and siting of a deep geological repository for the long-term management of Canada's used nuclear fuel.

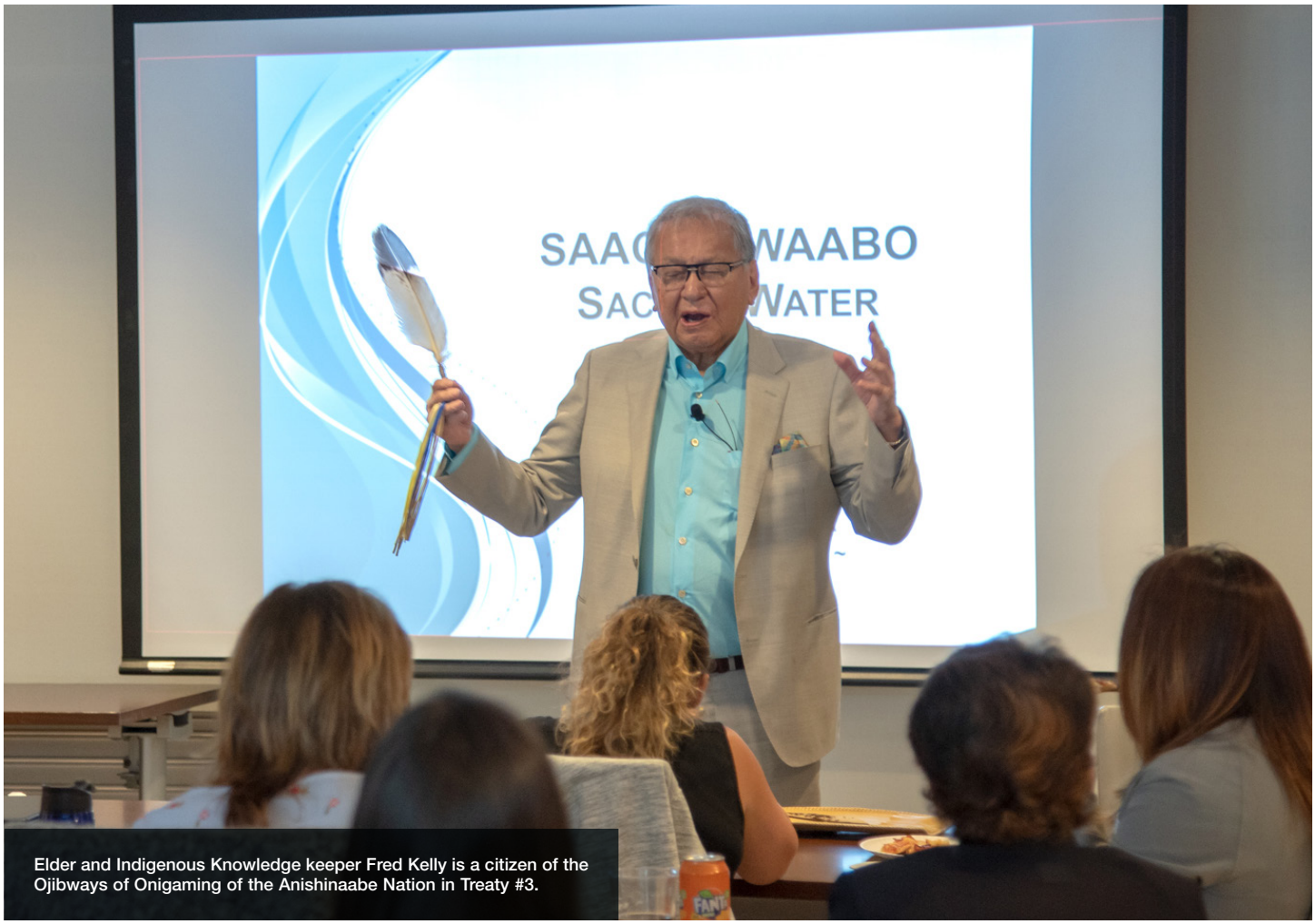
As part of the NWMO's commitment to interweaving Indigenous Knowledge and western science, as well as to contributing to Reconciliation, different learning reflection opportunities will be vital for staff and are being offered in a variety of ways.

