NWMO Citizen Panels Aggregate Report: Phase Four

Navigator Ltd.

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NUCLEAR WASTE   SOCIÉTÉ DE GESTION
MANAGEMENT   DES DÉCHETS
ORGANIZATION   NUCLÉAIRES

Nuclear Waste Management Organization
22 St. Clair Avenue East, 6th Floor
Toronto, Ontario
M4T 2S3
Canada

Tel: 416-934-9814
Web: www.nwmo.ca

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 Social Research

The objective of the social research program is to assist the NWMO, and interested citizens and organizations, in exploring and understanding the social issues and concerns associated with the implementation of Adaptive Phased Management. The program is also intended to support the adoption of appropriate processes and techniques to engage potentially affected citizens in decision-making.

The social research program is intended to be a support to NWMO's ongoing dialogue and collaboration activities, including work to engage potentially affected citizens in near term visioning of the implementation process going forward, long term visioning and the development of decision-making processes to be used into the future The program includes work to learn from the experience of others through examination of case studies and conversation with those involved in similar processes both in Canada and abroad. NWMO's social research is expected to engage a wide variety of specialists and explore a variety of perspectives on key issues of concern. The nature and conduct of this work is expected to change over time, as best practices evolve and as interested citizens and organizations identify the issues of most interest and concern throughout the implementation of Adaptive Phased Management.

NAVIGATOR

NWMO Citizen Panel Aggregate Report Phase Four

AGGREGATE REPORT OUTLINE

1. **Introduction**

   a. Phase Four
   b. Panel Methodology

2. **Appropriateness of Framework**
   Answers the question: "Does the framework of objectives, ethical principles and requirements provide a sound foundation for designing the process for selecting a site?"

3. **Assuring Fairness**
   Answers the question: "How can we ensure that the process for selecting a site is fair?"

4. **Other Models and Experience**
   Answers the question: "From what models and experience should we draw in designing the process?"

5. **Who Should be Involved, Roles, and Responsibilities**
   Answers the question: "Who should be involved in the process for selecting a site, and what should be their role?"

6. **Facilitating Participation**
   Answers the question: "What information and tools do you think would facilitate your participation?"

7. **Panelist Observations**

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1. INTRODUCTION

Phase Four

Building on previous qualitative research studies, the NWMO contracted Navigator to initiate Citizen Panels in eight cities across Canada. The goal of the Citizen Panel project was to further explore the feelings, attitudes and perceptions of Canadians toward the long-term storage of Canada's used nuclear fuel.

The Citizen Panel project is markedly different from the qualitative research projects that have preceded it. The intent of the Citizen Panel format used in this project is to allow for the discussion to be formed and driven by the views of the individual Panelists. These Panelists have had a brief introduction to the NWMO and are aware of rudimentary facts surrounding Canada's used nuclear fuel such that an informed discussion can occur.

Phase Four of the NWMO Citizen Panels took place in June 2008. The Panel discussions primarily gathered input and explored Panelist reaction to the design of a process for selecting a site, and used five questions as a foundation for research:

1. Does the framework of objectives, ethical principles and requirements provide a sound foundation for designing the process for selecting a site?

2. How can we ensure that the process for selecting a site is fair?

3. From what models and experience should we draw in designing the process?

4. Who should be involved in the process for selecting a site, and what should be their role?

5. What information and tools do you think would facilitate your participation?

These five questions also served as the organizing principle for this Aggregate Report document, as well as for the discussion leader's guide. A general outline of discussion objectives, as well as materials intended to guide the work of the Panel, were prepared in advance of the Citizen Panel. Final versions of the draft materials shown to the Panelists can be downloaded at www.nwmo.ca.

Panel Methodology

These Citizen Panels have been designed, as much as possible, as collaborative discussions facilitated by a Discussion Leader. They are separate and apart from focus groups in that they empower individual Panelists to raise questions and introduce new topics. The role of the Discussion Leader, in this format, is merely to introduce new topics of discussion and lead the Panel through a number of discussion exercises.

As well, additional measures were incorporated into this Citizen Panel format to empower individual Panelists. Each Panelist was made aware of their independence and responsibilities to both contribute to, and lead, the Panel discussion. A transcriber, traditionally taking contemporaneous notes behind one-way glass or in another room, was, in this case, placed inside the discussion room. Panelists were empowered to direct him or her to take special note of elements of the Panel discussion they felt were important, or ask him or her to recap any part of the discussion upon request. A commitment was made by the Discussion Leader that the notes taken would be sent to Panelists for review, possible revision and approval, to give Panelists faith that they are in control of the proceedings and ensure their contribution is reflected accurately.

Potential Panelists were originally selected through random digit dialing among a general population sample in the wide area in which each Panel was held. Individuals called underwent a standard research screening survey in which they indicated that they were interested and able to participate in a discussion about a general public policy issue with no advance notice of the specific topic. Individuals were screened to include community-engaged opinion leaders in at least one of these topics: community, environment, and/or public/social issues. Those that passed the screening process were asked to participate in a traditional focus group on the perceived trust and credibility of the NWMO, which allowed an introduction to the topic of used nuclear fuel and topics such as Adaptive Phased Management. The discussions were neutral in tone and did not presuppose any outcome on issues such as nuclear power generation and siting for used nuclear fuel.

At the end of this research study, participants were asked if they would be willing to continue in discussions on the topic of used nuclear fuel. Those who expressed interest were placed on a "short list" of potential Panelists for the four-phased Citizen Panel project. Research professionals at Navigator subsequently used this pool to select Panelists that would ensure a diversity of age, gender and experience in the Panels. Only participants who demonstrated both a willingness and ability to contribute to group discussions and complete exercises were included in the pool. The content of each participant's contribution in the focus groups was not reviewed by Navigator professionals. Rather, the only qualifiers were those individuals who could speak clearly and were able to grasp concepts introduced to them at a basic level.

A target Panel population of 18 was determined for each location in the interest of ensuring the long-term viability of each Panel over the course of four discussions.

Phase One Citizen Panels occurred in late Fall 2007. Although successful in terms of the richness of data collected in all 8 Panel locations, it was clear upon completion of the Panels that it would be necessary to hold Supplementary Citizen Panels in four locations (Toronto, Montreal, Regina and Sault Ste. Marie) due to smaller than expected Panel populations, as well as a difficulty experienced by some Panelists to honour their commitment to attend, as was confirmed on the day of the Panel.

Supplementary Citizen Panels occurred in early January 2008 and consisted of 6 new recruits, selected by random digit dialing, to replicate the experience by which all other Panelists had been selected. New recruits were sent a reading package in advance and then had a one hour "lobby" session immediately prior to the Supplementary Citizen Panel. This session replicated a condensed version of the Preparatory Phase research and allowed for any questions Panelists might have had about the NWMO. Following the "lobby" session, the Supplementary Citizen Panel continued, adding Panelists who had confirmed but, for a myriad of reasons, could not participate in the Phase One Citizen Panels.

Following the completion of the Supplementary Citizen Panels, those that demonstrated a willingness and ability to continue were added to the pool for Phase Two Citizen Panels.

Phase Two Panels occurred in mid- to late January, 2008. Again, Panels were successful in the richness of the data gathered. Furthermore, Panelists began to demonstrate a higher degree of ownership in the process with impressive attendance, commitment to the discussion and, in come cases, engaging in extra work, such as assembling their thoughts on paper and seeking out additional information.

Phase Three Panels occurred in late April and early May 2008. Unlike previous Panels, Phase Three Panels were divided into two parts: a discussion portion and a question and answer portion with a technical representative from the NWMO.

The Phase Four Citizen Panel discussions of June 2008 primarily gathered input and explored Panelist reaction to what an appropriate siting process might look like. Phase Four's secondary purpose was to review draft communications materials and gather Panelist input on how to communicate the overall project.

Procedurally, all Phase Four Panels followed an identical process. After a brief discussion of what they may have been hearing in the news, Panelists were divided into groups and asked to brainstorm ideal communications products which they would present later. Panelists were then presented with three backgrounder documents to use as resources for a series of five questions. The first two backgrounders (*Background – Selecting a Site and Framing the Discussion*) were handed out together, and provided background for the first two questions. The third backgrounder (*Learning from Others*) was held back for later in the discussion, providing context for the fourth question. The fifth question was raised in conjunction with the conceptual communications work presented by Panelists in small groups.

The five questions also served as the organizing principle for this Aggregate Report document, as Panelist commentary from the eight sessions is arranged topically to match the themes of the questions. This method of organization is meant to be consistent with other research conducted by the NWMO.

The five questions, also found in the Discussion Leader's guide contained in Appendix iii of this document, were drafted by the NWMO to serve as a foundation for the research in this phase:

1. Does the framework of objectives, ethical principles and requirements provide a sound foundation for designing the process for selecting a site

2. How can we ensure that the process for selecting a site is fair?

3. From what models and experience should we draw in designing the process?

4. Who should be involved in the process for selecting a site, and what should be their role?

5. What information and tools do you think would facilitate your participation?

The NWMO provided these questions to guide discussion because they are also used in other research done by the organization.

2. APPROPRIATENESS OF FRAMEWORK

Does the framework of objectives, ethical principles and requirements provide a sound foundation for designing the process for selecting a site?

In order to address this question, the Discussion Leader distributed two backgrounder documents for discussion. The first contained some facts about the proposed repository site, while the second backgrounder focused on a broad framework of considerations for the site selection process ranging from fairness to safety, with a special emphasis on ethical principles. After reviewing these first two backgrounders, Panelists discussed the first question.

The question opened the door to a range of discussions on topics related to ethics and siting challenges. Some responses touched on the notion of consent whereas others pondered whether the NWMO would be able to keep pace with the growth of nuclear power in Canada and whether safety and security concerns would be properly addressed.

Panelists appreciated the framework, felt it was a good and appropriate starting point for designing the process to select a site, and generally indicated that they would not omit any components as unimportant. In addition, they generally felt the framework was comprehensive and without major gaps or omissions. This Sault Ste. Marie Panelist was especially appreciative:

> *I think it's really well thought out. … I think it's a really good list. I think it's been missing in some places in the past, but it's great now.*

Panelists did identify a number of challenges operationalizing this framework. They perceived that there was not a single, perfect solution to addressing these challenges, but applauded genuine efforts. In doing so, they afforded the NWMO some license to undertake its 'best effort' going forward.

The key challenges identified by Panelists include whether it will in fact be possible to find a willing host community, how to recognize "willingness" on the part of a community, and how to choose between more than one willing community. Additionally, Panelists considered the transportation of used fuel, the need to consider the role of transportation communities in decision-making, and the degree of confidentiality needed for transportation plans.

