

Implementing the Plan for the Long-Term Management of Canada's Used Nuclear Fuel – Meeting Report

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The Métis Nation of Ontario

nwmo

NUCLEAR WASTE
MANAGEMENT
ORGANIZATION

SOCIÉTÉ DE GESTION
DES DÉCHETS
NUCLÉAIRES



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Nuclear Waste Management Organization

The Nuclear Waste Management Organization (NWMO) was established in 2002 by Ontario Power Generation Inc., Hydro- Québec and New Brunswick Power Corporation in accordance with the *Nuclear Fuel Waste Act (NFWA)* to assume responsibility for the long-term management of Canada's used nuclear fuel.

NWMO's first mandate was to study options for the long-term management of used nuclear fuel. On June 14, 2007, the Government of Canada selected the NWMO's recommendation for Adaptive Phased Management (APM). The NWMO now has the mandate to implement the Government's decision.

Technically, Adaptive Phased Management (APM) has as its end-point the isolation and containment of used nuclear fuel in a deep repository constructed in a suitable rock formation. Collaboration, continuous learning and adaptability will underpin our implementation of the plan which will unfold over many decades, subject to extensive oversight and regulatory approvals.

NWMO Dialogue Reports

The work of the NWMO is premised on the understanding that citizens have the right to know about and participate in discussions and decisions that affect their quality of life, including the long-term management of used nuclear fuel. Citizens bring special insight and expertise which result in better decisions. Decisions about safety and risk are properly societal decisions and for this reason the priorities and concerns of a broad diversity of citizens, particularly those most affected, need to be taken into account throughout the process. A critical component of APM is the inclusive and collaborative process of dialogue and decision-making through the phases of implementation.

Disclaimer:

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2010

Métis Nation of Ontario and Nuclear Waste Management Organization
Implementing the Plan for the Long-Term Management of Canada's Used Nuclear Fuel
Meeting Report



the Métis
Nation *of*
Ontario

Written and prepared by:
The Métis Nation of Ontario

September 2010

BACKGROUND

The Nuclear Waste Management Organization (NWMO) was established in 2002 by Ontario Power Generation Inc., Hydro-Québec and New Brunswick Power Corporation in accordance with the Nuclear Fuel Waste Act (NFWA) to assume responsibility for the long-term management of Canada's used nuclear fuel.

On June 14, 2007, the Government of Canada selected the NWMO's recommendation for Adaptive Phased Management (APM). APM moves towards a goal that Canadians themselves identified: safe and secure long-term containment and isolation of used nuclear fuel produced in Canada, with flexibility for future generations to act in their own best interests. The NWMO now has the mandate to implement the recommendation.

MNO proposed to work with the NWMO in 2009 to plan, manage and facilitate Métis Regional Dialogues in Ontario. In accordance with the NWMO invitation, the proposal was designed to bring together representatives of Métis peoples in Ontario, with regional representation that ensures a broad range of perspectives reflective of Métis citizens from across the province. Working with MNO's provincial, regional and charter community governance structures, this initiative engaged Métis citizens including elders, youth, elected leadership, harvesters and women.

The topic of the Regional Dialogues was the *Proposed Process for Selecting a Site* for "Adaptive Phased Management" – the long-term management of Canada's used nuclear fuel. The topic area encompasses technical information and the potential for polarized viewpoints. Additionally, NWMO wished to obtain meaningful input from Métis in Ontario by addressing potential communication barriers through a culturally appropriate approach that respects the governance structures of the Métis Nation of Ontario.

The approach proposed by MNO was intended to first provide the participants with basic information about the nuclear energy sector. This will empower them to make informed comments on the issues that arise during the process. Initial work also included self-assessment by all those party to (i.e. both Métis and NWMO) the dialogue to address any perceived concerns on either side about the process and purpose of the dialogues. This is meant to foster an atmosphere of trust in which participants can engage comfortably and participate effectively.

