STAKEHOLDER COMMUNICATIONS AND ENGAGEMENT IN THE SITE SELECTION PROCESS FOR CANADA'S DEEP GEOLOGICAL REPOSITORY FOR USED NUCLEAR FUEL

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Abstract

Canada's Nuclear Waste Management Organization (NWMO) is leading a site selection process for an informed and willing host community with a suitable site for a deep geological repository for used nuclear fuel, as well as an associated Centre of Expertise. The process was initiated in 2010 and is expected to culminate with identification of a preferred site around 2023. It is a community-driven process designed to address a broad range of social, economic, cultural and technical factors identified through dialogue with Canadians and Indigenous peoples. The process involves a step-wise approach with clear decision points, and increasingly intensive stakeholder engagement and technical study. Consistent with the NWMO's commitment to involving people in its work, the siting process is being implemented in an open, transparent and inclusive manner through a growing set of engagement and communications programs. These programs are frequently shaped by the very stakeholders they aim to engage, and seek to: build awareness, understanding and support among key audiences; work collaboratively to identify potential repository sites that are socially acceptable and respectful of social and cultural values; and explore potential to build supportive partnerships to implement the project while enhancing well-being and building resilience of communities. This paper provides an overview of the site selection process, with a focus on approaches used to engage and communicate across a wide range of audiences and platforms to achieve the goals described above. It explores the types of programs and activities used to engage citizens in developing Canada's plan and the site selection process, and in implementing the project collaboratively with municipal and Indigenous communities. It also discusses how the NWMO is expanding and adapting the activities, tools and platforms it uses to increase visibility and understanding of its work among key audiences in preparation for site selection.

1. INTRODUCTION

The Nuclear Waste Management Organization (NWMO) is leading Canada's plan for the safe, long-term management of its used nuclear fuel. The approach it is implementing, Adaptive Phased Management (APM), requires centralized containment and isolation of the country's used nuclear fuel in a deep geological repository [1].

The plan is built on a set of principles that reflects the values and priorities Canadians identified on this issue during a three-year, nation-wide dialogue that took place between 2002 and 2005. The repository must be located in a suitable crystalline or sedimentary rock formation, in an area with informed and willing hosts. That means people in vicinity of the site that is ultimately selected must be aware of the project, understand what it would mean to implement it in the area, and support having it located there. The approach is also designed to ensure safety, security and protection of people and the environment are priorities, and to be consistent with international standards and best practices. Given the long-term nature of the project, the plan is also adaptive, with adjustments as needed to incorporate new knowledge or societal priorities.

After the plan was selected by the federal government in 2007, the NWMO conducted additional engagement with Canadians to develop the decision-making framework for selecting a site for the project. The site selection process is a community-driven process designed to address a broad range of social, economic, cultural and technical factors as identified through dialogue with Canadians and Indigenous peoples [2].

This site selection process was initiated in 2010 following two-years of development that took into account the suggestions and advice received over the course of public dialogue [3]. The process is voluntary in nature, and twenty-two communities expressed interest in learning about the project and exploring their

potential to host a site. The site evaluation process involves a step-wise approach with extensive public engagement and clear decision points.

Over the years, stakeholder engagement and technical study have intensified as the NWMO narrows its focus on fewer candidate sites, while continuing to work with communities to evaluate suitability against a number of social and technical evaluation factors.

Today, following a gradual narrowing down process, five of those original 22 communities remain in consideration. At the same time, engagement and communications has expanded to include a constellation of communities in the vicinity of each siting area, recognizing that the approximately $24-billion (CAN$) project is large enough to impact a region, and that it will only successfully move ahead through partnership with both Indigenous and municipal communities. The process is expected to culminate with identification of a preferred site around 2023.

To identify a preferred site, the NWMO has three main areas of focus: 1) building confidence that the site ultimately selected will be safe; 2) building confidence that a safe, secure and socially acceptable transportation plan to move the used fuel to the repository can be developed; and 3) ensuring willingness to proceed and established partnerships in potential host communities. This paper discusses communications and engagement activities used to achieve these goals, with an emphasis on achieving willingness and partnership.