The background material underlined a number of starting precepts: that the search for a site would focus on the four provinces involved in the nuclear fuel cycle; that any host community would need to satisfy the necessary geological and safety screens, and that any host community must be informed and willing.

Panelists struggled with the concept of "willing host community." They tended to feel it is something which the NWMO must strive to achieve, although many suspected it may

not be achievable and a different threshold might be needed in order for the project to proceed. Each word in this term presented its own challenges: "willing" required Panelists to consider whether fully informed consent could ever be attained on a large scale; "host" continued to be considered euphemistic by some, and the idea of "community," discussed in greater detail in Section 5, inevitably conjured up images of populated municipalities.

In order to consider that community consent to be informed and meaningful, many Panelists felt that the process itself must continue to legitimize citizen opinion with thoughtful listening. A Panelist in Regina put a strong emphasis on a process that actually values community input:

> *If people get the sense that the powers that be have decided this, then I wouldn't go [to a town hall meeting, etc.]. But if they feel that 'this is up to you,' then they will go.*

Panelists struggled to identify ideal benchmarks for the informed, willing consent that a community would need to attain when seeking go-ahead from its citizens to become a repository host site. They also wrestled with what degree of consent communities would need, how they ought to attain it, and how often would they need to express it. When these questions arose, Phase Four Panelists in all locations had many different things to say.

A Panelist in Regina was quick to raise the notion of consensus, but then quickly dismissed the idea, doubting that it could ever be achieved using a voting process:

> *Are they looking for a consensus? They'll never get that. So they should establish some type of benchmark? It shouldn't be 50% + 1.*

Interestingly, not everyone felt that achieving consensus was an impossibility. A Panelist in Toronto noted that if a smaller community attempted to increase awareness on the subject, it would increase its likelihood of achieving consent. This Panelist also thought that something similar to consensus could emerge from that awareness:

> *Would the community be allowed to vote? If it's a small community then it's much more likely that you can educate them and get them to agree.*

The referendum was the most frequently-cited tool for deciding whether a community was willing to be a host. Many comments suggested that referenda were attractive in theory but problematic as a tool in practice. Some Panelists made fairly nuanced observations about referenda and their lack of utility for informing or measuring consent.

One Montreal Panelist, when speaking of the nature of a community's consent, drew a distinction between "consent" and "informed consent." This Panelist pointed out that even if a referendum can measure support, it cannot measure knowledge and awareness:

> *No, I think it's a good way to measure willingness. I just think it's not as effective a way to measure how informed people are.*

A Toronto Panelist also raised concern about whether consent could ever be informed in a case when citizens were asked to vote on something that could bring them economic benefits:

> *I guess a lot of the concern I have is putting the focus on ethics into action … people will often welcome things that aren't really in the best interest for their community but they just see the jobs. Is this really informed consent?*

While a few other Panelists hinted at a possible inability to stay objective in the face of potential benefits, their statement best captured that particular worry.

The possibility that referenda could be used to determine if a potential host community was "willing" was raised during every Panel. On the question of what threshold of support these referenda should require to pass, there were nearly as many views as there were Panelists.

Most Panelists quickly dismissed the utility of a single 50%+1 vote expressing desire to host a site. A Toronto participant recognized that such a situation was unacceptable because "then half of the people are dissatisfied." A fellow Toronto Panelist had a more specific suggestion, speculating that one side would need a larger margin:

> *75% of the town – 7,500 of 10,000 people in a small northern town - if that many agree, it's a go.*

Some expressed a two-thirds majority was required, while others felt that different variations of a "supermajority" were needed. The Discussion Leader attempted to determine the origin of some of these numbers. In Saskatoon, this three-way exchange revealed a perception that even 10% of the population, when vocal and well-motivated, can be a very effective minority:

> *Panelist 1: How many people have to be in agreement? What's a fair number? 90% in favour?*
> *Panelist 2: I know it's way more than 50%.*
> *Discussion Leader: Why?*
> *Panelist 2: Because 10% of people pissed off is still a lot.*

It is unclear and perhaps unlikely that this threshold (90% support required) would have weathered the scrutiny of the entire Panel. In all probability, each Panelist had a slightly different notion of what they consider to be a fair margin of support. Most Panelists would also have doubted that any one referendum result, regardless of how strong, could speak for a community over the longer-term. Several Panelists raised concerns that future generations of a community's inhabitants may feel differently over time, and that successive referenda or votes may be needed.

Finally, it should be noted that some Panelists did not prefer referenda as a vehicle for expressing consent. A Saint John Panelist considered elected leaders to be better guardians of the public's best interest, a perception shared by a number of other Panelists:

> *I disagree with a referendum. You can't trust the people all of the time. We have to entrust our standards and values to the people who represent us in these things.*

The role of governance in regulating the site selection process will be discussed in greater detail in Section 5 of this report. Nevertheless, it is worth mentioning here that many Panelists expected that government and government agencies would respect the line between informing and promoting the idea of becoming a host site. A Toronto Panelist recognized that, in their opinion, a clear line must exist:

> *If there's going to be political masters, whatever stripe, how do we keep them from propagandizing this? If there's going to be fair information then there needs to be some type of civilian oversight board.*

Some Panelists offered a word of caution when it came to benefits, observing that neither the NWMO nor any level of government would want to cross a line by offering disadvantaged communities a project like the repository as a sort of financial life-preserver. No Panelist, however, said that they felt this was likely to happen, and some even indicated that such an offer was appropriate. A Saint John Panelist worried that market principles may work against two disadvantaged communities competing for the repository:

> *If you have two that want it, one community might say 'we'll do this for less'. They may end up fizzling themselves out.*

Similarly, a Toronto Panelist suggested the NWMO include people of economically-challenged backgrounds and regions in its list of views to consider and consult:

> *… it should [include] financial minorities as well. So people from the wrong side of the tracks should have a mechanism in place to have a voice. You should protect financial minorities from having the site dumped on their land.*

As with much of the Citizen Panel process, there were Panelists of both minds on this subject. Not everyone thought addressing cases of need was a negative for the possible host community:

> *I like the openness and the objectives... it mentions benefits and for me... if this was coming to my community then I would want to know more about the benefits...because if I lived in an impoverished community I would want to know about that.*

It appeared that to most Panelists, the ideal scenario would be that a community considering hosting a repository hears all sides of the discussion. That would allow any decision making in a community to take place on a fair footing.

Along with the nature of consent and informed consent, Panelists in Phase Four were also quick to point out what they saw as additional challenges for the NWMO to consider as they moved forward including, planning for a possible increase in the amount of used nuclear fuel, transportation, and deciding between qualified sites.

While most Panelists still had a difficult time envisioning the size and scale of the project, they understood the value of building a site with room to grow. A Montreal participant hoped that those planning the site have fully accounted for a possible upswing in the usage of nuclear power:

> *The thing is, they're choosing a site on the basis that there are I-don't-know-how-many nuclear power stations and that we've been producing it for 40 years now and they're estimating that the nuclear stations will be around for another 40 years … [but] won't we need to choose a second site to account for what happens in the meantime?*

A participant in Saint John stressed that the eventual host should acquire enough land "so we don't have to do this again." Another Panelist from the same location thought that having a "second place" community in the selection process wasn't such a bad thing. In that case, this Panelist rationalized:

> *They know that they don't have to go through this process next time. There's one willing to take [the used fuel] when it's full.*

Many would agree that the NWMO could alleviate some of these concerns by explaining their projections for how long it will take to fill the repository.

While discussing the Framework, Panelists raised another set of site-related challenges having to do with transport of used nuclear fuel and safety along its transport route. Panelists who spoke about secure transportation struggled with the topic. On one hand, some said they preferred to enter a dialogue about the risks and would wish to give explicit consent. On the other, some felt that many communities already give tacit consent to dangerous shipments of other sorts. Many Panelists believed there may not be a proper chance to attain specific consent because of security procedures, but engaged in a debate amongst themselves as to whether this was problematic.

The following dialogue from Saint John highlights the debate that might go on in the minds of citizens:

> *Panelist 1: I guess when it comes down to transporting from point A to point B that everyone should be aware of the route it takes.*
> *Panelist 2: I disagree. You don't want people knowing that. Sabotage for starters. There's things that go by every day that we don't know about.*

Many Panelists recalled the extensive safety testing of the storage containers from Phase Three. This Scarborough Panelist saw those containers as a source of confidence in the

transportation component, even if they had no way to tell if they could really withstand extreme conditions:

> *We have assurances that the containers the waste is put in will be extremely secure... so if there is a derailment, it's a matter of putting it back on the tracks. Hopefully that is the fact.*

As this Kingston Panelist's thoughts illustrate, many acknowledged that hazardous materials of a more conventional sort travel on public roads and highways every day:

> *The way I look at that situation is out of sight, out of mind. We already trust trucking and train companies with all these chemicals on the road so I don't understand how it's going to affect communities that much. Stuff like this happens every day. You have no clue what is actually being held in those containers.*

Other Panelists did not agree that transporting used nuclear fuel can be discussed in the same way as other hazardous goods. What might make some Panelists more confident about transportation safety would be the presence of specially-trained emergency response teams placed along the transit route who would be on-call for any accidents. A Saint John Panelist argued that adding on to a community's emergency response capacity could be part of a benefit package offered to the community:

> *I give a thumbs-up on this. But when you get to transportation right away, all of these could be projects within the big project. Helping add on to the emergency department.*

Also while discussing the Framework, some Panelists engaged in a debate over the relative safety of road versus rail transport for used nuclear fuel. In Scarborough, a number of Panelists imagined rail to be safer than highway transit and speculated on the perceived danger of used nuclear fuel traveling on highways:

> *Panelist 1: But we have miles and miles and miles of wilderness that train tracks go through in Northern Ontario that these things go through.*
> *Panelist 2: I think people are really afraid of it getting on highways.*

The following exchange illustrates some of the factors considered by two Toronto Panelists when probed why they felt it was safer to transport waste by rail rather than by road:

> *Panelist 1: Fewer accidents.*
> *Panelist 2: Because the train belongs to CN or CP... just one owner, it just seems to me that they should do it by train.*

As some Panelists arrived at the previously unconsidered conclusion that a community might express a desire to host a repository, they consequently came to terms with the possibility that referenda could pass successfully in more than one geologically-suitable location. Many Panelists approached this siting issue with interest, even if they had not

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previously thought it to be possible and did not have a clear idea of how it should be resolved.