Creating opportunities for information-sharing and exchange of ideas was intended to be a hallmark of the dialogue as it encouraged a creative, as well as a collaborative approach. This means there must be adequate opportunity for Métis citizens to pose questions and receive authoritative answers from qualified sources.



REGIONAL DIALOGUE

On August 21, 2009, the Nuclear Waste Management Organization held a consultation meeting with seventy-eight (78) Métis citizens from across the province at the Métis Nation of Ontario's Annual General Assembly. The meeting was opened by President Gary Lipinski and Chair France Picotte, who agreed that the issue was very important and that these consultation meetings are an opportunity to provide input as decisions made regarding this project would have an effect on Métis communities today and in the future.

NWMO played a DVD entitled "Moving Forward Together" and made a presentation for the Métis audience on the NWMO and Adaptive Phased Management and the *Proposed Process for Selecting a Site*. Following the viewing and throughout the presentation, Pat Patton (NWMO) opened the floor to questions.

On November 14, 2009, the NWMO held a second consultation meeting with seventy (70) Métis citizens from across the province at the Holiday Inn International Airport Hotel in Toronto. The objective of the second Regional Dialogue meeting was an opportunity for those citizens who attended the first Regional Dialogue meeting in August to provide any feedback they received from their respective communities, provide additional questions or concerns to the NWMO facilitators who in turn would provide answers to the questions or concerns raised.

The Nuclear Waste Management Organization made a commitment to come back to the MNO in 2010 with their "What We Heard Document" to present their findings from the Regional Dialogue sessions held across the country. NWMO and the MNO entered into an agreement to bring in citizens from across the province to engage in a half day session on August 20, 2010. This workshop included over 100 Métis citizens from across the province, including youth, elders, senators, Council Presidents, Regional Councilors, and MNO staff.

IMPLEMENTING THE PLAN FOR THE LONG-TERM MANAGEMENT OF CANADA'S USED NUCLEAR FUEL

The Director of Aboriginal Relations for NWMO, Ms. Pat Patton opened the session by thanking the MNO and all the participants for inviting the NWMO back to talk about what they heard in the regional dialogues. She thanked the Senator for his prayer and thanked the MNO leadership and those people who had participated in the past processes. She explained that the purpose of this session was to share what they had heard in the regional dialogues and outline the refinements they had made to the site selection based on that input. Ms. Patton also wanted to provide an update on the initiation of the site selection, which began on May 25, 2010, and outline their next steps.



Ms. Patton provided a document entitled “Moving Forward Together: Process for Selecting a Site for Canada’s Deep Geological Repository for Use Nuclear Fuel” to all participants.

Ms. Patton mentioned that the NWMO was established in 2002 in accordance with the Nuclear Fuel Waste Act to study, recommend and implement an approach for the long-term management of used nuclear fuel in Canada. In accordance with Section 12 (7) of the Nuclear Fuel Waste Act, the NWMO must “consult with the general public and in particular aboriginal peoples, on each of the proposed approaches. The study must include a summary of the comments received by the [NWMO] as a result of those consultations”.

She explained that on June 14, 2007, the Government of Canada selected the NWMO's recommendation for Adaptive Phased Management (APM). APM moves towards a goal that Canadians themselves identified: safe and secure long-term containment and isolation of used nuclear fuel produced in Canada, with flexibility for future generations to act in their own best interests. The NWMO now had the mandate to implement the recommendation.

In the 2009 Métis Nation of Ontario Regional Dialogues on Adaptive Phased Management, the NWMO presented a proposed process for selecting a site for a deep geological repository for Canada’s used nuclear fuel. Ms. Patton explained that this is a multi-billion dollar project and was highly technical. It is a multi-generational project involving the construction of the repository, the development of centre of expertise and has huge potential for economic development for the host site and the region for decades.

Ms. Patton stated that the project was developed with Canadian input and NWMO had heard their concerns. It took place over a three-year period and reflected the input that they had heard throughout the process. It had the support of the government of Canada and it became apparent that Canadians wish that NWMO should move ahead now without further delay.