Consistent with the NWMO's commitment to involving people in its work, the siting process is being implemented in an open, transparent and inclusive manner through a growing set of engagement and communications programs, which are shaped in part by the very stakeholders they aim to engage.

These programs seek to:

— build awareness, understanding and support among key stakeholders;
— work collaboratively to identify potential repository sites that are socially acceptable and respectful of social and cultural values; and
— explore potential to build supportive partnerships to implement the project while enhancing well-being and building resilience of communities.

Since the siting process began, the NWMO has focused much of its engagement efforts on building awareness and understanding of the project in local siting areas. As the prospect of identifying a preferred site draws nearer, the NWMO is also increasingly focused on broadening the reach and frequency of communication and engagement activities to increase awareness among interested citizens beyond siting regions. With this goal in mind, the organization is increasing proactive outreach with media, social media communities, industry, governments and other groups and individuals with an interest.

2. ENGAGEMENT AREAS OF FOCUS

Engagement and communications activities at the NWMO are designed with strategic outcomes in mind. Since the project can only succeed through extensive public alignment and engagement, the organization has expended significant time, effort and expertise on developing strong communication and engagement programs aimed at contributing to conditions necessary for achieving strategic goals. Currently, three of these priorities see the organization actively engaging to:

— Help define and establish the types of partnership that will be necessary to successfully identify a preferred site;
— Shape the technical studies that will be required to demonstrate confidence in the project's safety; and
— Respectfully interweave indigenous knowledge into its activities, processes and decisions.

2.1. Working toward partnership

In order to select a site that can be socially acceptable, the NWMO needs to be confident it can develop strong, aligned partnerships with municipalities, First Nation and Metis communities in the area. Alignment of the project with the values, priorities and objectives of surrounding communities and Indigenous peoples,

together with their level of interest in learning, is a critical consideration in assessing the suitability of any particular site.

The APM project will only proceed with the involvement of the interested community, Indigenous people (i.e. First Nation and Métis communities) in the area, and surrounding municipalities all working together to implement it. Through its work with communities, the organization has come to understand that such partnerships need to be underpinned by a willingness to proceed among people living in these communities, an understanding of how the project will enhance local well-being, and eventually, draft agreements that outline a common understanding of how the project will be implemented.

Given that there is no clear template for how to accomplish such partnerships, the NWMO has worked with communities to develop a roadmap (Fig. 1). The first step is agreeing on common values and principles to guide partnership discussions. Through a series of public workshops, this step was completed in all of the municipalities remaining in the site selection process. The values and principles developed were subsequently passed by each municipal council, effectively paving the way for more detailed discussions.

The next step in working toward partnership is collaboratively developing a project vision. This involves developing a common understanding of what the project could look like and how it could be implemented in each area. The NWMO also plans to work with communities to understand the nature of partnerships that need to be developed, understanding with whom it needs to work, at what level, in what combination and on what timelines. Further, the organization will need to identify and deliver investments that help communities build the capacity they will need to take on a project of this scale in a way that advances local well-being and supports achievement of their own community vision. Finally, the organization anticipates working together with communities to develop aligned partnership agreements, using a schedule developed and agreed upon together.

FIG. 1. The NWMO has worked with communities to develop a roadmap to partnership.

2.2. Shaping studies and plans

Since initiating the site selection process, the NWMO has actively worked together with community leaders and residents to collaboratively shape both engagement activities and technical studies. This approach has provided significant value both to the organization and communities as they work together to explore the potential in each area for hosting the project. Local input has influenced timing, approach and method of communication related to a number of studies.

For example, the NWMO has begun working with people in each area to identify specific sites that could potentially host a repository, taking into account both safety requirements and perspectives of those in the area. In one siting area, borehole studies were successfully initiated in 2017. This was a significant development as it represented the first subsurface studies on a specific site where a repository could eventually be located. The site itself was selected with extensive input from local municipal and First Nation residents about where exactly the project had the potential to be socially acceptable. Aspects ranging from current land uses to cultural significance were all considered. Studies on the site are continuing, with subsequent boreholes planned in 2019 [4].

In addition to engaging on specific local activities, the NWMO seeks broad public input on its overall project implementation plans. These strategic plans outline activities the organization expects to undertake over the next five years, and are updated on an annual basis. Public input is sought each year through the NWMO web site, mail, social media, and community engagement activities. The insights received are acknowledged and incorporated into the subsequent year's plan along with updates related to the ongoing implementation of APM.