Panelists initially had difficulty seeing the problem without prompting, as the Discussion Leader needed to ask them to imagine a scenario in which two communities had passed referenda by similar margins. A Saint John Panelist said he would support the community with the stronger referendum result, even if they were very similar:

> *I'm saying that could be a large factor, all things being equal.*

A Panelist in Saskatoon echoed a more common theme, figuring there were always more scientific criteria that could be used as weighting factors:

> *What I was meaning, is why not just find what's good, but what's great? What's 110% better?*

Panelists imagined the following criteria could possibly play a role in choosing between "qualified" sites: distance from reactor sites, distance from urban areas, quality of local infrastructure and roads, the capacity of the local ERT, availability of skilled local labour, and community need. This Saint John Panelist offered stark disbelief that two communities could be considered equally suitable while submitting their own "tiebreaker" idea of better weather conditions:

> *The security and the viability and the long term -- but are they really that equal? Is it going to come down to the point where there is no factor where one is not just a little bit better? Perhaps less snow on the road in the winter? Labour?*

Another Panelist in the same group cited a shorter distance for transporting waste as a factor likely to sway the balance in a particular community's favour:

> *Transportation. The shortest distance you can carry the most nuclear waste. What reactor produces the most waste and what has the best highway to get it there. 'Sorry, we picked the site that was 20 [km away].'*

As one might expect, the criterion of transportation distance was mentioned as both an advantage (the more remote community keeps the used fuel away from centres of population) and a disadvantage (the closer community requires less exposure to potential risk from transport) with no consensus in the Panels favouring either.

The emphasis Panelists placed on finding criteria to help choose between competing sites underscores the importance they have attached to the siting process in their minds – they would like the process to consider a multitude of criteria in order to arrive at the best decisions.

3. ASSURING FAIRNESS

How can we ensure that the process for selecting a site is fair?

As with the first question, Panelists used the two previously-mentioned backgrounder documents (regarding the siting process and ethical considerations) as guides to inform and illuminate discussion. Panelists were engaged on this topic and thought it to be a fair question. Much of the discussion pertinent to this question can be clustered into two groupings: what benefits ought a community receive from hosting a facility, and how ought the needs of future generations be factored in to decision making.

Most Panelists in all Phase Four locations were convinced that there would be reciprocal benefits to the community that hosts the repository. Whether they imagined jobs, infrastructure, education, or even tourism, no Panelist proceeded on an assumption that a community might volunteer to take the repository without any sort of benefit.

Panelists generally agreed that it was fair arrangement for any community that hosts the repository to have a right to expect to benefit from it. There was a difference of view, however, on whether the benefits to a community ought to be solely those in the form of jobs and economic spin-offs as would naturally come from the development of any large project in a community, or whether additional benefits (such as building a hospital, school etc.) for hosting the facility would be appropriate. Panelists differed on what constituted "fair" benefits in this sense.

Some were enthusiastic about promoting possible benefits. This Panelist spoke about the added employment that a community could experience throughout the building process:

> *There's no shortage of economically-depressed communities. I think you look at what communities can most benefit … It's only one factor but it certainly eases the process if you chose a community that's desperate, for lack of a better term. At the end of the day, a job is a job.*

A Panelist in Saint John was one of many who debated adopting a needs-based approach that matches a site to a community based on their existing municipal or regional infrastructure and services:

> *What's in it for the community? I think there has to be some sort of partnership or some sort of need the community has that putting a facility in around that community can fulfill. If it's low employment, then that facility can increase employment, if it's things for the schools. Enhanced parks. Your community has to have some of the needs on this list that they need.*

A Kingston Panelist devised a similar idea, adding even more criteria to a growing list:

Does the site have an on-line hospital? Do they need to get to the nearest town? Do they have their own trucking set up, right there? Do they use people? It gets complicated.

As mentioned in the previous section, many Panelists expressed ethical concerns about using a community's needs as criteria for site selection, worrying that their consent may be attained by the promise of benefits.

Another major theme of discussion related to this second question dealt with ensuring that there is fairness between generations in this long-term project.

Several Panelists – once again, unprompted – went out of their way to mention the importance of educating the next generation about nuclear waste. Many wanted this education to start at a young age in schools, and to deal with the entire life cycle of nuclear power and the waste it produces.

There were several possible reasons why Panelists have continued to raise this idea. As a Toronto Panelist mentioned, one is that they do not wish for the next generation to be taken by surprise with what is perceived as a "sudden" need to store waste:

I think you have to start educating the next generation right now. That initial taboo where people don't want it right away and then after that first hurdle, people grow up with it and accept it.

A reason more frequently mentioned was that the next generation will have to live with the storage facility and its risks for their entire lives. A Montreal Panelist raised this, indicating a need for an education process to continue through many stages of a young person's life:

I think it's important to involve youth in this matter and to create youth councils in grade schools, high schools and beyond – colleges and universities, etc. It's important to give them a voice too because, ultimately, they're the ones who will be inheriting all of this.

As was the case in previous phases, comments about the need to transfer knowledge about the repository to future generations arose in each of the Phase Four groups.

4. OTHER MODELS AND EXPERIENCE

From what models and experience should we draw in designing the process?

The third and fourth questions asked of Panelists used a third backgrounder document as a platform. The content of this backgrounder centred largely around lessons that could be learned from others – within the community and from abroad.

Panelists were able to draw upon a rich set of experiences both domestically and internationally. Many cases cited were cautionary tales, but there were also some examples cited about organizations that had "gotten it right."

Panelists brought decades of personal knowledge and memories of local projects to the discussion. Panelists recalled parallels, best practices, and worst-case scenarios from cases as diverse as casinos to fuel processing facilities.

A Montreal Panelist stressed the general importance of learning from others' failures as the NWMO goes about its work:

> *I think it might be a good idea to look at other failed attempts and say 'Yeah, those were not good ideas, not the way to do things' and to try and figure out what we can do better because you learn as much, if not more, from your mistakes or the mistakes of others than from your successes.*

Most of the real-world examples cited by Panelists in other places were, in fact, based on projects that had gone wrong or suffered great criticism. In Saint John, much of this discussion centered on the recent Liquefied Natural Gas (LNG) facility and the bruised feelings that resulted from what most Panelists considered a poor consultation process:

> *It was not handled democratically. It was city council agreeing to it under serious pressure.*

A second example of a local project that could provide guidance for the NWMO is the Mirabel airport in Montreal. This was raised in more than one panel, but discussed most thoroughly in Scarborough:

> *The thing is that the community even going back then was not too much in favour. It was sort of pushed on them. If a community says they want to be a host, and it's an acceptable host, we're talking about reality being 60-70 years down the road. Will that host community still have the same feelings? There was a willingness in one sector of society to do something there: the government. But the people never had any interest there. There was no public support at all.*

Though the bulk of experiences mentioned by Panelists were negative, there are also some successful models from which to draw. A Panelist from Toronto recommended that the NWMO consider the efforts of two particularly well-organized groups as they try to inform the public:

> *If you [want examples for] NWMO needing to change the culture around nuclear, look to the example set by the Lung Association or M.A.D.D. – they changed the culture around drinking and driving and smoking completely in a relatively short period of time. Maybe you can get examples from there.*

Finally, another positive example was offered by a Kingston participant who drew a parallel between the construction and setup of the nuclear power facilities in the 1960s and today's challenge:

> *When it says we have fuel bundles stored safety at licensed facilities, there must have been a process from 40 years ago that they went through that is a process they could take into consideration when coming up with a long-term site. Obviously there will be technical differences but rather than reinvent the wheel, they've clearly gone through a process before.*

While not discussed as extensively as it was in the Phase Three, international experience was raised many times in this round. There was a very good memory recall on these sections, particularly since it was discussed in the Phase Three discussions, and also in the question and answer sessions with the technical representatives. Panelists continued to show interest in what could be learned from the Swedish and Finnish cases, in which communities came forward to host the repository. A Scarborough Panelist recognized the usefulness of being able to borrow knowledge from other countries:

> *It'd be better to consult the other countries who have done this process. Look at their paperwork and how they did it from scratch. And then ask how could this apply to Canadian culture, or if something needs to change or be added, but using this as a base.*

Differences between Canada and Europe were frequently observed. Many noted that the processes used in Europe may not be fully appropriate in Canada, but that these differences are not so great as to fully discount European experiences as potential models.

A Kingston Panelist offered a different insight into the European experience. Looking at the consultations done in other countries, the Panelist concluded that if the plan for a repository located in close proximity to population could succeed in an environmentally conscious European climate, then it could also work in Canada:

> *We should look at other countries. If they can do it with tight communities in small places and have it work, surely we can do it in big spaces and less tight communities. It's got to be instructive. How did they get around those objections? Europeans are far more environmentally conscious than we are.*

Logistics aside, some Panelists wondered what the international experience can tell Canadians about the ethical issues that the NWMO is considering. One Saint John Panelist thought that while the NWMO producing a list of considerations and sensitivities was appreciated, it would be illuminating to know if some of the countries had difficulties in this respect:

> *Do we get to find out how other countries and other host cities who have facilities – do we have any models about how they approached communities and what the outcome has been?*

This same Panelist also touched on something that was raised several times during the communications exercise and is discussed in greater depth in Section 6 of this document. This Panelist believed that the experiences of nations further along in this process could be retold to Canadians as an illustrative tool. Firsthand experiences can be powerful devices, the Panelist explains:

> *They have already said 'if you accept this as a host community, then these are the benefits, and the non-benefits.' Why can't we ... hear from them how it's affected them and their lives?*

As evidenced during the Phase Three, any desire for international cooperation on the part of Panelists did not extend to helping other countries by taking their nuclear waste. A Saint John Panelist had the following concern about Canada's relationship with other countries regarding waste management and sovereignty:

> *One thing we never talk about is that when this thing is built that we only take Canadian waste. We do not take other countries' waste. It was the first thing I thought about. Other countries will think 'let's ship it off to Canada'. It would give satisfaction in knowing it is just going to be our own waste.*

Whether due to reasons as simple as proximity, or as part of a larger national concern about sovereignty, the United States was singled out by several Panelists as likely to attempt "shipping" their waste to Canada. This fear was mentioned despite the moderator's explanation of Canadian policy prohibiting this as well as the discussion about the United States' construction of their own repository in Yucca Mountain. Said a Saskatoon Panelist:

> *What I'm worried about is that the United States will say: 'you've got all this rock...'*

Similar concerns were echoed in many locations, but the discussion of taking waste from "other jurisdictions" was framed differently in Montreal. In that location, some Panelists considered other parts of Canada to be included in that definition:

> *And when they talk about 'fairness' do they mean one province as compared to another or in terms of the quantity of production? ...that's not clear.*

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Finally, constructing the repository is an enormous challenge that would stand as a great feat of "made-in-Canada" engineering, but few Panelists pictured the NWMO's task in that light. Many agreed it would be a source of national pride, but few Panelists volunteered a thought along these lines. One Panelist in Saint John not only framed the repository in this light, but he considered it to be something that could function as a symbol of national ingenuity:

> *Frame it as a challenge: it's a Canadian problem, for us, and frame it as a thing of pride to solve this. It's a reactive process. It's to solve a problem. Don't be afraid of that.*

Most Panelists were more inclined to incorporate experience from Canada and abroad as NWMO moves forward with its work.