Ms. Patton explained that the project involved the construction and maintenance a deep geological repository. She explained that it would operate under a multi-barrier system with each barrier creating safe containment. The depth of the repository would be about 500 meters. It would be a series of rooms underground that would be monitored in implementation and where retrieval would be possible at all times. She said that all aspects of the project would be highly regulated during the entire life cycle of the project and would meet all regulatory licensing that was required to ensure the safety of all Canadians. The funding for the project would be provided through electricity sales through the owners of the nuclear waste.

She also explained that international regulatory bodies would be involved in the process. As they prepared, the community would be funded to be involved in the process as well. The process was designed to ensure that the community could carefully consider what the impact of the project would be. Other communities in the region would be involved including those on the transportation route, and all aspects of the project would be assessed and there would be funding for affected First Nation, Métis and Inuit people as well.



As communities approached the NWMO to be involved, funding will be provided to hire experts to review the project, current interim waste management site visits and for engagement processes with their citizens. Once they were properly informed, they would be prepared to make a decision. There were a number of community benefits resulting from the project including jobs, economic development and wealth creation for both the community and the region. It was understood that communities want to approach them for this reason but the potential impacts would need to be considered before making that decision. Ms. Patton explained that NWMO intended that this process would benefit the community even if they chose to withdraw.

The project had to be developed collaboratively with the community and the region because the NWMO was only one player in the process. The communities, the people who live in the area were seen as the primary players and she also stressed the importance of regional dialogues with First Nations, Métis and others.

The document on the siting process was refined based on discussion that had taken place and they heard that the focus had to be on the safety and security of the people and the environment now and in the future. Ms. Patton stated that the project would meet all regulatory requirements and any decisions would involve the community and the surrounding communities.

NWMO provided a video for the participants, which provided background information on how fuel bundles were generated, how they were stored currently and the details of the repository development. She explained that “adapted phased management” meant that it would be monitored and a future generation will decide if it wishes to seal it off and decommission the facility.

STEPS IN THE PROCESS

Ms. Patton provided an overview of the nine (9) steps in the process as outlined in the document provided to the participants entitled “Overview of Canada’s Plan for the Long-Term Management of Used Nuclear Fuel”. She mentioned that it was a gradual process as people needed to be educated about the process. The community was able to withdraw from the process up to step #6. The entire process, she explained, would take about thirty years.

OVERVIEW OF THE “WHAT WE HEARD” DOCUMENT

Pat explained that they had heard that they needed to provide more background information on how they got to this point, why this project was needed and how the decision was made to proceed. NWMO needed to provide more information on ideas for reuse processing, the ongoing production of nuclear energy, foreign waste and the safe transport of nuclear material.



In terms of the design of the siting process, they needed to ensure the following:

- the safety of people and the environment
- best knowledge
- transparency
- third party review
- inclusion of traditional knowledge
- screening out of unsuitable sites early
- appropriate principles to guide the process
- involvement of citizens throughout, at the grassroots level and not just at the political level
- building of trust, since trust of the nuclear industry was low
- opportunity for people to learn/become informed on this issue since many people have little awareness or understanding
- a community which was interested in the project has the resources it needs and capacity to know its' own interest and act upon it
- the host community is willing
- a regional approach is taken since this large project may affect those outside the host community
- involve all those potentially affected early including Aboriginal people and those on the transportation route
- there is benefit to the host community and the project contributes to the long-term wellbeing or quality of life of the community
- respect for Aboriginal and treaty rights
- proper oversight by government and regulatory authorities who are expert in this area and the project meet, and if possible exceed, the regulatory requirements; involvement of governments throughout, including federal and provincial governments and regulatory authorities
- process is adaptive and sustainable over the ten or more years required to implement the site selection process
- contribute to healing of broken or weak relationships.