In June, NWMO employees were offered a lunch and learn to get a better understanding of how western and Indigenous systems share knowledge about water. Elder Fred Kelly, advisor to our Council of Elders and Youth, delivered a session on Nibi (water) and Indigenous water symbolism.

Both systems reveal knowledge that can be used to inform future decisions. "Contemporary science does not look at Indigenous Knowledge, but we must bring these knowledge systems back together," said Elder Kelly, emphasizing the importance of harmonization to fulfil the NWMO's mandate as an organization and for the survival of the human species.

Ulf Stahmer, Senior Transportation Engineer at the NWMO, attended the lunch and learn because he is interested in exploring links between western science and Indigenous Knowledge. "I think we share a similar story, but it is obscured in a different language," said Mr. Stahmer. In agreement with Elder Kelly's point on the importance of knowledge harmonization, he added that "If we [at the NWMO] want to be inclusive, we need to be open to different points of view and different ways of understanding."

> *"I think we share a similar story, but it is obscured in a different language... If we [at the NWMO] want to be inclusive, we need to be open to different points of view and different ways of understanding."*
>
> **Ulf Stahmer, Senior Transportation Engineer, NWMO**



Elder and Indigenous Knowledge keeper Fred Kelly is a citizen of the Ojibways of Onigaming of the Anishinaabe Nation in Treaty #3.

Reconciliation Policy

Continued from p. 1

The policy was formalized and blessed through an Indigenous Sunrise Ceremony in King City, Ont., that included members of the NWMO's executive team and Board of Directors, and the NWMO Council of Elders and Youth.

Reconciliation is a conversation that involves all staff at the NWMO, many taking personal action. "Reconciliation is important because generations of Indigenous lives have been made more difficult as a result of our shared history. I want to be part of a respectful, loving and constructive response that provides to a healing relationship Canada has with Indigenous peoples," said Chantal Medri, Senior Scientist at the NWMO, reflecting on her recent Reconciliation training experience.

"Both individually and on a corporate scale, space needs to be created for Indigenous voices, and that voice needs to have the same respect as every other voice at the table. I am proud to lead an organization that values change and is committed to contribute to Reconciliation in all we do," added Ms. Swami.

The NWMO attends the Métis Nation of Ontario Annual General Assembly

The NWMO's Indigenous Engagement team joined partners from the Métis Nation of Ontario (MNO) for its 26th Annual General Assembly (AGA) held in Sault Ste. Marie, Ont., this August.

As part of the NWMO's ongoing engagement with the MNO, the team participated in various events throughout the AGA, including hosting a session, titled *What we are hearing about transportation planning*.

"The NWMO is preparing to undertake specific engagement and dialogue on the transportation component of our project," said James Wagar, Senior Indigenous Engagement Advisor at the NWMO. "This session was about informing the MNO about what the NWMO has heard from the general public."

As a member of the Métis community and given his role at the NWMO, Mr. Wagar is uniquely positioned to see the benefits of two-way dialogue between organizations like ours and the MNO.

"The MNO is a very warm and welcoming community," adds Mr. Wagar. "We have developed a strong relationship over the past nine years."

The NWMO understands the importance of open, honest and ongoing engagement, with both Indigenous and non-Indigenous communities. Since 2010, we have built a relationship grounded in mutual respect and understanding with the MNO. We continue to inform MNO citizens about Canada's plan for the safe, long-term management of used nuclear fuel, and look forward to strengthening our existing relationship for years to come.



The 2019 Métis Nation of Ontario Annual General Assembly commenced with a traditional Welcoming of the Canoes Opening Ceremony, where attendees paddled to Bellevue Park in Sault Ste. Marie, Ont.

Reconciliation training helps learn and inspire



The NWMO hosts Reconciliation training for our employees as part of our commitment to Reconciliation.

The NWMO is committed to working with Indigenous communities to implement Canada's plan for used nuclear fuel and walking together on a path towards Reconciliation.

"The NWMO has, since our founding, been committed to honouring the contributions of Indigenous peoples and working with them to advance Canada's plan," said Laurie Swami, President and CEO of the NWMO.