5. WHO SHOULD BE INVOLVED, ROLES, AND RESPONSIBILITIES

Who should be involved in the process for selecting a site, and what should be their role?

The fourth question asked Panelists to consider who ought to be involved in designing an ideal process to select a site, and also to consider what roles individuals or groups might play. The question also provided some additional context to encourage more input, and to allow Panelists to consider the role of communities. Discussion that flowed from this question and others related to it was often quite lively. The notion of community held by Panelists in their own minds was often challenged and debated. Additionally, the issue of consent for non-host communities affected by the siting process (e.g. neighbouring communities and transit communities) was explored.

A Saint John Panelist expressed his appreciation for any attempt to undertake proper consultation, saying that the NWMO was "on the right track if they can do it" as they try to achieve their objectives. He opined that if a recent high-profile local project had performed such extensive consultation, "there wouldn't have been a problem."

Discussion of who should be involved in the site selection process inevitably invoked the notion of community. The documentation provided to Panelists used the word "community" extensively, which led to some debate over its meaning in this context. In this phase of Citizen Panels it appeared that many Panelists pictured a populated, settled municipality in their mind's eye when they saw or heard the word. A Kingston Panelist, when considering community consent (along with possible benefits) prefaced their comments with a definition of what they considered to be a "community":

> *Defining the community, I would suggest it has to be broad and patterns of economic activity, I think you have to consider them part of the community.*

The Panelist, like some others, would have included many outlying areas as part of a singular community. Their effort to come up with a working definition for the sometimes nuanced term "community" was an isolated incident in Phase Four. Instead, most Panelists made assumptions: conceiving of communities as populated areas led many to believe that a repository site would never be built in such a place. A Saint John Panelist explained:

> *Most people, if you talk about this, say 'I just thought it was going to be in the Canadian Shield somewhere.' It says 'community' – who would you have to inform? I can't imagine this in anyone's backyard! I always got the feeling that this is going to be miles and miles from anyone.*

This was the most common assumption when it came to a host site: that it would be located a very great distance from urban areas via rail or highway. A different Saint John Panelist figured that the "community" could encompass a sizeable greater municipal area:

Every community has a broader community. The nearest town.

Panelists felt there was a role for many types of communities, but that their appropriate level of influence ought to vary with their role. Panelist comments were clear that host communities are the most important, although defining what constitutes the host community was perceived to be problematic. Transportation communities, most agreed, ought to have a lesser role. This viewpoint was prominent in the Panel discussions as Panelists recognized, for instance, that the commitment required of these communities would be a temporary one versus that of the host community. There was some disagreement as to whether or not transportation communities ought to have a veto *per se*, with many arguing that there are reasons (based on national interest or pragmatics) that diminish their right to influence the project in that way.

A key difference perceived to exist between host communities and transport communities was that the host location would have their increased risk counterbalanced by the positive effects of new local jobs and other benefits. Theoretically, some Panelists argued, it is just as important to involve and earn the endorsement of transit route communities as it is of the host community:

> *I think it's just as important to include and talk about the people who will be affected all along the transportation path of the nuclear waste before it arrives at its final destination. Whether they fly a plane or drive a truck to go and deposit the nuclear waste at the disposal site, there are going to be a lot of people put at some potential risk along the way.*

Many Panelists would have agreed with this statement, but there simply was not a consensus that emerged over whether transport communities would need to be consulted, and if so, how thorough that consultation needed to be.

Panelists recognized that if specific endorsements from transport route communities were needed, they could be tough to earn. As this Kingston Panelist mentions, unlike with repository host communities, these communities would not necessarily be able to point to benefits:

> *If they're driving trucks through somewhere, there's no economic benefit. ... If it comes down to whether the trucks go through the community, I wouldn't contemplate a referendum in that case. If they have to get permission to drive a truck through a community, they're going to have a tough time with that.*

Some of the other Toronto Panelists engaged in a well-reasoned dialogue about transit communities and the degree of accord required from them both ideally and realistically. One Panelist had lofty goals for communication with these communities:

> *I think you need to have a say for the transport communities. You have to involve them if you bring it through once a week, once a month. If the communities where it will be kept get a say the others should too.*

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A fellow Panelist, however, was quick to temper expectations based on practical concerns. They noted that the sheer number of small communities was a very real impediment:

> *You can't do it. [With] the amount of communities that it will travel through, you would find someone stopping you in every community.*

Another reminded the Panel that having a voice does not necessarily mean holding a veto:

> *I don't think they should have the right to stop you but I think you still have to have people be informed. Just so that they know.*

Communities of all sorts were thought to play a strong role in the siting process. Panelists, as evidenced above, were often uncertain of that role and how central it should be, but they envisioned a participatory role nevertheless.

Panelist comments implied that involvement of political representatives was necessary, though not sufficient to replace public participation. In most panels there emerged a clear recognition that elected leaders have a strong a role to play in the NWMO's project. Many Panelists shared their similar thoughts along these lines, such as this Panelist in Scarborough who corrected one of their peers who made a negative comment about involving elected officials in the process:

> *People think of the politicians as guys in suits… but really, they're the elected citizens chosen to represent us.*

Other discussions invoked political leaders because of their capacity for effective administration. One Panelist in Scarborough noted that elected officials already have the proper distribution channels in place to disseminate information and to collect feedback. Speaking about contacting the communities surrounding a prospective site, the Panelist said:

> *One way is mailings from our MPs. The affected sites have MPs who represent the people… they could go back and forth. Anyone in constituency gets a piece of paper from their representative saying "look, this area is being considered, what are your feelings?"*

Involving political leaders was perceived to be a necessity in most of the panels. A Regina Panelist hinted that the complexity of the process might require politicians to lobby for communities in their constituency that hope to host the site:

> *It's going to have the support of the province and surrounding area. … Can you imagine just the amount of work you have to do to get your application in? I cannot believe … that you're going to exclude government.*

Not all discussion of the political context was positive, however. A Panelist in Scarborough urged the NWMO to maintain its arms-length image as much as possible in order to prevent being tarred by the public's often negative perception of government:

> *Keep politics out of it. It has to be separate from the ministry, from the government. That's what gives people a lot of mistrust. Continue as a body of your own, people will find that more trustworthy than the government.*

Finally, when discussing scepticism toward political leaders it should be noted that, as this Panelist in Scarborough reminded the others, private institutions are also susceptible to influence:

> *I think we need to have government involved... because if it looks too much like private sector thing, people will worry about accountability.... If there's profit there are usually shortcuts, and so you need a check and balance in it.*

This Panelist, like many others, might argue that government involvement is not too great a burden insofar as it preserves diligent oversight. Panelists often spoke about government in general terms, but they also attempted to address their jurisdictional responsibilities. As one might assume, governments at all levels were identified as likely players in the siting and oversight process.

Many Panelists immediately thought of their municipal government as the level of government most likely to be involved in siting. Important to some Panelists were several key values that they wanted to see represented: oversight, a process that allows time for reconsideration, and a level playing field for local voices.

Imagining that their local government would be the negotiating party for any terms of siting, one Panelist in Saint John implied that they would like to see some future-proofing written in to such a "contract," allowing for later renegotiation if needed:

> *... and what would the process be for withdrawal? The agreement would be with, say, city council, as opposed to that decided through a referendum. ... if there was a change of government.*

While city council was perceived by many to be the most accessible level of government, some thought it could still benefit from a system of checks and balances. A Kingston Panelist reminds us that city council and citizen voices, while sometimes divergent, should ideally be symbiotic:

> *If the vote is really close, like 51-49, I'm not saying don't let City Council have a role, but don't let them make the decision on their own.*

A Saint John Panelist echoed the value of community input:

> *It's not the choice of the city council alone. It has to be a community process.*

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When discussing provincial governments, the tone changed somewhat. Instead of being perceived as dealmakers, many Panelists thought the provinces would be in a position to offer their assent or to try and stop the siting process. In Regina, the Discussion Leader asked why a Panelist was so sure that the provinces would necessarily be involved. They responded:

> *Well you're not going to place anything like this in a province if there's political opposition by the provincial government. It isn't going to happen. It's not real. Of the provinces named, I wouldn't be surprised if all four of them wouldn't get involved in this. You can't bypass them.*

In the view of this Panelist, without the support of the Premier, any bid for a repository would be a non-starter. In effect, this Panelist said that there exists an "unofficial" veto for the provincial government. If they are right that the public would not likely allow a project like this to go ahead without the support of a Premier, it lends strength the NWMO's reliance upon consent as an operating principle.

A Kingston Panelist struggled to untangle the web of jurisdiction that the repository project would present:

> *From a procedural point of view, this is federally mandated, right? They have to work with the provinces and the provinces own the land ... if you bypass the province, you'll create difficulties from a structural point of view.*

This Panelist pondered the problem more thoroughly than the Regina Panelist, but their conclusions were the same: it is inadvisable to establish a site without first seeking some sort of provincial government support.

Finally, many Panelists assumed the federal level of government or its agencies to be responsible for ensuring standards and safety. That role of oversight, we know from previous panels, is reassuring to many Panelists who appreciate the added security of having more eyes watching.

In all of these discussions of government, Panelists' understanding of jurisdiction and Constitutional responsibility varied. Despite that variance in knowledge, all Panelists understood the need for regulation. A Saskatoon Panelist summarized their confidence in government oversight and regulation by concluding:

> *I'm old enough to know that there has to be trust in the process.*

Panelists' appreciation for oversight has been expressed in many ways throughout the Phase Four panels – one Panelist even went so far as to prefer rail to road transportation if a shipment contained nuclear fuel because they felt it underwent closer supervision by government. Many Panelists expressed comfort that their elected representatives would play a role, regardless of any scepticism they might harbour toward politics.

In addition to communities and government, a debate over hosting a repository site might involve many parties – from individual citizens to large multinational interests. Panelists had many ideas as to who should have a say, and under what framework.