2.3. Interweaving Indigenous knowledge

As part of the NWMO's promise to work in partnership with First Nation and Métis communities, it has committed to interweaving Indigenous knowledge throughout its plans, activities and decision making processes [5]. This commitment recognizes that Indigenous peoples have a special relationship with the natural environment, and unique stewardship responsibilities that are part of this relationship.

Indigenous knowledge emphasizes the interrelationships between all components of the environment. It is a complex and sophisticated system of knowledge drawing on millennia of wisdom and experience. It constantly grows and expands with the experience of new generations. The knowledge that comes from this relationship with the land brings special understanding to the broad range of factors, providing a source of wisdom to field studies, social assessments, assessing benefits and effects to be managed.

The NWMO actively works with a Council of Elders and Youth, First Nation and Metis communities, and a range of Indigenous organizations. With their guidance, the NWMO is working to ensure it respectfully applies traditional knowledge in activities and decision making related to both technical and community engagement aspects of the site selection process.

Indigenous knowledge has directly affected the NWMO's work, and in particular the way it engages and communicates. In one recent example, Indigenous communities expressed a need to understand more about how the project will protect water. In response, the NWMO brought together scientists and Indigenous people to create a presentation about the "Journey of Water," exploring how water behaves on the surface and deep underground. The presentation was drafted and refined with feedback from the Council of Elders and Youth, an Indigenous community and a group of Indigenous women, recognizing that in Indigenous culture women in in particular hold a special relationship with water. Once it was finalized and delivered to a range of interested communities and groups, the presentation received remarkably positive feedback from both Indigenous and non-Indigenous audiences. Subsequent presentations are now also being developed using a similar approach.

3. COMMUNICATION TOOLS AND ACTIVITIES

The process of engagement and communication has become increasingly intensive as the project has advanced. Consistent with the NWMO's commitment to involving people in its work, the siting process is being implemented in an open, transparent and inclusive manner through a growing set of engagement and communications programs. These programs and activities are frequently shaped by input and guidance from the audiences they aim to engage. The responsive nature of this approach has likely contributed to the fact that participation among community leaders and residents has remained strong, in spite of long time frames and growing intensity.

The NWMO holds transparency as one of its core values, with a commitment to be open and transparent in processes, communications and decision-making. To demonstrate this commitment, it has developed and published a transparency policy [6]. In practical terms, the NWMO demonstrates this commitment by actively communicating about and documenting new developments and next steps as it implements Canada's plan, outcomes of technical studies, and even input it receives from the public (with permission).

A wide variety of approaches are used simultaneously to seek input, report progress, and address questions and concerns. The following examples do not represent an exhaustive list, although they do demonstrate the wide range of platforms through which people can learn more, share their thoughts, and participate in the process.

3.1. Resourcing to Support Learning

The NWMO provides support to communities in the form of funding programs and expertise to cover the costs associated with learning about the project [7]. It has committed that no community should be 'out of pocket' for learning about the project and exploring their potential to host it. Examples of typical costs include those associated with staffing, studies, conference attendance, meetings of community liaison committees and a wide range of engagement and learning activities. As the project advances and work associated with the project intensifies, investments in capacity building have become particularly important. These programs enhance communities' capacity both to participate in the process and to begin to prepare to host the site if their region is ultimately selected.

In addition to funding, the NWMO also employs relationship managers to lead local engagement activities with municipal and Indigenous communities in each region. More broadly, the organization's stakeholder relations and engagement teams actively seek to communicate about its work with audiences beyond siting communities, including industry, government, media, social media communities, NGOs and other groups and individuals with an interest in the project. Just like activities within potential siting communities, the intensity and frequency of this broader public outreach has also intensified as the NWMO approaches site selection and seeks to raise awareness and understanding about its work.

3.2. Engaging with Community Liaison Committees (CLCs)

Each municipality remaining in the site selection process has assembled a CLC comprised of volunteers committed to facilitating learning in the area. Meetings are advertised and open to the public, and the NWMO participates regularly by sharing updates, bringing subject matter experts on a range of topics, and answering questions about various aspects of the project.

