NWMO Citizen Panels Report, Phase IV: Panel Two

NWMO SR-2008-21 **September 2008**

Navigator Ltd.

nwmo
NUCLEAR WASTE MANAGEMENT ORGANIZATION
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Nuclear Waste Management Organization

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

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

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

NWMO 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.

NWMO Citizen Panel Report
Montreal, Quebec

NUCLEAR WASTE MANAGEMENT ORGANIZATION

MONTREAL PHASE FOUR CITIZEN PANEL

SEPTEMBER 2008

WHAT ARE CITIZEN PANELS?

Building on previous qualitative research studies, the NWMO contracted Navigator to initiate Citizen Panels in 8 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 Citizen Panel project occurred in June 2008.

WHAT IS NAVIGATOR?

Navigator is a research-based public affairs firm that works with companies, organizations and governments involved in the public policy field.

Navigator has grown to become a diverse firm with consultants from a variety of backgrounds who have excelled in the fields of journalism, public opinion research, politics, marketing and law.

Our strategic approach can be summed up as: *"Research. Strategy. Results."*

PANEL REPORT OUTLINE

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I. NWMO CITIZEN PANEL BACKGROUND

a. Citizen Panel

The Montreal, Quebec Phase Four Citizen Panel was held on June 11, 2008 at a neutral third party facility in Montreal.

The Panel was held over three hours from 6PM – 9PM with 15 Panelists in attendance. Nadia Papineau-Couture, an independent, French-speaking research professional, acted as Discussion Leader.

A general outline of discussion objectives, as well as a discussion document intended to guide the work of the Panel were prepared in advance of the Citizen Panel. Reproductions of the documents shown to the Panel can be found at the end of this report as appendices.

b. Panelist Profile

In order to ensure that Panelists speak openly and freely over the course of this research, the individual identities of Panelists will remain protected and not revealed to the NWMO at any point of the project. Contact with Panelists is managed exclusively by a dedicated Panel Manager and each Panelist has been given an identifier code to ensure anonymity in all accessible Panel documents. All personal information and contact reports are stored separately and controlled by the Panel Manager.

While verbatim comments are used through this report, the identification will be only by Panel or by unique Panelist identifier code, but never by name.

Panelists have agreed to offer additional information, including their gender and one additional fact about their lives to make the Panel reporting richer for the reader.

Below are the profiles of the Montreal Panelists by Panelist identifier code:

 **Panelist: M-3A**	City: Montreal Age: 45-54 Gender: Female Occupation: Employed, placement counsellor
 **Panelist: M-5A**	City: Montreal Age: 25-34 Gender: Male Occupation: Employed, technology
 **Panelist: M-7A**	City: Montreal Age: 45-54 Gender: Female Occupation: Unemployed
 **Panelist: M-10A**	City: Montreal Age: N/A Gender: Male Occupation: N/A
 **Panelist: M-12A**	City: Montreal Age: 55-64 Gender: Female Occupation: Employed, work security commission
 **Panelist: M-14A**	City: Montreal Age: 35-44 Gender: Male Occupation: Employed, information analyst
 **Panelist: M-16A**	City: Montreal Age: 65+ Gender: Male Occupation: Self-employed, artist
 **Panelist: M-20A**	City: Montreal Age: N/A Gender: Female Occupation: N/A

 **Panelist: M-4A**	City: Montreal Age: 45-54 Gender: Female Occupation: Employed, Secretary
 **Panelist: M-6A**	City: Montreal Age: 35-44 Gender: Male Occupation: Employed, architect
 **Panelist: M-9A**	City: Montreal Age: 35-44 Gender: Male Occupation: Student
 **Panelist: M-11A**	City: Montreal Age: 65+ Gender: Female Occupation: Retired
 **Panelist: M-13A**	City: Montreal Age: 18-24 Gender: Male Occupation: Employed, financial analyst
 **Panelist: M-15A**	City: Montreal Age: Female Gender: 45-54 Occupation: Employed, homeopath
 **Panelist: M-19A**	City: Montreal Age: 45-54 Gender: Male Occupation: Employed, entertainer