A Saint John Panelist recognized that a very public discussion could emerge involving organizations of vastly unequal size:

> *They say every interest group should be heard, but in the end it has to be a majority of citizens living in the community. It should be easier for citizens than businesses. Say it comes down to a referendum. Once it gets to that level, what kind of campaign regulations are there? Things like that get left to the end. Then citizens have no money to fund their side of the campaign and businesses have money for theirs. Make it very clear that it is individuals as a collective which have a final say.*

A Saskatoon Panelist also considered who should get to speak and who should not. While the Panelist did not state their own opinion, they understood that the following questions could become timely when a siting process eventually begins:

> *What about the interveners – in other words, lobby groups? Where do they fit in? I hope they have a voice. The people that come in from outside a community, do they have a voice?*

Concerns over community consent and other facets of site selection led many Panelists to raise the notion of a purpose-built town as a solution. Many believed the advantage of this approach to be that anyone moving to the community is choosing to be there and thus external community consent issues are minimized. Just one of several who raised this option, this Panelist from Scarborough mused about what such a community might look like:

> *There wouldn't be a need for as consultative a process if there is nobody living in that area … I imagine there will be a whole industry built up around this, but it will be by choice that people are moving there.*

A Panelist in Saint John agreed, noting what many would consider to be more modest requirements for local consent:

> *But those people you wouldn't have to inform, educate in finding a site. Because they'd be there because they work in the business. Maybe we don't have to inform anybody in that case.*

While there was some limited discussion of purpose-built communities, most comments about input or vetoes were in the context of a host community and its neighbouring cities and towns.

6. FACILITATING PARTICIPATION

What information and tools do you think would facilitate your participation?

A recurring comment in past phases of Citizen Panels was that the public needs to be better informed. The fifth and final question posed to Phase Four Panelists asked them to creatively consider tools and methodology to encourage greater participation. The question continued:

What information and tools will be essential for participating constructively in the siting process?

As part of the Fourth Phase of Citizen Panels, Panelists were divided into groups of three or four and asked to brainstorm about the elements of an ideal communications piece for the NWMO to distribute. Panelists were encouraged to be creative and not to restrict themselves to a particular medium or budget. They later presented their group's work to the Panel. Panelists went back to the brainstorming work they had done at the start of the Panel sessions to respond to the fifth question, and several of the recurrent themes are mentioned below.

Panelists offered little in the way of topical guidance in this part of the discussion, but their comments were consistent with the general levels of interest demonstrated throughout the sessions. Most often, Panelists mentioned that these communiqués should address safety and security, transportation, and site selection.

Many of the suggestions Panelists made in their group work were surface-level improvements to materials like those they had previously seen, largely concentrating on ease-of-use, layout, and simplicity.

The Panelists' ideal communications product:

- Is reader-friendly, always written in layperson's terms.
- Avoids technical jargon and acronyms wherever possible.
- Uses pictures – they are worth 1,000 words when visualizing this project.
- Employs KISS principle – keep it simple, stupid.
- Employs a timeline, which are more helpful if they cover recent history as well.
- Grabs the eye with "Myths vs. Facts," or "Did you know?" flyout boxes.
- Balances document with fair statements of pros and cons.
- Engages the reader with a teaser headline that encourages further reading: "How much nuclear waste did Canada produce in a year? Look inside to see."
- Is mindful of tone: serious is fine, as it matches the subject matter.
- Reminds readers that is not happening in a vacuum (uses examples of Sweden, France) .

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- Reminds readers how used fuel is stored at present.

Analogies and comparisons were mentioned by many Panelists to be helpful. Likewise, many of the suggestions that arose in groups had to do with making it easier for the organization to interface with ordinary people:

- The NWMO's efforts could use a "face" in the form of a trusted, well-known spokesperson.
- A short, meaningful slogan could capture what NWMO does.
- "One kilometre" is easier to understand than "1000 metres."
- The hockey rink analogy is particularly effective.
- Some sort of mascot or corporate ambassador would be helpful, especially with children.

A good deal of commentary had to do with the medium of communication that the NWMO should employ to inform citizens. Panelists who took issue with using the printed page as a medium fell into two groups: those who had environmental concerns about paper waste, and those who felt that the medium was the least engaging and thus least likely to be read. Most suggestions had to do with new media and video:

- Video was the most frequently referenced medium (other than mailings/pamphlets/paper).
    - YouTube is considered a "hip" medium and is also a strong tool for reaching younger audiences.
    - Television was a frequently-cited medium due to its accessibility.
    - DVDs were a popular choice because of their universality and portability.
        - A film documentary format preferred to old-fashioned PSAs.
        - Testimonials from other countries who have built a storage site.
- Mailings – particularly large ones – should be driven by citizen request.
    - Opt-in required for anything beyond introductory brochures.
        - Environmental reasons/waste of paper.
        - Avoid information overload.

Some Panelists also cited the importance of actively promoting the NWMO rather than simply letting interested Canadians discover it on their own. These ideas took many forms, as promotional methods the Panelists devised ranged from very basic to highly creative:

- Conventional ideas:
    - Create branded notepads, balloons, pens, magnets, etc.

- More creative ideas:
    - Sponsor science fair competitions.
    - Install screensavers at public libraries.
    - Host kiosks at malls and bus shelters.

Many Panelists directed their attention to the NWMO's Web site. While Panelists considered the NWMO's Web site to be an excellent content archive and felt that such a role is important, a number of their comments highlighted the need for more engaging design. A Panelist in Scarborough mentioned:

> *If they do things that are more interactive, like a survey. How you rate [versus] the rest of the population. Surveys, contests, things that will draw people to the site would make it easier than reading cold, hard, facts.*

Another Panelist in the same city thought that there could be a better effort made to lure visitors to the site:

> *Using incentives to come to the Web site. They're intrinsically motivating. Something short like a '$5 off an energy saving appliance'. That draws you in...*

Other comments about the Web site fell into two categories. The first set of comments was framed around the NWMO Web site's role as a searchable repository of information, storing PDFs, white papers, and reports of all types:

- Make PDFs and long-form versions of every communications piece available here.
- Maintain a well-organized and searchable site layout.
- Do not fear information overload, since users come to the site because they seek information.

The second category of Web site commentary centred around suggestions for more creative use of the site. These "blue sky" ideas, predictably, were far more colourful:

- Display user-friendly videos and animations.
- Host surveys and quizzes to engage site visitors.
- Sponsor banner ads on other sites to draw traffic.

A final group of suggestions had to do with miscellaneous tactics and logistical considerations for the NWMO to keep in mind:

- Citizens should opt-in to receive higher-level/complex information (via response cards, sign-up through the Web).
- Information sent in installments, no more than once per month.
- People should be notified in advance that mailings are coming, so they don't discard them.
- Maintain a toll-free number with well-trained people answering that number.

7. PANELIST OBSERVATIONS

Many themes emerged from discussion of the five questions as well as other parts of the Phase Four panels. The first of several addressed below explores how Panelist opinion has evolved throughout the Citizen Panel process. The second discusses a change in Panelist attitudes toward new nuclear power generation. Finally, an assessment of how Panelists have approached APM as a method is examined.

Many individuals in this phase of Citizen Panels continued to demonstrate an evolution of opinion. They have, on occasion, recognized in friends and neighbours the positions that they themselves held before they began attending the Citizen Panels. As one would expect, the volume of reading and twelve (cumulative) hours of discussion helped the Panelists form a more complete understanding of the subject matter and provided material; this awareness allowed for fulsome discussions. In practice, Panelists were able to read eight documents in this phase without encountering significant difficulties with the material's complexity. One Sault Ste. Marie Panelist made this observation:

> *I think that each time we come, maybe we're learning more each time we do come, but it's easier to read, easier to understand.*

Some Panelists ruminated that if their family or friends could sit in on a Citizen Panel, most of their initial opinions might have been balanced by careful consideration of the materials. Similarly, in Saint John, at least one Panelist suggested that the future stakeholders and decision makers in the siting process should participate in a learning process similar to the Citizen Panels:

> *They don't know about these panels, committees, they just think the government will do what they want. If they sat in on some of these meetings they would have a better outlook on what to do and what not to do.*

Another topic that frequently arose in general conversation was that of new nuclear power generation capacity. This topic has figured prominently in the news: the possible addition of a new reactor in Darlington, possible nuclear power in Saskatchewan, an effort by workers at the Bruce Nuclear facility to add additional capacity, and skyrocketing oil and gas prices. These ideas have all converged to cause many Panelists to raise new nuclear build in discussion.

At the outset of the Citizen Panels in Fall 2007, the situation was very different. Panelists did not routinely raise new nuclear power generation as a discussion topic, and the belief that nuclear generation could soon see expansion in Canada was not commonly held. By Phase Four, that had all changed. Energy had become a top-of-mind priority for Canadians. Disbelief that new nuclear build would happen has given way to resignation that it will be a reality. One Toronto Panelist observed a lack of public objection to nuclear power that they felt would have been common in decades past:

I think people are more and more resigned to the fact that nuclear is the way to go and there's no turning back from it and there are no more protests anymore.

The absence of protests, at the very least, may have implied to some Panelists that the technology does not divide the community as much as it once did.   A Saskatoon Panelist, whose comment was met with general agreement around the table, linked the apparent inevitability of new nuclear power build to the price of oil:

It's going to be talked about more as the price of oil increases.

This comparison was also made by other Panelists who also identified with that "pocketbook" issue. A Montreal Panelist believed there to be a seemingly inevitable need for expanded nuclear power production in Canada:

I'm not any more for or against nuclear energy than I used to be, but I think with the rising cost of gas nuclear energy will start to become a more and more significant alternative source of energy and we won't have a choice anymore. ... That being said, it's going to become only that much more important to look at ways of managing nuclear waste.

A noteworthy observation is that this Panelist's comments on new nuclear power generation led directly to discussing the extra waste that would be generated. This connection was discussed in the Draft Implementation Plan used in the Phase Three Panels, and new nuclear build has been prominent in the news media recently. In Phase Four it began to be more common for Panelists to link the two topics, demonstrating a better degree of understanding of the problem. A Panelist in Scarborough "connected the dots" in the same fashion after raising the topic of possible expansion at the Darlington site:

As a matter of fact today it came up because there was some stuff in the news about Ontario building more reactors. So now you're going to have to go back to stage one because you'll have so much more waste to handle from these facilities.

The latter part of this Panelist's comments – about the ability of the repository to handle waste from today's reactors plus any expansion – was mentioned several times throughout Phase Four and discussed earlier in this document.

In this phase the concept of Adaptive Phased Management (APM), as well as its name, was raised also several times. As we learned in previous Citizen Panels, APM is a great reassurance to Panelists when it is explained properly. Perhaps by repetition, perhaps by extra attention to clear writing, it seems the NWMO's emphasis on APM as a principle has started to reach some Panelists.