These committees provide an important source of long-term continuity, and provide a forum where community questions and concerns can be heard and responded to. They also provide residents with information about a variety of viewpoints and specialized knowledge through programs that bring guest speakers to the community.

CLC members get actively involved in activities such as hosting and co-hosting engagement events, directing investments in education and skills development and providing feedback about how the NWMO can best communicate with the public in a manner that is clear, transparent and accessible to those with a wide range of knowledge levels and with a diverse set of communication preferences. Over time, some of these committees have begun to shift their role from learning about the project to advocating for it.

3.2. Hosting and participating in events

The NWMO regularly works with local municipalities and Indigenous communities to host public open houses and workshops in communities to engage residents with an interest in learning about the project and providing input into next steps. The NWMO often brings subject specialists and interactive exhibits to these events to help facilitate learning and build understanding about various aspects of the project. The events are promoted through media, and local media are invited and encouraged to report on them. Increasingly, the NWMO promotes and reports on these events through its various social media platforms as well.

In addition to NWMO-hosted events that are specifically focused on Canada's Plan, the organization has made it a practice to participate with information kiosks and staff at local events that draw significant community participation, such as fairs and festivals. These activities help the NWMO expand its local reach, providing opportunities to engage directly with people who may not have been interested or available to attend an open house or public meeting specifically focused on the topic of Canada's plan for used nuclear fuel.

Outside of siting areas, the NWMO regularly organizes tours of interim storage facilities and its own proof test facility. The tours are typically accompanied by an in-depth briefing about Canada's plan and the process for selecting a site. These events allow members of interested stakeholders to see first-hand how used nuclear fuel is currently stored, and the rigorous work underway to build confidence in the safety case for the deep geological repository (Fig. 2).

FIG. 2. This image was taken during a tour of the NWMO's proof test facility. The organization hosts tours regularly, so members of the public can see first-hand the rigorous work underway with respect to Canada's plan for used nuclear fuel.

The NWMO also hosts events and participates in a variety of conferences that bring together key audiences beyond siting communities. These include nuclear industry conferences, municipal conferences, and special interest conferences that feature areas of expertise relevant to the project such as geology, impact assessment and communications. Not only are these conferences a helpful way to learn from others, they provide opportunities for the NWMO to keep others abreast of its work through presentations, information kiosks and networking activities.

In one recent example, the organization hosted a two-day workshop that brought together western scientists and Indigenous knowledge keepers. During the workshop, participants shared information and perspectives on how Indigenous Knowledge and western science can be interwoven into research applications pertaining to the repository and the multi-barrier system that will be used to contain and isolate the used nuclear fuel. Important insights were brought forward from both knowledge systems about topics such as copper, clay and rock – all materials that will be used to ensure isolation of used nuclear fuel in the repository [8].

3.3. Deploying interactive exhibits

The NWMO has learned through extensive public feedback and experience that communicating in ways that are interactive, relatable and tangible are particularly effective at building interest and understanding. To that end, the NWMO has done developed and deployed exhibits that appeal to a wide range of age groups and knowledge levels.

A few examples include:

— Installing interpretive exhibits and regularly hosting tours in its proof-test facility so that the public can see first-hand the work underway to ensure people and the environment will be protected;
— Developing local community offices, known as Learn More Centres, featuring displays, props and literature that bring to life a range of topics related to the project, how it will ensure safety and how people are engaged; and
— Deploying a traveling exhibit that is used to help tell the story of Canada's plan through interactive modules using featuring images, props and plain language text (Fig. 3).

FIG. 2. This image shows people interacting with one of the NWMO's exhibits.

3.4. Engaging digital communities

North Americans are extremely engaged in social media, with 88 per cent of the population actively using social media platforms [9]. Given this context, social media platforms have become important tools for sharing information about corporate activities with a wider audience.

The NWMO is still relatively new to social media, having launched its presence on Facebook in 2017, and Instagram and Twitter in 2018. However, through posting engaging content about the project and the people involved with it, followers and engagement through these platforms has grown steadily.

The NWMO uses social media to bring additional transparency to its work by sharing updates about new developments and activities, answering questions, and addressing common misconceptions. Social media platforms allow the organization to more effectively engage with audiences beyond potential siting communities. At the same time, these platforms also serve as a digital complement to local, in-person engagement efforts within these communities.