In terms of the need for more background information, Ms. Patton noted that they had added new sections to the site selection process document to provide greater context. In order to avoid making the document too big, they have developed a series of documents to address specific issues to address the need for more background and context and they were also creating DVDs on individual subjects.

In terms of safety and security, Ms. Patton mentioned that their first guiding principles were focused on safety and the nine step process would ensure a stepwise and detailed assessment of safety.



With regards to the traditional knowledge, she admitted that this was a difficult concept for some to understand so they were trying to provide more background on the importance of traditional knowledge. Key to the process was the inclusion of traditional knowledge in both the technical assessment of safety and in the assessment of community wellbeing. A new section was added to the document to underline the importance of traditional knowledge. She assured the participants that the NWMO only wanted to incorporate traditional knowledge to the extent the First Nation, Métis and Inuit people wanted to share it with them.

In terms of transparency, she stated that the results of the stepwise assessment would be publicly available at each step of the siting process. In addition, there would be a third party review at each major step and at any step in the process, the community could hire their own experts to review the assessments provided by NWMO.

With regards to early screening, she agreed that they would attempt to notify any community deemed unsuitable as soon as possible in the process. If a community came to them and before the screening was undertaken, the community would meet with the technicians to discuss the screening process and how to handle public relations on the project. Once that initial meeting took place, a resolution could be developed asking for the formal screening, the NWMO would meet with them to talk about what the entire process would involve and they would be notified quickly if the site was not suitable for safety reasons.

In terms of principles, she explained that they had refined and added principles to underline the community-driven aspects of the process, community capacity building and benefits. She also mentioned that resources would be provided to involve citizens in potential host communities at each step beginning in step #2 and involve surrounding communities and the region beginning in step #3.

Trust was seen as an issue as identified in the regional dialogues. Ms. Patton stated that the process was designed to foster a partnership through the implementation of the project and the focus was on collaborative approaches throughout the entire life cycle of the project.

Communities and individuals need to learn more about this process in order to make informed decisions. Ms. Patton mentioned that the process includes an extended period for communities that were potentially interested in hosting the facility, and surrounding communities, to learn more about the project through the steps of the siting process.

In terms of capacity, she mentioned that resources would be available to communities potentially interested in hosting the facility throughout the process (steps 2-6).

In regards to ensuring the willingness of the community, only those who were willing would be considered for the project. The citizens had to be willing to take the project and they would not seek out any community, even if the site were suitable. NWMO would provide all the information if the community approached them and they would exchange information on an ongoing basis so the community could make an informed decision.



There was recognition that the project will affect a broad region and the NWMO had heard a lot of comments about this point. In the past, step #4 was where the region came into the process but people had told them that this should be earlier. The people in the potential host community needed to know that their region was supportive of the project. It was noted that the project was too big to just consider one community in isolation.

In terms of community benefits, there was commitment to host community benefits and this would be guided by the community vision. Ms. Patton mentioned that they had undertaken a great deal of study on community benefits and they wanted to look at how this would change over time. The assessment of community wellbeing benefits was available in document form and could be found on their website. She explained that, once they knew the community that they would be working with, they would undertake more detailed studies and the community visioning process would define what kinds of businesses would be needed and they had moved this activity up earlier in the process as well.

Ms. Patton stated that they had made a commitment to respecting Aboriginal and Treaty rights as outlined on page 18 of the document and explained the ongoing involvement of national and provincial Aboriginal organizations to support a community that might be interested. She mentioned that a regular liaison mechanism would be developed to ensure that there were trained individuals within the organizations, such as the MNO and NWMO wanted to work with the MNO and others to make sure that all Aboriginal people were involved in early consultation processes within the areas where potential host communities come forward.

In terms of regulatory oversight, the NWMO was committed to meet/exceed all regulatory requirements and to the involvement of regulators throughout the site selection process, including the getting ready step. There has been a commitment to involving government throughout the process and steps have been refined to encourage the involvement of governments from the getting ready step.