As part of ongoing efforts to recognize and honour the historic and continued contributions of Indigenous peoples in Canada, NWMO staff participated in the first of a series of day-long workshops focused on Reconciliation. Jessica Perritt, the NWMO's Senior Advisor for Indigenous Knowledge, says the "training represents an important initial step in acting on the words behind the NWMO's commitment to Reconciliation."

The specialized training, offered by the Indigenous-led Reconciliation Canada, helped NWMO employees understand the truth of Canada's history, and explore the meaning of Reconciliation as an individual living in Canada, as well as the NWMO's role in contributing to Reconciliation.

Throughout the month of June, NWMO staff were given multiple opportunities to learn more about Indigenous history and culture. This included a presentation about Nibi (water) and Indigenous water symbolism from Elder Fred Kelly, and another presentation from staff members James Wagar and Rebekah Wilson about Métis identity. Employees also joined Canadians from across the Greater Toronto Area and beyond at the National Indigenous Peoples Day gathering in Nathan Phillips Square.

MEET THE EXPERT



Rebekah Wilson

Indigenous Relations Associate

Although Rebekah Wilson recently joined the NWMO in March 2019, she already has a long history with us.

For 10 years, she was a member of the Council of Elders and Youth, an advisory body made up of First Nation and Métis Elders and youth. (Ms. Wilson is a member of the Métis Nation of Ontario.) Now she serves as an NWMO liaison with the Council.

She also supports the NWMO's work in interweaving Indigenous Knowledge systems with western science and spends time building relationships with communities involved in the site selection process.

"It is an honour to be part of an organization that has genuine conversations with Indigenous communities and to apply the skills I learned by being on the Council," she says.

Ms. Wilson, who grew up in Markdale, Ont., discovered her Métis roots at 16 years old when her grandmother looked into the family's heritage. The journey led to her career and life's passion: supporting Indigenous communities.

"My heritage is a strong part of my identity," she says.

Before joining the NWMO, Ms. Wilson worked as a Research Coordinator at Leaders International, an organization that places executive-level staff within organizations looking for Indigenous employees. She holds a diploma in Print Journalism from Sheridan College.

When not working, she enjoys reading and writing. In 2014, she teamed up with her father to create a children's book on Métis history, called *The Tiny Voyageur*. She did the writing, and he did the illustrations.

"It was great working on a book with my dad – a learning journey for both of us," she said. She is now working on her second book, which will be about the significance of the different colours of the Métis sash.

The NWMO continues to lead

Continued from p. 1

The NWMO's progress will also be of interest to others. "This is an opportunity for the NWMO to reinforce our commitment to share knowledge with used nuclear fuel organizations in other countries such as Japan, Switzerland and the United Kingdom," said Mr. Wilson.

The copper cladded used fuel container is part of the NWMO's multiple-barrier system (naturally occurring and engineered barriers working together) to ensure safety in a deep geological repository for used nuclear fuel.

These accomplishments represent milestones in the NWMO's proof test program and help to advance Canada's plan for the safe, long-term management of used nuclear fuel.

> *"This is an opportunity for the NWMO to reinforce our commitment to share knowledge with used nuclear fuel organizations in other countries..."*
>
> **Derek Wilson, Chief Engineer and Vice-President of Contract Management, NWMO**



The copper cladded used fuel container is part of the NWMO's multiple-barrier system (naturally occurring and engineered barriers working together) to ensure safety in a deep geological repository for used nuclear fuel.

The NWMO welcomes geoscientists from around the world

Ontario's population of geoscientists spiked this summer during the NWMO's annual gathering of top Canadian and international researchers working in crystalline and sedimentary rocks. This was the 17th year in a row the NWMO has brought together geoscientists from around the world to collaborate and discuss their research.

Nearly 100 geoscientists gathered in Toronto in June for the two-day event, which featured presentations on discrete fracture networks in crystalline rocks, the respective geochemistry of both crystalline and sedimentary rock, the geomechanics of sedimentary rocks, and more.

"The seminar provides a valuable opportunity for in-person discussions of geoscience research currently underway, and for information and knowledge exchange," said Monique Hobbs, NWMO Manager of Geoscience Research and Development. "We heard from NWMO staff and from researchers about several new ideas for collaborations that arose from what they saw, heard and discussed with one another during the two-day seminar."