c. 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 dialling 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 that 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 dialling, 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. The Panel discussion began with the Discussion Leader asking Panelists if they had thought any more about the NWMO since the last Panel, or if they had just gone back to their daily routines and not given the organization much additional thought. The Discussion Leader then distributed a document for discussion, the Executive Summary of the NWMO's study *Choosing a Way Forward: The Future Management of Canada's Used Nuclear Fuel.* The document was given both individual consideration, as well as collective consideration. Individually, Panelists were asked to mark the documents with red and green pens, green indicating they felt a certain point was helpful to their understanding and red indicating that they did not find the point helpful. The intent of the individual document review was to serve as a launching point for further collective consideration and discussion of the more complex strategic objectives of the NWMO. The Panel discussion concluded with Panelists reviewing the answers provided by the NWMO to the questions Panelists had posted in the Parking Lot in Phase One.

Again, Panels were successful in the richness of the data gathered. Furthermore, Panelists have begun 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 discussion portion of the Panel began with a general discussion on Panelists' thoughts, if any, on the NWMO since the last Panel session and then turned to the Draft Implementation Plan that had been distributed to Panelists upon their arrival. Similar to

Phase Two, the document was not reviewed by Panelists but, rather, used to inform Panel discussion on the NWMO's strategic objectives. Although Panelists were given an opportunity to comment on all objectives, as well as the document as a whole, they were asked to concentrate specifically on four of the seven NWMO strategic objectives: Building Relationships; Building Knowledge: Technical and Social Research; Review, Adjust and Validate Plans; and Collaborative Design and Initiation of a Siting Process. These objectives were rated by Panelists in Phase One as highly appropriate and important for the NWMO. For each strategic objective, Panelists were given a summary that outlined items the NWMO plans to implement over the next five years (2008-2012) and asked for their feedback; specifically whether they felt the NWMO was moving in the right direction with these plans and whether they felt that anything important had been overlooked.

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 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. Reproductions of discussion materials shown to the Panel can be found at the end of this report in Appendices iii, iv, and v.

This Panel Report is, to the best of Navigator's abilities, a faithful rendering of the discussion held in Montreal and stands alone as a record of the Citizen Panel discussion on June 11, 2008. A larger Aggregate Report on this phase of Panel discussions, including the Panels in Regina, Toronto, Sault Ste. Marie, Scarborough, Saint John, Saskatoon, and Kingston has also been submitted to the NWMO.

II. PANELIST DIALOGUE

a. Overview

The Phase Four Citizen Panel discussion of June 11, 2008 took place in Montreal, Quebec. Unlike Phase Three of this project, Panelists were not given any material to review in advance. Instead, they were asked a series of five discussion questions throughout their three-hour discussion and used three "backgrounder" sheets for reference. The five questions are listed in Section I of the document.

More than any other Panel in Phase Four, this group was highly sceptical of the entire site selection process, as well as about nuclear power and waste disposal in general. This overall cynicism was evident in most major discussion themes. After a very brief introduction, the first and second backgrounders and the first two questions were discussed together to start this Panel.

This Montreal Panelist considered the framework of objectives to be on the right track. Their concern was more specifically about whether the province of Quebec would ever be forced to take used nuclear fuel from another province. This, in their opinion, was an undesirable outcome:

> *And when they talk about "fairness" do they mean one province as compared to another or in terms of the quantity of production? So, that's not clear, that whole issue of fairness. Because in Quebec we produce very little and I would not be in favour of us taking in Ontario's waste when they produce a much greater quantity. So, that's something that I think needs to be clarified.*

Another Panelist questioned whether the NWMO considered the environment as a top of mind priority. They based their scepticism primarily on what they read, but also on worries about the environmental impact of the eventual site construction process:

> *…Whenever they list things like "scientific, technological, social, ethical…and environmental…" the environmental part is always at the end of the line whereas I feel it's really something that's very important. And I can't see how biodiversity won't be affected. And yes it's all underground, but there is going to be a lot of heavy equipment needed to dig it all out.*

A fellow Montreal Panelist espoused similar scepticism, but for the health and safety of citizens as opposed to the environment:

> *I think the principles are there, but when they mention, for example, the health and safety of the population "protéger la santé de la population contre le risque de la pollution des matières radioactives" my first question is, "How are they going to do that?" How do they propose to protect the host community*

> *from the risk of an accident? So, yes, the principles have been laid down and they know what they want to do, but how do they propose to actually do it?*

Also as with the previous comment, the Panelist expressed worries about the ability for the NWMO – or anyone – to be able to implement these goals. They did not oppose the goals themselves.