To ensure that the process was adaptive and sustainable, the siting process was designed as a roadmap to guide the site selection process and this includes principles that had to be adhered to and steps that must be followed. Ms. Patton mentioned that the siting process would be reviewed periodically to ensure that it continued to meet the requirements of the citizens and refinements will be made to it as required.

In terms of contributing to healing, the key principles were willingness, capacity building, collaboration and shared decision-making would guide this process. The NWMO was committed to a rigorous assessment process over an extended period of time to ensure that the project is implemented in a way to protect people and the environment and contribute to the long-term wellbeing of the host community and region. Pat added that this assessment would not just be done by the NWMO but a third party as well.



In terms of next steps, Ms. Patton mentioned that they were looking at participating in municipal conferences and other events to build awareness and understanding. They were also prepared to provide briefings in different venues upon request. The NWMO had also created a 'Learn More' program that made available information and funding to assist communities, organizations and individuals to learn more about Adaptive Phased Management and Community Well-Being. Finally, they would be continuing ongoing development of communication material and tools as they prepared to support communities in exploring their interest in and suitability for this project.

PARTICIPANT COMMENTS

- A participant thanked Ms. Patton for her presentation and commented that she had talked about partnerships. He said that he would like to see the NWMO put up funding for traditional knowledge studies that the Métis could share to move the process forward. He would also like to see funds set aside for scholarships for each community council in the future
- Another participant stated that this was her first time at a session like this and she commented that local mayors might not even want to talk about nuclear power, particularly in election years.
- A participant commented that this was the best technological solution to the issue but he felt that there were flaws in the thinking. He asked what was to say that the containment proposed would be maintained as there were many places in Ontario prone to earthquakes. Maybe the solution was more above ground containers but there were negatives to that too
- One of the participants commented that there were treaty rights when discussing nuclear power and the history there was somewhat questionable. He said that he did not have the right to commit future generations to this; no one had that authority.
- A participant mentioned that they needed to look at how to get the nuclear plants shut down because they were still producing the waste now. He asked that future generations would have to look at how to do that.



QUESTIONS AND ANSWERS PERIOD

Question: At what step would the NWMO involve Métis councils in this discussion?

Answer: Ms. Patton mentioned that a community might come forward with questions about becoming a site; this could be a First Nation, a municipality or a group of citizens. She said they required that the accountable authority of a community be the entity that requests to learn more about the process and that the decision to do this should be documented; in this way interested groups could come forward but the local leadership will be involved from the beginning. She said that once they came forward, the NWMO would have a small meeting with the leadership to help them understand the project and to respond to the public and others with questions. In the case of an interested group of citizens it would be necessary that the local leadership be involved. If the leadership requested the initial screening, they would go through the process with them. She added that they could also make a small amount of funds available for the leadership to engage their citizens under the NWMO Learn More program.

Question: A participant mentioned that a community in North-western Ontario had expressed an interest and she asked if it was up to that local community to involve the Métis councils.

Answer: Ms. Patton responded that the community leadership might not know the Métis council so the NWMO could help them make those connections. She noted that any interested community will be encouraged to begin building the relationship on this project with their neighbouring First Nation and Métis communities early in the process. She said that there were two communities in Ontario who have publicly said that they were talking to the NWMO about this. Ear Falls had passed a resolution requesting a screening and preliminary discussions would take place first to help them to learn about APM and site selection. The other community was Ignace and they approached the NWMO in late 2009 to learn more but they have still not decided if they would be moving forward on it or not. If they do come forward to request the screening the NWMO would advise them that they encouraged them to talk to the First Nations and Métis about this.

Question: A participant stated that the repository was going to be built at a depth equal to the height of the CN tower and he asked if they had considered finding a spot where they could drive in from a cliff and dig down at an angle.

Answer: Ms. Patton admitted she was not a mining expert but the issue was that they had to ensure that the rock was stable and a cliff may not be seen as suitable however a screening would have to be done to determine if it would be possible to proceed. She said that the technology that would be used would be similar to that used to build a mineshaft but it would be a borehole process. She explained that explosives would destabilize the rock and would be limited in use.