In this dialogue, this Scarborough Panelist was able to demonstrate their understanding of the concept:

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Panelist: The whole Adaptive Phased Management makes more sense in the context of this.
Discussion Leader: How much is because they've [the NWMO] made more sense, and how much is because you're better at it now?
Panelist: The fact that I recognized helps. But it makes sense as it is now, on its face.

It appears many Panelists are beginning to recognize major elements of the APM strategy: a centralized facility, constant monitoring, and retrievability. Nevertheless, some Panelists worried that the uninitiated will not grasp APM right away. In their experience, it took time to learn the concept, and more time to remember it.

As was discussed earlier in this section, Panelists consider themselves to be well aware of these subjects and now frequently identify what they will believe will go over the heads of average Canadians. Adaptive Phased Management, at least according to some Panelists, remains one of those concepts.

8. EVALUATING MATERIALS

Panelists spent the last portion of the Phase Four sessions reviewing a series of five draft NWMO documents. These documents were in draft form at the time of the panel discussions, and can now be downloaded in their final state at: www.nwmo.ca. In previous discussions, Panelists mentioned that it would be helpful to read a short document on each of these topics in order answer some of their major questions. Passages of noteworthy Panelist commentary about these documents were selected for this section, specifically highlighting Panelist sensitivities or particularly problematic sections.

The *Project Description*, a four-page brochure, received the lion's share of Panelists' time and attention.   Some initial commentary about the *Project Description* had to do with layout. Some thought it was important to include the words "nuclear waste" in the title, not just the NWMO's initials, for the sake of transparency. Several others, such as this Panelist in Regina, thought that a more creative name for the document could have been developed:

> *It's called 'Project Description' but it takes a lot to see what the project is. If it was more aesthetic that's something I'd like to see.*

A layout issue that raised questions amongst many Panelists was the graphical depiction of water on the surface of the land above the repository on the *Project Description*'s cover. Some thought the presence of bodies of water would alarm readers, even if that fear was unfounded. In the words of a Toronto Panelist:

> *One of the first things that caught my eye is the little lakes and rivers; one of the things that people are going to catch is the connection to drinking water. They'll think that its going to leech into the drinking water, not that it would, but I still suggest that they leave that out.*

A source of Panelist sensitivities in the *Project Description* document was the brief mention on page 3 that, "Once the repository has been filled and the surface facilities have been decommissioned, the land could be returned for other purposes." A Saint John Panelist had more questions than answers about that statement:

> *One item really jumped out at me. The last observation 'once the repository has been filled...' What then?   Does that mean that another site would have to be created? And I don't know about 'decommissioned and the land could be returned' … I don't see that happening with nuclear fuel.*

A different Panelist in Saint John worried that "returned for other purposes" would mean that the principle of a monitored site would be abandoned:

You still have the need for security. But just because it's full doesn't mean you shut it down. You still need to maintain the high level of security so it's never accessed. If people leave and go home, you need the security.

A Sault Ste. Marie Panelist worried that human beings would, over time, simply forget that the site was there if the land was "returned":

My concern is that we're going to forget it's there. As human beings we're bad at that, if you bury something, people will forget about it ... Once it's there, it's there and nothing else goes there. It shouldn't be touched.

A younger Panelist in Scarborough was not as alarmed by the idea of returning the land. He appreciated that the area could someday be used again, but still worried about exactly what would go on top of the decommissioned repository:

One thing I didn't like is that 'once the repository has been filled ... the land will be returned for other purposes.' I didn't know it could be filled. I liked that the land could be returned for other purposes. That you could hang out on top and not be poisoned. But I'm not sure how people will feel about putting a building on top of it. The idea of sweeping it under the rug could give people a little bit of security.

Some Panelists had a difficult time with the first point on the *Project Description*'s third page. The reference to cost, many thought, was out of place and did not belong in the same document. A Panelist in Sault Ste. Marie took that position:

I didn't like the sentence when they describe what the site will look like. How 'it will be overseen by government regulators' -- it should end there. Period. Then it goes on to say that the site will cost 'many billions of dollars in its lifetime.'

Some Panelists wished to see a greater discussion of costs and benefits, particularly job creation and employment benefits in the document. This Montreal Panelist felt that it should have been part of such a broader discussion:

Well, nowhere in the document do they talk about projections for job creation and employment opportunities.

Panelists who returned their *Project Description* booklets with comments also made reference to the following items:

- There should have been an indication of scale on the front page map.
- The legend was helpful.
- The mention of "optional shallow storage" again seemed out of place to several Panelists, who have been discussing "deep" storage for four phases of panels now.

The *Who We Are* document, intended to provide more information about the NWMO, its mission, and its values, generated a good deal of discussion. Overall, it was well-received by Panelists who appreciated its openness. The NWMO earned high marks from several Panelists who were happy to see that the organization had taken their advice when producing this document. This Saskatoon Panelist was particularly pleased to have seen their own input from previous panels reflected in this product:

> *Maybe it's because it's our words, but I find this one easier to read.*

In previous sessions, Panelists observed that greater attention could have been paid to outlining the key players and mandate of the organization. Before reading the *Who We Are* document, Panelists were not sure of the organizational structure of the NWMO, as well as its levels of oversight and reporting. Overall, they felt their concerns were addressed with the *Who We Are* document. A Kingston Panelist suggested a more focused slogan could further clarify the NWMO's mandate:

> *It should say something like, 'We're the guys that get rid of the nuclear waste.' Short, concise, to the point. Keep it simple, stupid.*

Most other comments, however, were more substantial. A Montreal Panelist hoped to see additional contextual background first:

> *[Previously] we didn't have enough specific information to formulate the right questions. For example, why do we have a nuclear waste management organization? Well, here they explain 'It was created because…' and here you go!*

A Panelist in Regina said that they had hoped to learn a bit more about the composition of the NWMO's board, but was disappointed that the pamphlet did not contain any biographies:

> *I've never seen something like this not giving a picture of their board of directors.*

Common to every Panel were comments that the large picture displayed across the bottom of pages 2-3 was striking, but Panelists were not sure who the people depicted might be. Several astute Panelists were able to pick out their technical representative from the Phase Three question and answer session. Only then did they realize that these were the employees of the NWMO and not, for instance, actors. A dialogue in Regina shows both the strength and weakness of the photograph:

> *Panelist: The thing I liked about this was the picture of all the staff. My point being that the staff was representative of Canada. It wasn't just 40 fifty-year old white guys. There were some women and some men, people of different nationalities.*
> *A Panelist: Are they actors?*

There were a few comments from Panelists who appreciated the NWMO's diversity but would have liked some identifying factors such as department names or even employee first names.

Several comments hinted at the degree of trust that the NWMO has built up with Panelists. As the organization moves from relative anonymity in the minds of the general public to become a more commonly-known entity, it is important to note the sorts of reasons Panelists cited as reasons they trust the NWMO. A Scarborough Panelist said they appreciated the NWMO's open-mindedness:

> *One of the things I underlined was that the NWMO will continue to build new knowledge. It shows to me that they're not closed and will continue to care.*

The *Transportation of Used Nuclear Fuel* document allowed Panelists to visualize how the used nuclear fuel would be transported. Panelists were surprised by the number of shipments which would be involved and the type of vehicle required for transportation. Panelists, like this one in Saint John, had questions about how security would be assured with such a large and distinctive vehicle and transport container as seem in the document:

> *… Visually, this gives me an idea of what this looks like. Now that we've identified this as a container that this will be shipped in, it's exposed on the back of a truck. If we're going to have 50 shipments for 30 years, I would disguise the container that's stored in.*

As seen in Phase Three, Panelists were assured by the stringent testing and scientific evaluation of the waste containers and suggested the NWMO share this information with the public. The depiction of the truck also caused some Panelists to again raise transportation security, as this Toronto Panelist did:

> *For safety reasons it doesn't make sense to me to have people knowing where it's going or to have it go through same route every time.*

For that Panelist, security was a good reason to be discreet about shipments, but many Panelists also recognized that a balance must be sought with the competing good of transparency. The discussion of transport often invoked questions of safety and security, the topics of the next NWMO communications documents.

Panelists who returned their *Transportation of Used Nuclear Fuel* pamphlet with comments made reference to the following items:

- The reminder that the transport packages must meet a series of stringent regulations was appreciated.
- On the reverse side, the comparisons between number of shipments across different transportation methods was well-received and surprised many Panelists.

- The photographs of the ship and the truck were noteworthy to many Panelists. Their comments varied from noting the distinctive look of the truck to assessing the perceived safety of either method.

In the *Security and Safeguards* document, the NWMO presented Panelists with details of the security precautions they have considered, how the site would be monitored and tested, and even the security framework under which they function.

Panelists did not expect to learn all the provisions in place, as they would expect that some information would need to be kept confidential for security reasons. This is the one place where transparency is seen to have some natural constraints, as this Montreal Panelist recognized:

> *Well I like how they explain the safeguards and what they would do to protect a site against terrorist threats. They also talk about why these things are not discussed too much – the reasoning behind that – and I think that's very good.*

Panelists who returned their *Security and Safeguards* pamphlets with comments made reference to the following items:

- Panelists suggested there is a delicate balance to be struck between communicating openly about security risks and precautions and unnecessarily alarming people.
- The term "diversion into weapons," in the same sentence as "clandestine theft" was frightening to many Panelists.
- The reference to Canada declining to convert used nuclear fuel into weapons was appreciated and supported by many Panelists.

In the *Monitoring and Retreivability* document, the NWMO presented Panelists with how the site would be monitored and tested.

Unlike the *Project Description* and *Who We Are* documents, the *Monitoring and Retreivability* (along with the other two draft documents) did not have a section outlining how to obtain further information. Since many Panelists mentioned that it was always good to make information available on an as-needed basis for those interested, the omission was noticeable. A Panelist in Sault Ste. Marie observed:

> *It doesn't say specifically on these like it did on the other two booklets: 'for more information, contact.' The other thing that you might want to do is to say it on here somewhere that 'this is just one of a series of information available from…' and then list the others that are available.*

Finally, Panelists who returned their *Monitoring and Retrievability* pamphlets with comments also made reference to the following items:

- There should have been an indication of scale on the front and back page maps.

- Some Panelists appreciated knowing about the performance and longevity testing of monitoring instruments as mentioned in the second column of the first page.

Panelists seemed to think that these five documents were generally on the right track, and provided a sound introduction to the chosen topics. Many Panelists especially appreciated the format, and seemed pleased that the NWMO was responsive to previous comments about wanting reader-friendly material.