Attendees also got the chance to see the NWMO's work up close during a tour of our proof test facility in Oakville, Ont. While there, they learned first-hand how the NWMO's work and research to demonstrate key components of the engineered-barrier system intersect with their own work to understand the intricacies of crystalline

NWMO specialist shares findings on long-term repository safety

NWMO scientists have shared more findings about how a deep geological repository for used nuclear fuel could be safely sited in Ontario. This work comes as the NWMO continues to conduct research into understanding how a repository will respond over extended periods of time.

The study (Postclosure Safety Assessment of a Used Fuel Repository in Sedimentary Rock) concludes that a repository could be safely sited in the sedimentary rock formations found in southern Ontario.

"A deep geological repository must be able to safely isolate used nuclear fuel over very long periods of time. These case studies help us understand and illustrate the long-term safety of a repository," said Dr. Erik Kremer, Section Manager of Siting Safety Assessment at the NWMO.

The report builds on a series of postclosure safety assessments illustrating the long-term performance and safety of different repository designs within various geological settings across Ontario. The seventh case study builds on existing work, including the sixth case study focused on crystalline rock. These assessments effectively help to build confidence in the long-term performance of a deep geological repository for Canada's used nuclear fuel.

These case studies also provide a platform for discussion with potential siting communities, their regional partners, regulatory authorities, and other experts in the field, as well as with repository programs all around the world.

The NWMO collaborates with organizations in Canada and around the world to bring their expertise together and remain consistent with international best practice. Ultimately, the safety case will be subject to peer review, both national and international, and an independent regulatory review by the Canadian Nuclear Safety Commission.



The NWMO's Dr. Erik Kremer discusses findings from the seventh case study, which assesses the long-term safety of a deep geological repository in sedimentary rock formations, similar to those found in southern Bruce County.

> *A deep geological repository must be able to safely isolate used nuclear fuel over very long periods of time. These case studies help us understand and illustrate the long-term safety of a repository.*
>
> **Dr. Erik Kremer, Section Manager of Siting Safety Assessment, NWMO**

or sedimentary rock. These types of rock formations may one day host the NWMO deep geological repository.

Dr. Hobbs also highlighted the opening ceremony led by Elder Diane Longboat, a member of the NWMO's Council of Elders and Youth, and the presentation from Jessica Perritt, Senior Advisor for Indigenous Knowledge at the NWMO. They both provided knowledge and guidance to the geoscientists from an Indigenous perspective, offering a different and valuable insight to their work.

The NWMO geoscience team will continue to work with specialists from Canada and around the world to ensure Canada's plan is based on and benefits from the best science.



Jonathan Turner, Chief Geologist at Radioactive Waste Management in the United Kingdom, speaks to Canadian and international geoscientists at the NWMO's 17th annual Geoscience Seminar in Toronto.

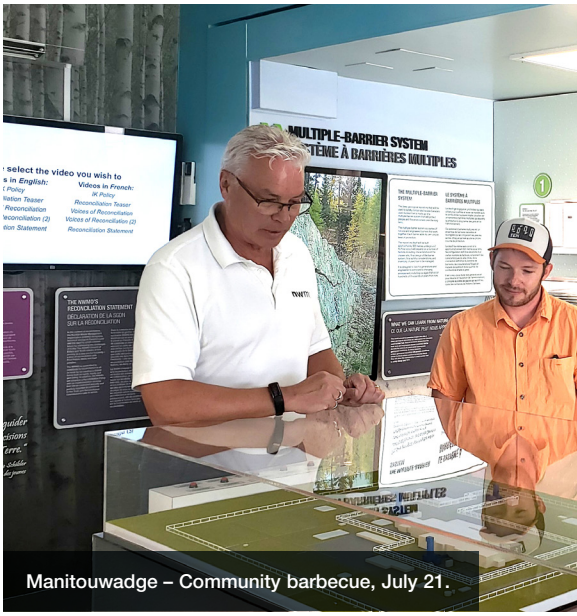
NEW NWMO MOBILE LEARN MORE CENTRE TRAVELS ACROSS ONTARIO

The NWMO has rolled out a new Mobile Learn More Centre as a way to engage people about Canada's plan for the safe, long-term management of used nuclear fuel. It is bilingual and accessible, and includes 3D models, interactive technology, hands-on learning opportunities, videos, and photos.