Montreal Panelists were also more inclined to raise environmental issues than Panelists in any other Phase Four location. This Panelist believed that an endorsement from an environmental interest group would help convince them that the process was adequate:

> *I think it's important to include environmental groups in the process. I've mentioned it at each and every meeting we've had so far, but I think they're still largely leaving out the environmentalists from the discussion. And I'm looking to see if the environmental groups are happy because that will make me feel better.*

The third question dealt with learning from the experiences of others. This Panelist was aware that a similar project had started in Scandinavia and identified it as a good source of knowledge:

> *…I believe there was something about a deep geological repository already under way in Sweden. So, why not look at what Sweden is doing?*

Citing several high-profile environmental disasters in Quebec's past, another Panelist continued with a point about the importance of learning from failure:

> *I think it may also be worthwhile to look at some counter-examples, i.e. things that haven't worked in the past, in order to learn from those about the things to avoid … you learn as much, if not more, from your mistakes or the mistakes of others than from your/their successes.*

The Discussion Leader asked Panelists how best to avoid the political struggles that often stem from projects foisted upon communities unwillingly. A Panelist replied that the secret lay in attaining informed consent:

> *I just think that every time we've been presented something here in an explicit manner with a clear explanation of things, that's when we've felt more informed and more comfortable. And it becomes interesting and engaging once we understand exactly what's going on – how it all works and what the impact is. … So, I think through education and understanding… Because whenever there's an issue like this one, we always hear about people being*

against it, but we need more information to really understand what the issues are.

This Panelist believed that in addition to making consent more genuine, an abundance of information could also generate interest and enthusiasm.

The Discussion Leader then asked what the NWMO could do to keep their "ears open" for advice and expertise from others. One Panelist suggested a broad approach involving many channels:

First of all, I think they should take a multidisciplinary approach and include people from all walks of life in the process. There has to be scientists because, of course, we need their technical know-how, and we need environmentalists too. We also need to have a good variety of public interest groups of all kinds to represent society and all its constituents. That, to me, seems like a very democratic process.

While a democratic process such as the one above was favoured by many Panelists, some still expressed scepticism that siting decisions could withstand the test of time. As in many groups, the notion of withdrawing consent was raised. This Panelist offered a very pragmatic perspective in their comments:

In a perfect world, everyone would agree on everything. But the world isn't perfect. And even if it was and everyone today agreed, who says that in 40 years or more things won't be completely different? So, if we choose a site today, what I want to know is if there's a way to keep the decision open so that future generations could decide to, say, move the site to another location. Is there a possibility to reconsider at some point later down the line?

The same Panelist continued:

…We're talking about something that's going to continue for the next 10,000 years, so… I just think that the decision shouldn't be final.

Finally, a Panelist reminded the others that while thinking ahead is good, it is also important to think of today's younger generations. The Panelist, like many others, stressed the importance of educating the inheritors of the repository on the realities of nuclear power:

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.

Montreal Panelists were generally sceptical about the development of a siting process insofar as it would be good for their province. Some Panelists were extremely mindful of the environment in their comments and also somewhat worried that it would be forgotten along the way.

b. Panel Notes

i. Disclaimer

The attached are contemporaneous notes of the general Panel discussion, as well as the discussion on the three backgrounder documents provided by the NWMO. The notes were taken by a transcriber positioned in the room with the Panelists. The transcriber was taking direction from the Citizen Panel on specific points of interest. The following is not an official transcript, but a best effort to capture the sense of discussion with some granularity.