Question: Could the heat from the radioactive materials be accessed to continue to create energy as in a geothermal process?

Answer: The bundles would have to be available for ongoing direct access and this would then compromise the safety and containment.

Question: A participant asked what would the safe distance from fault line be.

Answer: Ms. Patton stated that she could not answer that because there were many factors to consider and this was beyond her technical understanding. As far as she knows, it was not only the distance from the fault line but also the stability of the rock itself that would need to be assessed to ensure safety of the DGR.

Question: What other technologies that were looked at?

Answer: Ms. Patton noted that the concept of a deep geological repository in the Canadian Shield has been studied in Canada for about 40 years. During the study period Canadians felt that a DGR is the best solution as continued storage at the surface would not be safe in the long term because the site would have to be managed for 100,000's of years. She added that there were also social issues with above ground containment as people had the perception that it was not safe in the long term. She said that they had studied how the earth had protected human beings from natural radioactivity and she referenced the natural reactor in Gabon, Africa.

Question: A participant asked what vehicles were in place at this moment to prevent a community from canceling an agreement, closing down the project and burying it. He said that governments could change things when they want.

Answer: Ms. Patton stressed that the community had to be committed to all the principles that they have set out and the facility had to be safe or they would not move forward with the project. This project will not be imposed on any community and they can withdraw at any time before the formal agreement was signed. In addition, the community leadership had to have the formal approval of their citizens in order to move ahead. She also mentioned that during the Elders Forum, they heard about their main concerns of safety and security and they wanted the elders involved in the community processes as well.

Question: A participant asked who was in charge of nuclear activities in the province.

Answer: The response was that this was the Canadian Nuclear Safety Commission.

Question: There was a concern raised around why this issue had not been figured out before now and this participant stated that this should have been cleaned up a long time ago.

Answer: Ms. Patton responded that Canada had been working on this issue for about 40 years. In 1988 environmental hearings were conducted, known as the Seaborn Panel, and a report was



made to the Federal Government in 1998. The NWMO was established as a result of the review of that report. This was not a new process but the NWMO had now been given the mandate from the Federal Government to begin the implementation of the recommendation for Adaptive Phased Management which they made in 2005 to the Federal Government.

PRESENTATIONS FROM THE YOUTH PARTICIPANTS

Ms. Paradis mentioned that there were a number of youth participants at this session and they wanted this opportunity to provide their views and pose their questions on this issue.

The youth provided the following comments.

- A youth wanted the participants to stop and think about this issue because they were digging a hole and hiding their problem inside of Mother Earth. He said that they were putting garbage down the throat of Mother Earth and hoping she got better. There were scientific reasons to believe that this was safe but they needed to think with their hearts. They would not do that to their own mother.
- A youth Participant stated that she felt the same way and this was a bad idea. It was dangerous and they already had issues with pollution in the air. This would be buried underground and she had concerns that a leak could contaminate their water and they would all get radiation poisoning and die. They had to consider how this would affect their future.
- Another youth stated that he was not an avid fan of nuclear energy but even if they stopped producing nuclear energy right now, there were still be tons of waste to deal with. He did not like the idea of putting it into the ground but they had to look at the best possible option. He asked what the contingency plan would be if something gone wrong and he gave the British Petroleum situation in the Gulf of Mexico as an example.
- A youth mentioned that he trusted the science behind the repository project but he questioned the human factor or the people who would be working in the facility. He also mentioned with regards to the amount of money being spent on this, imagine putting that money into green technology.
- Another youth stated the main concern that she had was with accidents or spills because this had to be secure.
- One of the youth mentioned that their main issue was the possibility of contamination of the earth and the animals that human beings ate.