It will travel across Ontario and Canada – from conferences to community, industry and corporate events – to share information about the details of Canada's plan. Here are some of the stops the Mobile Learn More Centre has already made.



Hearst – Nord-Aski Regional Economic Development Corporation event, July 22.



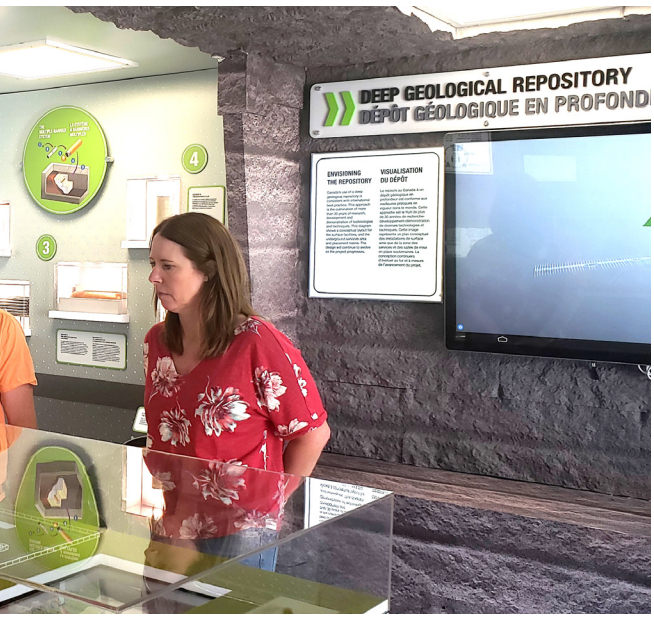
Manitouwadge – Community barbecue, July 21.

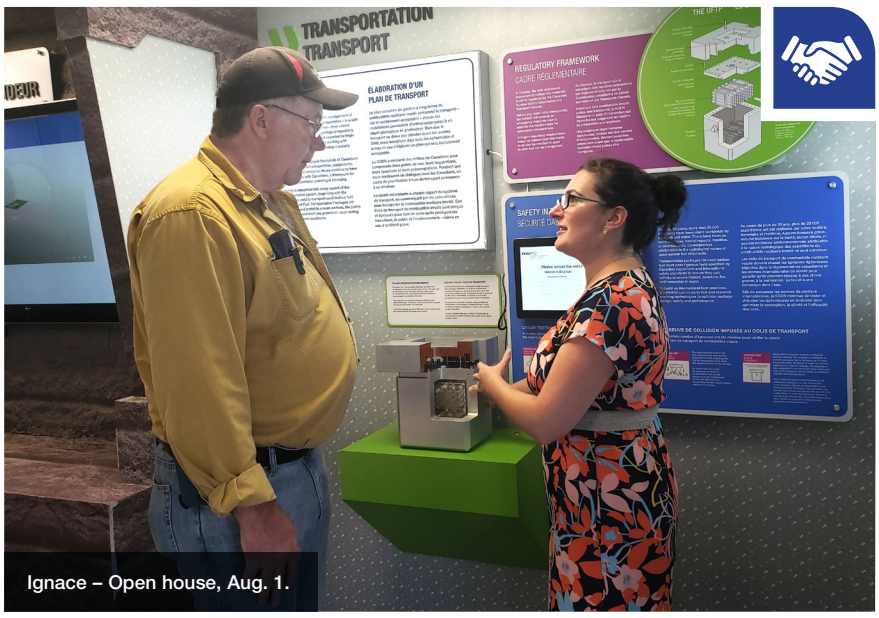


Huron-Kinloss – Nuclear Waste Management Symposium, Aug. 23.