APPENDICES

i.   **Profiles of the Panels**

ii.   **Navigator Personnel**

iii.   **Discussion Leader's guide**

iv.   **NWMO backgrounders provided to Phase Four Panels**

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I. PROFILES OF THE PANELS

Saskatoon, Saskatchewan
 Date: June 3, 2008
 Facility: Qualitative research facility in Saskatoon
 Discussion Leader: Jaime Watt
 Transcriber: Lanny Cardow
 Number of Panelists: 12

Regina, Saskatchewan
 Date: June 4, 2008
 Facility: Qualitative research facility in Regina
 Discussion Leader: Jaime Watt
 Transcriber: Lanny Cardow
 Number of Panelists: 14

Saint John, New Brunswick
 Date: June 10, 2008
 Facility: Qualitative research facility
 Discussion Leader: Jaime Watt
 Transcriber: Lanny Cardow
 Number of Panelists:12

Montreal, Quebec
 Date: June 11, 2008
 Facility: Ad Hoc Research facility
 Discussion Leader: Nadia Papineau-Couture
 Transcriber: Leger Marketing
 Number of Panelists:15

Sault Ste. Marie, Ontario
 Date: June 12, 2008
 Facility: Qualitative research facility in Sault Ste Marie
 Discussion Leader: Jaime Watt
 Transcriber: Lanny Cardow
 Number of Panelists: 14

Kingston, Ontario
 Date: June 14, 2008
 Facility: Qualitative research facility in Kingston
 Discussion Leader: Jaime Watt
 Transcriber: Lanny Cardow
 Number of Panelists: 11

Scarborough, Ontario

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Date: June 16, 2008
Facility: Qualitative research facility in Scarborough
Discussion Leader: Jaime Watt
Transcriber: Lanny Cardow
Number of Panelists: 13

Toronto, Ontario
Date: June 17, 2008
Facility: Qualitative research facility in Toronto
Discussion Leader: Jaime Watt
Transcriber: Amy Loney
Number of Panelists: 16 (Includes 1 Kingston Panellist)

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II. NAVIGATOR PERSONNEL

JAMES STEWART WATT, SENIOR DISCUSSION LEADER

Jaime Watt is Chair of Navigator, a Toronto-based research consulting firm that specializes in public opinion research, strategy and public policy development.

Prior to relocating to Toronto, he was, for ten years, Chair of Thomas Watt Advertising, a leading regional advertising agency and communications consulting firm based in London, Ontario.

A specialist in complex communications issues, Jaime has served clients in the corporate, professional services, not-for-profit and government sectors and has worked in every province in Canada, the United States, the United Kingdom, France, Central America, Korea and Kosovo.

He currently serves as Chair of Casey House, Canada's pioneer AIDS hospice, as well as Casey House Foundation and is a Vice President of the Albany Club. He is a director of the Dominion Institute, Woodrow Wilson Center's Canada Institute, TD Canada Trust's Private Giving Foundation, The Canadian Club of Toronto and The Clean Water Foundation. As well, he is a member of the President's Advisory Council for the Canadian Red Cross and is a member of the Executive Committee of Canadians for Equal Marriage. He was a founding Trustee and Co-chair of the Canadian Human Rights Trust and the Canadian Human Rights Campaign.

CHAD A. ROGERS, SUPPORTING DISCUSSION LEADER

Chad Rogers is a Consultant at Navigator providing strategic planning and public opinion research advice to government, corporate and not-for-profit clients.

He has recently returned to Canada after working abroad with the Washington, DC based National Democratic Institute as director of their programs in Kosovo and Armenia respectively. Chad oversaw multi-million dollar democracy and governance assistance programs directed at political parties, parliaments and civil society organizations in newly democratic nations. He conducted high-level training with the political leadership of Armenia, Bosnia Herzegovina, Iraq, Kyrgyzstan, Macedonia, Moldova and Serbia.

Having previously worked on Parliament Hill as both a legislative and communications assistant to Members of Parliament and Senators, he has an in-depth knowledge of Canada's Parliament and its committees, caucuses and procedures.

He is a board member of the Kosova Democratic Institute and is a member in good standing of the Public Affairs Association of Canada (PAAC) and the Market Research &

Intelligence Association (MRIA). Chad has trained at the RIVA Qualitative Research Training Institute.

COURTNEY GLEN

Courtney Glen is a Consultant at Navigator assisting in public opinion research, strategic planning and public policy advice for government, corporate and not-for-profit clients.

Courtney most recently worked at the Fraser Institute as a junior policy analyst in health and pharmaceutical policy. In her time at the Institute, Courtney co-authored a major pharmaceutical policy paper and contributed to their monthly policy journal, *The Fraser Forum.*

Prior to that, Courtney worked as a researcher for the Scottish Labour Party in Edinburgh, Scotland, conducting an audit of the Parliament's Cross Party Group on International Development.

Courtney has a Masters in International and European Politics from the University of Edinburgh in Scotland and a Bachelor of Arts Honours degree in Political Science from the University of Guelph.

LANNY A. CARDOW, PROJECT MANAGER

Lanny Cardow is a Consultant performing research-based strategic communications work on projects for Navigator's corporate and not-for-profit clients.

Lanny most recently served in the Office of the Prime Minister as the Executive Assistant to the PM's Chief of Staff, having previously worked in the Office of the Leader of the Opposition in various capacities, including Manager of Outreach (Operations).

Lanny graduated with a master's degree from The George Washington University's Graduate School of Political Management in 2006, specializing in both Campaign Management and Polling course concentrations.

While completing his degree, Lanny performed research at GWU's Institute for Politics, Democracy and the Internet, contributing to numerous studies and events that explored the crossroads of online technology and advanced campaigning techniques.

Lanny earned his bachelor's degree in Political Studies at Queen's University in 2002.

JOSEPH LAVOIE, PANEL MANAGER (FRANCOPHONE)

Prior to joining Navigator, Joseph Lavoie worked at Citigroup Global Transaction Services where he improved communications within the Transfer Agency Systems department. Joseph achieved this objective via Web 2.0 technologies, which he previously leveraged in developing Santa's Journal, a successful viral marketing campaign that introduced Santa Claus to the world of blogging and podcasting.

Joseph has been active in numerous provincial and federal election campaigns; has provided political commentary for various websites and television/radio programs; and has served as the recruitment director for the Ontario Progressive Conservative Youth Association. In March 2007, Joseph was selected *Canada's Next Great Prime Minister* by Canadians as part of a scholarship program sponsored by Magna International, the Dominion Institute, and the Canada-US Fulbright Program. He currently serves on the Public Affairs/Marketing Team for the Toronto Symphony Volunteer Committee.

AMY LONEY, PANEL MANAGER (ANGLOPHONE)

Prior to joining Navigator, Amy attended Queen's University where she graduated with a Bachelor of Arts Honours degree in Political Science. Amy has also completed intensive Explore French Language Bursary Programs at Université de Montréal and Université du Québec à Trois-Rivières respectively.

Amy is head Panel Manager and plays a vital role in the management and organization of the Citizen Panel project.

III. DISCUSSION LEADER'S GUIDE

PHASE FOUR CITIZEN PANELS

DISCUSSION LEADER'S GUIDE

1. OPENING OF PANEL SESSION (0:00 – 0:03)

- Welcome back
- Explanation of NWMO disclosure of proceedings
- Re-introduction of Transcriber
- Re-introduction of Parking lot
- Re-introduction of Panel Managers

2. PRE-DISCUSSION EXERCISE (0:03-0:15)

'Creating an Information Package' Exercise

 o Brainstorming about what an information package should look like.

[Give Panelists 10 minutes to brainstorm in groups]

 o Will revisit suggestions later in the Panel discussion.

3. OVERVIEW OF AGENDA FOR SESSION (0:15 – 0:17)

4. RE-INTRODUCTIONS (0:17 – 0:21)

5. GENERAL DISCUSSION (0:21 – 0:25)

- Read, seen or heard anything about NWMO in the media since our last discussion?

6. BROAD DISCUSSION OF SITING PROCESS (0:25 – 0:30)

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7. DISCUSSION OF BACKGROUNDERS 1 AND 2: BACKGROUND – 'SELECTING A SITE' AND 'FRAMING THE DISCUSSION' (0:30 – 1:10)

[Give Panelists a few minutes to review Backgrounders 1 and 2]

- **Q1: Does the framework of objectives, ethical principles and requirements provide a sound foundation for designing the process for selecting a site?**

    - Do you think this ethical framework will be good for the siting process?

    - Do you feel this framework covers all of the important aspects?

    - Do you feel that anything is missing?

- **Q2: How can we ensure that the process for selecting a site is fair?**

    - How, in your view, could fairness be best assured in and by the process for selecting a site?

    - How should the process for selecting a site take into account the needs of both this generation and future generations - so that costs, benefits, risks and responsibilities are distributed fairly across generations?

    - Are there other geographical considerations which should be taken into account for the process to be fair?

    - The NWMO has committed to only choosing a site in a location that is informed and willing. How might the design of the process ensure that this happens?

8. DISCUSSION OF BACKGROUNDER 3: 'LEARNING FROM OTHERS' (1:10 – 1:40)

[Give Panelists a few minutes to review Backgrounder 3]

- **Q3: From what models and experience should the NWMO draw in designing a siting process?**

    - From your perspective, what experience and models do you think would be particularly relevant to consider and draw from in designing the process for selecting a site?

- What other decisions/processes might we learn from or are comparable?   Are there events which have happened in the past which you are aware of which we should look back on for lessons?

- **Q4: Who should be involved in the process for selecting a site, and what should be their role?**

    - What are your views on who should be involved in selecting a site? What would you count on them to bring to the process?

    - Would you expect each of these individuals and groups to play a different role in selecting a site, or have different responsibilities in the process? What role or responsibilities?

9. DISCUSSION OF 'COMMUNICATIONS' GROUP WORK (1:40 – 2:10)

- **Q5: What information and tools do you think would facilitate your participation?**

    - What information and tools do you think would help Canadians participate constructively in the siting process?

    - What about reporting: things like documents and publications?

[Give Panelists a few minutes to review the material already covered during this session]

- Do any of the questions raised today strike you as more important than the others? Less important?

- Do you have any suggestions for what remains to be considered?

10.   REVIEW "PROJECT DESCRIPTION" AND "WHO WE ARE" AND OTHER DOCUMENTS (2:10 – 2:50)

[Distribute 'Project Description' document and give Panelists a few minutes to review]

- Do you think something like this would help explain the project to larger audiences?

- If you didn't know what you now know about the NWMO's project, would a document like this answer your questions, or perhaps help you ask some better ones?

- What suggestions do you have to help NWMO improve this document?