- Another youth mentioned that these were all valid concerns but his question was around the pools of water the bundles were put in to cool for so many years. He asked what they did with that contaminated water.
- Another youth asked if the fuel bundles were put into containers underground for hundreds of years, how they can possibly promise anyone that nothing will go wrong in all that time.
- A youth mentioned that human beings had a bad way of dealing with problems because they often fix things after things go wrong. He gave the example of putting a traffic light in after there was an accident where people die. He said that they had to stop and find better ways of producing electricity because the affect of what they were doing would be unknown into the future. He said that there was some frustration because the average citizen does not have the information that they need to make informed choices and they did not know much about this technology. He said that there was a lot for them to learn as individuals and also their organizations.
- Another youth mentioned that they were caught in a western way of thinking and were focused on consuming. They were dependent on that but they needed to figure out why they use as much power as they do and cut down on their use. Traditionally, they did not need electricity and now they have reached the point where they could not survive without it.
- One of the youth participants mentioned that he used radiation therapy to treat patients in his job so he could see where it was useful in controlled situations. He asked if they were still using the short terms storage facilities for the waste and mentioned that they could store them until technology was advanced enough to deal with them. He said that he saw the scientific side of it and he thanked his fellow youth for helping him learn more about other sides of the issue.
- The final youth presenter mentioned that she was glad to see the youth passionate about a subject like this. She asked about the clay that would be used and if there were environmental repercussions to bringing this into a new environment.

NWMO RESPONSE TO YOUTH QUESTIONS AND COMMENTS

Ms. Patton thanked the youth for their questions and comments and mentioned that their comments reflected many of the sentiments of other Canadians and likely some other participants at this meeting. She said that these were the questions that they faced as Canadians and they had to take care of what had already been done. She said that she would try to answer the questions that had been posed.



With regards to the continuation of developing nuclear sources of power, she said that was not within the mandate of the NWMO to address. She explained that decision about energy production is the responsibility of the provincial authorities and nuclear substances were regulated by the federal government however the NWMO always passes the comments about concerns for how electricity is produced to provincial authorities.

This discussion had to be an ongoing one between the government and their citizens and the comments provided today would go into the reports that the NWMO was developing. Non-aboriginal people might have different belief systems but they had a shared belief in being stewards of the earth and protecting it. In terms of this project, she stated that it would not go ahead without it being safe and this was not only a technical issue but also a social one. She said that if they found a better way to deal with nuclear waste in the future, they would change their path and this process allowed them to make those changes.

In terms of safety, she explained that before the project began, they had to prove their safety case. To address some of the safety concerns expressed, she provided more information on the nuclear waste. She said it was not a liquid, it was solid, both when it went into the reactor and when it came out. The waste was insoluble in water so, even though the repository would be built so no water would get in; the ceramic pellets would not dissolve. She explained that the waste could not explode and the radioactivity would decay over time. The isotopes would gradually lose the radiation that was in them. She gave the example of radiation treatment for cancer where the radiation stayed in the patient's body for a short time but then the radiation decays. She said it was a similar process but it took much longer for the radiation in the fuel bundles to decay.

In terms of ground contamination, the fuel bundles buried in the repository would be contained by the natural barrier of the earth similar to that which already occurred naturally in the earth as demonstrated in such places as the Cigar Lake, SK uranium deposit. She mentioned a naturally occurring phenomena in Gabon, Africa where study has taken place on this process.

In terms of concerns for people's health on the surface, this facility would be operated the same as the facility in the video that was shown. Human beings would not be anywhere near the radioactivity; this would all be done remotely. She explained that the fuel bundles went into the pools for about ten years which considerably reduces the temperature of the bundles. The water system is a closed system and the water is not returned to the ecosystem but rather is continually filtered and circulated through the system. The filters are removed and are stored in an intermediate level waste facility.