General Discussion

Discussion Leader:	Has anyone read, seen or heard anything about NWMO in the media since our last discussion? And have your opinions evolved somewhat since the last time or not?
M-19A:	Of course. Each time we get together we learn more about it, so we get to know more about the issues and challenges and all that.
Discussion Leader:	OK, so you feel you know more now…
M-19A:	Well, yes, of course. We've gotten to know a little bit about nuclear waste management and uranium and nuclear energy and all that. There's a whole bunch of things we've discussed.
M-20A:	Well, it should be noted that at the last meeting there was someone from the Organization who came to talk to us and he did a very good job of simplifying things for us, for me anyway. So, he explained a few things and answered our questions and I thought that was really helpful. It was comforting, actually. It cleared up a lot of things for me. I thought that was a big help.
M-14A:	For me it's sort of the opposite in the sense that I've now become almost *too* interested in the topic. And I've been reading lately about how an increasing number of countries are launching their own nuclear programs and how just recently – in the last two to three weeks or so – there had been a pretty significant problem in Slovenia, I think it was, and I have to admit that

the anti-nuclear side of me is sort of coming out more and more. What happened was that they had thought they'd buried it properly, but they hadn't and that scares me a little bit. I mean, I know nuclear power per se is not our focus, but I just think that the more countries there are who produce nuclear power, the more nuclear waste there will be. And what happens when some of the smaller countries start realizing they haven't got enough space to bury all their nuclear waste? Are we going to become the dumping ground for all the nuclear waste of the world one day because Canada covers such a vast territory? So, I'm a bit worried that we'll start to be the garbage can or cemetery, if you will, for all the nuclear waste of the world. It worries me that we've got favourable conditions here in Canada for long-term storage of nuclear waste.

M-16A: I've also been reading those articles he's talking about – online, on *Le Monde* – and I've also been reading about a possible moratorium on nuclear power. And I know the focus of our discussion is on the management of nuclear waste, but I just think if we had a moratorium, then we wouldn't produce as much waste and it wouldn't be such a problem. But, again, I know that isn't what we're here to discuss – the pros and cons of nuclear energy – and I realize it's sort of a "chicken-and-egg" type of argument, so…

M-3A: 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. So, whether we like it or not, nuclear power going to become a more significant source of energy in the years to come. That being said, it's going to become only that much more important to look at ways of managing nuclear waste. That's how I see it.

Discussion Leader: So, if I understand you correctly, ever since you've started participating in these discussions, you *have* evolved – your opinion *has* evolved –

and you've started to ask yourself some questions and see things differently. In other words, you're interested and attentive to what's happening in terms of nuclear waste management. Is that right?

Many feel this is right.

Discussion Leader: It has been previously stated to you that site selection was a long way down the road. And it is – this is a process that could take 5-10 years. But tonight we're going to talk about the site selection process and deal with some questions about how best to design it. Just to keep us on track, we're not discussing where the site will be. And, as you all remember, there are many determining factors for a site, such as a willing host and geological suitability – these are not topics we will be discussing today. However, Canadians have a decision to make about where our nuclear fuel should be contained and isolated for the long term. That being said, the NWMO is seeking your help in designing a fair, ethical and effective program for making this decision. Keeping that in mind, let's have a discussion about how NWMO should design the siting process. The process must be open, transparent, fair and inclusive. 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. Does the framework of objectives, ethical principles and requirements provide a sound foundation for designing the process for selecting a site?

M-19A: Based on these principles here, yes. It's very ethical. However, I have to admit that it's a lot like all the other documents we've read in these panel discussions, except that this is a summary. But, yes, on the whole it's very good. I think there are a few new things in here that we haven't seen in any of the other documents we've read before, like the fact that nuclear energy has been around for four decades now – that's 40 years – and we've never heard that before. 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 they're not looking at two things: first of all, if we build new ones over time and secondly if we repair or restore the old ones. So, in other words, they're choosing a site based on the past 40 years, but that's it. What about the meantime? Won't we need to choose a second site to account for what happens in the meantime?

Discussion Leader: Do you think this ethical framework will be good for the siting process?

M-15A: In my opinion, there's one point that hasn't been raised until now and it's on the green sheet in the before-last paragraph: "*Les collectivités des autres regions qui se montreront intéressées seront également considérées*." I thought they had said that only the four nuclear-producing provinces would be considered for a site.

M-20A: Yeah, but it's strange. How come all of a sudden it's like "Yeah, sure, whoever else is interested will be considered too." How come? They're saying "And if you're interested in having it come to your backyard, we can send it over to you too." I just get the feeling that this is coming out of nowhere because this is the first time we're hearing of it and it's like all of a sudden they're opening up these new possibilities.

M-9A: The only thing I can think of that relates to this is the idea of volunteerism because I believe it was said earlier on in one of the previous panel meetings that if a province volunteered for it, then it could also be considered. So, perhaps that's that same idea coming back here. But I'm not sure.