The organization regularly analyses what type of content attracts attention from which audiences and the types of questions it receives over these platforms. As a result, it is able to continuously improve its practices to be responsive to public interest. The NWMO strives to use social media to tell its story in a way that directly and positively engages with key audiences. Using a mix of images, videos and plain language copy, content focuses on topics such as questions and answers about technical aspects of the project, profiles of subject experts, and local community investments in organizations that promote well-being in the area.

The NWMO's social media presence is underpinned by a robust web site www.nwmo.ca which functions both as a communications tool and a transparent archive of the organization's work. Features include a library of reports, a database of shareable questions and answers, frequent news stories, and dedicated landing pages outlining completed and upcoming work in siting areas.

3.5. Engaging media

Media outlets provide both an important audience and a platform for reaching other key audiences with an interest in Canada's plan for used nuclear fuel. Different types of media – such as local newspapers and radio stations, specialized industry or science media, regional television stations, as well as provincial and national media – have all reported on the project from different angles and at different points in time. At the same time, reporters in Canada are facing increasing resourcing challenges, which sometimes make it difficult to for them to report on complex stories in a timely and accurate way.

To help ensure complete and accurate reporting on Canada's plan for used nuclear fuel, the NWMO undertakes a number of activities to build relationships and knowledge among media. Examples include:

— Media tours and briefings at nuclear facilities where the waste is currently stored, so journalists can see first-hand the rigor involved in managing used nuclear fuel and ask questions of specialists about how safety and security will be ensured in the future;
— Proactive outreach to journalists about new developments with the project, or specific areas of interest that align with their media outlets' goals or areas of interest;
— Photo and video content that help reporters tell the story in an engaging way, whether their story will be delivered online, in print or via broadcast; and
— Media training of key subject matter experts to equip them to deliver successful interviews with concise, straightforward and consistent key messages.

In addition to earned media coverage generated through reporters, the NWMO is also reaching audiences through paid media such as advertising and paid editorial content. These tools allow the organization to proactively reach key audiences with a higher frequency and specific messages about the project and ways to engage or learn more about it.

3.6. Internal communications and skill-building programs

As the project advances and the NWMO seeks to continuously increase public awareness, it sees communications and engagement as an essential company-wide endeavour. The organization has recognized that all employees are potential ambassadors for the project. It is common for technically focused employees to join the engagement team in communities, so the local public can hear directly from specialists about various aspects of the project. People from across the company have staffed information booths at industry conferences, and employees with a range of skillsets have been trained to deliver tours at the organization's proof-test facility. All employees are encouraged to share ideas for engaging content, to network with others in their field of expertise, and to continue to advance their knowledge and understanding of the project so they are equipped to answer questions.

To that end, the organization has implemented internal communications programs to help keep employees informed of new developments, not only through their managers, but also through activities such as monthly Lunch and Learn lectures that delve into different types of work happening across the organization, chat sessions with the CEO and other members of the executive team, and annual staff conferences that bring together the entire workforce to share information.

The organization has also implemented communications training programs in areas such as presentation skills, media interviews and social media to help employees continue to learn and build experience.

4. CONCLUSION

The NWMO's extensive engagement and communications programs are frequently shaped by the audiences they seek to involve. Canada's long-term plan for used nuclear fuel and the site selection process were both based on extensive public dialogues. In turn, the process is being implemented in an open, transparent and inclusive manner that seeks to incorporate advice and guidance from key stakeholders, both local in siting communities as well as Indigenous peoples and the broader Canadian population. Taking cues from the feedback it receives, the NWMO is actively expanding and adapting the activities, tools and platforms it uses to increase visibility and understanding of its work as it prepares for site selection.

The program has been highly successful to date. When the siting process was launched in 2010, 22 communities stepped forward to get involved. Engagement remains high in those still involved, even though many years have passed. Communities have agreed on the values and principles required to achieve partnership. With guidance from elders, youth and communities the organization has developed an increasingly strong approach to interweaving Indigenous knowledge. Beyond communities, the organization is seeing steady growth and positive public engagement through media, social media and industry and other platforms.

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