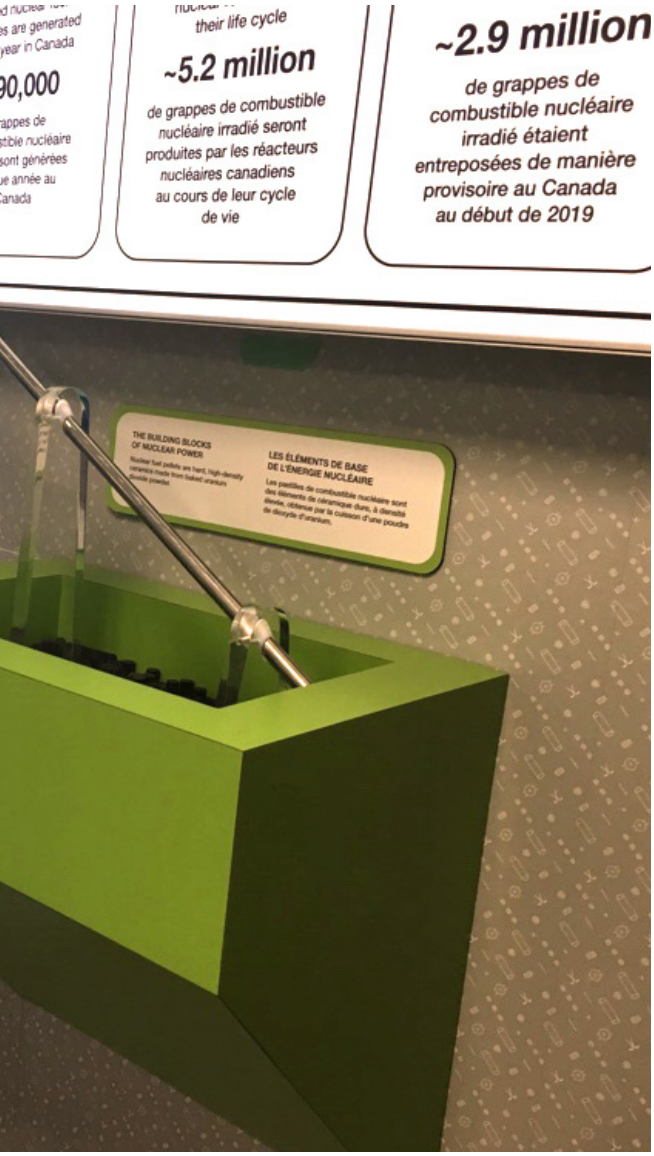


South Bruce – Community Liaison Committee meeting, Aug. 8.



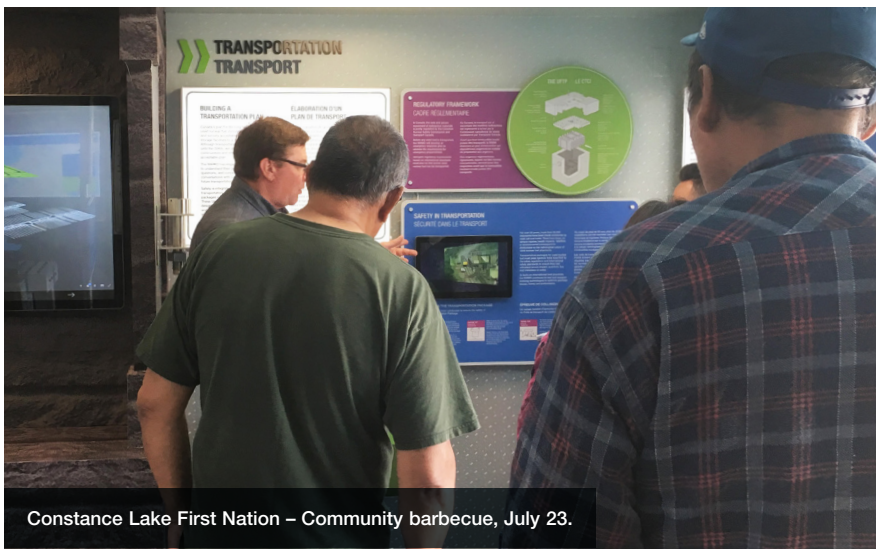


Ignace – Open house, Aug. 1.





Hornepayne – Community barbecue, July 24.



Constance Lake First Nation – Community barbecue, July 23.

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NUCLEAR WASTE MANAGEMENT ORGANIZATION
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

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