[Distribute 'Who we are' document and give Panelists a few minutes to review]

- If you didn't know about the NWMO or the role it plays, would a document like this answer your questions, or perhaps help you ask some better ones?

- What suggestions do you have to help NWMO improve this document?

[Distribute 'Security and Safeguards', 'Transportation of Used Nuclear Fuel', and 'Monitoring and Retrievability' documents and give Panelists a few minutes to review]

- And what do you think about these ones?

- What suggestions do you have to help NWMO improve these documents?

11. WRAP-UP (2:50 – 3:00)

[Deal with any remaining "parking lot" questions]

- As we end our session does anyone have any remaining issues to discuss or questions to raise about our discussions here?

- Panel Management issues

- Adjourn

IV. BACKGROUNDERS PROVIDED TO PHASE FOUR PANELS

Note: The five discussion documents reviewed by Phase Four Panelists (Such as the *Project Description* and *Who We Are* documents) were in a draft form at the time of the panel discussions, and can now be downloaded in their final state at: www.nwmo.ca.

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Background - Selecting a site

Canadians have been using electricity generated by nuclear power reactors for about four decades. Canada currently has 20 operating commercial reactors at 5 nuclear generating stations located in New Brunswick, Québec and Ontario. These reactors are fueled by uranium formed into bundles. Once used, the bundles are hazardous to humans and the environment, essentially indefinitely. They must be managed properly.

Canada has about two million used fuel bundles and is generating about 85,000 more each year. We can expect to produce about 3.6 million used fuel bundles if each of the current electricity generating reactors operates for its anticipated average life-span of about 40 years.

Currently, the used fuel bundles are safely stored at licensed facilities located at the reactor sites in Canada. The communities hosting these facilities understand this to be temporary, and that the used fuel has always been destined for long-term management at a specially-designed facility.

Through Adaptive Phased Management, the used fuel bundles will ultimately be packaged into long-lived strongly built containers, transported to the selected site and placed in the deep geological repository.

While technical studies suggest that large geographic portions of Canada have rock formations potentially suitable for the deep geological repository, scientific, technical, social, ethical, economic, and environmental factors also have to be weighed in selecting a site.

That site will occupy a surface area of about 2 kilometres by 3 kilometres. Underground, the repository will be about 1.8 square kilometres in area. It will consist of a network of horizontal tunnels and rooms excavated in stable rock at a depth between 500 to 1,000 metres. Once there, the used fuel will be monitored to confirm the safety and performance of the repository until a decision is made to close the site. It will remain retrievable until such time as a future society decides on final closure and on the appropriate form and duration of post-closure monitoring.

People will be keenly interested in where the site is located, in how the used fuel will get there, and in how safety and security will be assured. Communities considering hosting the site will want to know how their well-being could be affected including what risks they might face, how they might benefit, and what commitments they will have to make.

Communities will also want to have updated information about the used fuel to be managed. We will regularly publish inventory information on the current and future potential used fuel inventories. Recognizing the potential for industry to make decisions that may affect the amount and characteristics of the used fuel to be managed in future, we will continually monitor, review and invite broad discussion about new developments so that our plans may be adjusted as required.

Selecting the site thus requires dialogue and careful thinking. We expect that the design of the selection process will need to have many features including:

- The objectives of the siting process and the principles that would apply.

- The major steps in the siting process.

- The factors and criteria that will be applied in making siting decisions.

- How Aboriginal insights and traditional knowledge will be respected.

- How information will be communicated and shared.

- The studies required at each step.

- How to work collaboratively throughout the process.

Framing the discussion

In conversations with Canadians during the study phase of our work, we heard that the approach for managing Canada's used nuclear fuel must respond to a *framework* of objectives and characteristics. This framework will help shape the process for selecting a site and to help guide implementation.

Objectives

The process for selecting a site should help Adaptive Phased Management achieve the objectives set for it by citizens:

Fairness – To ensure fairness (in substance and process) in the distribution of costs, benefits, risks and responsibilities, within this generation and across generations.

Public Health and Safety – To protect public health from the risk of exposure to radioactive or other hazardous materials and from the threat of injuries or deaths due to accidents.

Worker Health and Safety – To protect workers and minimize hazards associated with managing used nuclear fuel.

Community Well-being – To ensure the well-being of all communities with a shared interest.

Security – To ensure the security of facilities, materials and infrastructure.

Environmental Integrity – To ensure that environmental integrity is maintained over the long term.

Economic Viability – To ensure the economic viability of the waste management system, while simultaneously contributing positively to the local economy.

Adaptability – To ensure a capacity to adapt to changing knowledge and conditions over time.

Of these objectives, people consider safety, security and fairness to be paramount: the management approach must ensure *safety and security* for people, communities and the environment, and it must be seen to be safe and secure from the perspective of current and future generations.

Characteristics

The process for selecting a site should also be responsive to the characteristics which Canadians said would be important for any siting process:

- Be open, inclusive and fair to all parties, giving everyone with an interest an opportunity to have their views heard and taken into account.

- Ensure that groups most likely to be affected by the facility, including through transportation, are given full opportunity to have their views heard and taken into account, and are provided with the forms of assistance they require to present their case effectively.

- Respect all Aboriginal rights, treaties and land claims.

- Be free from conflict of interest, personal gain or bias among those making the decision and/or formulating recommendations.

- Be informed by the best knowledge — from the natural and social sciences, Aboriginal Traditional Knowledge, ethics and technology development – relevant to making a decision and/or formulating a recommendation.

- Be in accord with the precautionary principle, which seeks to avoid harm and the risk of harm, and which demands ethical justification for such harm that is unavoidable.

- Ensure that those who could be exposed to harm or risk of harm, or other losses or limitations, are fully consulted and are willing to accept what is proposed for them.

- Take into consideration the possible costs, harms, risks, and benefits of the siting decision, including financial, physical, biological, social, cultural, and ethical costs.

- Ensure that those who benefited most from nuclear power (past, present and perhaps future) bear the costs and risks of managing used fuel and other materials.

- Address scientific and technical factors that may help ensure safety. Implementation of the approach will respect the social, cultural and economic aspirations of affected communities.

> **A matter of ethics:**
>
> The process for selecting a site should strive to:
>
> - Respect life in all its forms, including minimization of harm to human beings and other sentient creatures.
>
> - Respect future generations of human beings, other species, and the biosphere as a whole.
>
> - Respect peoples and cultures.
>
> - Promote justice across groups, regions, and generations.
>
> - Be fair to everyone affected, particularly to minorities and marginalized groups.
>
> - Respect the values and interpretations that different individuals and groups bring to dialogue and other means of collaboration.

Canadians told the NWMO they want to be sure, above all, that the site for the deep geological repository is safe and secure. The process for choosing that site must be grounded in values and objectives that Canadians hold important. The process must be open, transparent, fair and inclusive. And the NWMO believes it must be designed in a way that citizens across this country are confident meets the highest scientific, professional and ethical standards.

The NWMO makes commitments as to how such a process must work:

1. The decision by a community to host the site must be informed and made willingly.

2. The site selected must meet strict, scientifically-determined safety requirements.

3. In the interest of fairness, the process should focus on the provinces directly involved in the nuclear fuel cycle: New Brunswick, Québec, Ontario and Saskatchewan. Communities in other regions that express an interest will also be considered.

4. Communities that decide to engage in the process for selecting a site, as potential hosts, shall have the right to withdraw consistent with any agreements between themselves and the NWMO.

Learning from others

In beginning to think about the design of a process for selecting a site for Canada's used nuclear fuel, we take the view that a process for Canada needs to be designed by Canadians. In the study phase of our work, citizens told us a great deal about their concerns and expectations.

At the same time, siting experiences here and abroad—involving nuclear waste and other hazardous substances, as well as comparable decision-making processes—offer insight about what might be challenging and about what might work well. Overall, these experiences seem to confirm the merit of a site-selection process for Canada that seeks an informed and willing host community, that is collaborative and that considers technical, social, environmental and social factors together.

The following are some challenges and opportunities that may be important to consider:

Being inclusive

Canadians told us that the success of the process for selecting a site hinges on open and fair collaboration with all potential host communities and other interested people and organizations at every step. At some point, the process will need to focus on candidate host communities and ultimately on the selected community. How can we ensure that the process for selecting a site involves the right people at the right times without leaving anyone out unfairly? Participation also carries important responsibilities for all participants. We seek the advice of Canadians in identifying those responsibilities and ensuring they are shared and applied fairly.

Defining 'community'

We want to ensure that people and communities can participate in all aspects of the site selection decision that affect them. It will be important to identify what constitutes a 'community' and who can best speak on its behalf. Should a community be defined narrowly and by political boundaries, such as the confines of a town, or should it be based on patterns of economic activity and include the surrounding area?

Measuring community acceptance

We believe that any community which eventually hosts the nuclear waste management facility must be willing to do so. It will be important to identify how we might gauge the willingness of any community that expresses an interest. In what ways might potential host communities demonstrate they have the permission and trust of their residents to explore hosting the facility? And how might we consider the needs of future generations in considering expressions of interest?

Demonstrating fairness

Fairness demands that any community expressing willingness to host a facility do so in a way which is free and informed. This means that the community has the information it needs to assess how it might be affected by the decision, and that it is not under undue influence of economic considerations. Key decisions must be taken through full and deliberate engagement. How can this be best accomplished?

Balancing social acceptability with other factors

If more than one community wishes to host the site, how might we decide between them? Each site is likely to have its own but different strengths. One site may be closer to where used fuels are currently stored, but require more engineering to make sure the facility is safe. Another community may have more support among residents but require more technical research to ascertain whether the physical characteristics of the site are appropriate.

Strengthening community capacity

People and communities must have the wherewithal to take part in the process. Different groups will have their own requirements, ideas and way of doing things. Particularly important are the time and resources that potential host communities will require to make informed choices. We need to understand the requirements of participants and seek tools that can aid their involvement. What suggestions do you have for ensuring that people are equipped to take part?

Partnership

Experience suggests that the building of long-term relationships and partnerships is vital to the success of the process for selecting a site. This takes time and effort, but the benefits can range from sharing information and resources to building trust and improving communication. What are the essential ingredients for building real and lasting relationships and partnerships? What kinds of agreements should be forged?

Ensuring community well-being

We are committed to ensuring that any community that decides to host the facility will be better off for having done so. The well-being of a community might be affected in a broad range of ways, from traditional use of land to economic development and socio-cultural cohesion. It will be important to understand how a community might be affected by its decision and to ensure this is weighed appropriately before proceeding. What processes need to be put in place to ensure that the community continues to benefit from the facility well in to the future? How do we resolve potential conflicts and differences in perspective?

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