With regards to the interim storage facilities, she explained that the bundles were encased in steel and cement and those containers provided the shielding. Remote systems were in place to move the fuel bundles and they would be placed in specially designed containers for transportation. She explained that radioactive materials, including nuclear waste, were transported regularly all over the world and there had never been a release of radioactivity in



transportation. The fuel bundles would be brought into the repository and packaged into the copper canisters and remotely transported underground. She said that it is possible to see how fuel bundles are handled safely today at the nuclear waste management facilities at the power generating stations.

In terms of transportation to the site, they would work with the communities along the transportation route to ensure that their concerns are heard and that they had emergency preparedness plans in place and to inform the citizens of what to do in the event of an emergency. For security reasons, there is limited information around the actual transportation of the material.

Ms. Patton also explained that the eco-system would not be impacted by the spent fuel bundles stored underground. As there will not be a connection between the repository and the surface groundwater, the material could not migrate to the surface and the facility would contain all the waste. She said that this had been studied by many countries in the world with waste management programs and gave the example of the Gabon, Africa natural reactor where over approximately a million years radioactivity had migrated only a few millimeters. She said that the repository would be designed so as not to be impacted by ice ages, earthquake faults and other naturally occurring activity.

This was a long-term project and over approximately ten years the community chosen would be ready to go ahead if they wished. Before that happened, they would have to spend years ensuring that the community would be ready to make an informed decision and they had to ensure that the youth were informed and part of that decision making process.

In regards to reusing the fuel bundles, there have been a number of innovative studies in this area and currently reprocessing is used in some countries. She said that some of this work had been proven to be effective for some countries but it was not under consideration for the nuclear waste produced at Canadian facilities. She said that perhaps there will be a process developed in the future that could be used here but it is not being considered at this time. The NWMO keeps a “watching brief” on this subject and reports out on it annually. This is why the development of this project must be adaptable. Canada’s waste would be retrievable for decades in case of technical advancements and Canadians have spoken and said that they did not want to wait 40 years to address the situation of nuclear waste in this country so this was this repository approach they elected to take.

In terms of the question around the clay used in the process, she stated that this was already present in the Canadian Shield environment. It was a naturally occurring substance in the area and not man made.

Ms. Patton mentioned that these were the answers to the questions asked based on today’s knowledge on how to protect people and the environment however as new knowledge is gained the NWMO is open to an adaptable decision-making process.



It was noted that should there be any future questions a follow up response to questions that might arise would be provided to Hank Rowlinson at the MNO.

A question was posed to Melanie Paradis, Director, Lands, Resources and Consultation, Métis Nation of Ontario, around when discussion would be taking place with the decision makers in order to share the Métis perspectives on nuclear power. Ms. Paradis stated that she had said that they would work on this but have not yet been able to. There were a number of agencies that they would need to meet with and she committed to setting this up within the next year.

Ms. Patton closed by thanking the participants for inviting them to present and for their questions and comments. She also introduced her colleague, Ms. Cynthia Jourdain. She said that she looked forward to continuing working with the MNO keeping them informed of this process on an ongoing basis.

Recommendations

1. MNO and NWMO to collaboratively develop a plan for an MNO to continue to be involved in the site selection and implementation for the long term management of Canada's used nuclear fuel.
2. NWMO work with MNO to build staff capacity by funding a part-time NWMO Liaison Coordinator position within MNO's Lands Resources and Consultation Branch to assist MNO in more effective coordination with NWMO. Responsibilities of this position will include:
 - a. Liaising with NWMO for the organization of future Forums.;
 - b. Liaising between the Intergovernmental Relations; Lands, Resources and Consultations; and Economic Development branches of the MNO to ensure MNO takes full advantage of all economic development opportunities available through the process and implementation of the project.
 - c. Liaising with proponents, provincial and federal authorities on various opportunities for both consultation and partnerships;
 - d. Coordinating the NWMO-MNO events, including forums.
 - e. Develop a strategy for incorporating Métis traditional knowledge into NWMO programming.
 - f. NWMO work with MNO to build staff capacity.

NEXT STEPS

Finalize a NWMO-MNO framework agreement for moving forward.