Discussion Leader: What about the rest of you? Do you feel that this framework covers all the important aspects and provides a solid foundation for designing the process for selecting a site?

M-13A: Yes. Well, to the extent that everything looks wonderful and great on paper and who can disagree with that? However, the problem is that nothing is perfect. And there are things like where it says "*Il ne doit pas permettre à ceux qui prennent des décisions ou font des recommandations de se laisser influencer par des conflits d'intérêt et des avantages personnels ou des préjugés.*" But has any project anywhere on the planet ever existed that didn't include some of that somewhere? I mean, the human condition being what it is, guarantees like that are never absolute. And we see it happening right now in politics with all the scandals going on… So, I mean, come on. So, that being said, I find it a bit worrisome. And I agree with what M-14A said… and I'm not sure anymore if it's the previous moderators we had or if we had read it somewhere, but I also understood that it's only the four nuclear-producing provinces that would be considered in the site selection process. And when they talk about "fairness" do they mean one province as compared to another or in terms of the quantity of production? So, that's not clear, that whole issue of fairness. Because in Quebec we produce very little and I would not be in favour of us taking in Ontario's waste when they produce a much greater quantity. So, that's something that I think needs to be clarified.

M-20A: I thought it was very interesting, but there's something that's been bothering me since the beginning and that's the fact that they talk very little about the environment. But, and I think everyone will agree, I imagine that there will be one heck of a big hole dug out somewhere under a mountain with all kinds of trucks and things… And whenever they list things like "scientific, technological, social, ethical…and environmental…" The *environmental* part is always at the end of the line whereas I feel it's really something that's very important. And I can't see how biodiversity won't be affected. And yes it's all underground, but there is going to be a lot of heavy equipment needed to dig it

all out and it's probably going to be a very isolated area that's chosen, which means there will be deforestation too. So, I think it's important for them to start listing the environment as a higher priority rather than always leaving it at the end. But they have made efforts, I have to admit, because at the very beginning of these meetings, they didn't talk about the environment at all. So, they've made some efforts, but I think there's still a long way to go.

Discussion Leader: So, do you feel that this framework covers all of the important aspects?

M-19A: No.

Discussion Leader: What's missing?

M-16A: Well, I haven't really seen the fundamental principles on which they'll base themselves to make their selection. That is, they talk about all the human aspects, but as for anything else, all they mention is the geological structure and suitability – that's all they talk about as far as the technical aspects. And what's more important in the selection process? Is it the human aspects or the technical aspects? As far as I can see, all they talk about are the human aspects and so I imagine that's what they favour. But I would like to hear more about the other aspects.

M-13A: I would like to know if this process has been finalized. I don't think it has been. I think the principles are there, but when they mention, for example, the health and safety of the population "*protéger la santé de la population contre le risque de la pollution des matières radioactives*" my first question is "How are they going to do that?" How do they propose to protect the host community from the risk of an accident? So, yes, the principles have been laid down and they know what they want to do, but how do they propose to actually do it? They don't give us any tangible evidence of that.

M-14A: One thing I'd like to know is the order of things. That is, what comes first? Does the host community first volunteer for the job and then the scientists come in and determine "Yes, this will work" or "No, this won't work"? Or will the scientists first determine "Yes, this would be a good place" and then approach a number of potential host communities that fit the criteria they're looking for? And if three communities present themselves and offer a host site and none of the three are actually viable, will the scientists simply choose the least improper site? How do they decide?

Discussion Leader: Well, the host community still has to meet certain scientific criteria, so there are studies and consultations being done concurrently to determine the viability of any site. So, things are being done in parallel, together.

M-5A: I think it's important to include environmental groups in the process. I've mentioned it at each and every meeting we've had so far, but I think they're still largely leaving out the environmentalists from the discussion. And I'm looking to see if the environmental groups are happy because that will make me feel better. And if they can't make the environmentalists happy, well, then… So, I think it would be interesting to have the environmentalists on board and I think it's important too. The other thing that's missing is any mention of whether or not they have a contingency plan. Right now, it seems they're banking on the fact that whatever geologically favourable site they choose will be populated by a willing potential host community. But what happens if the community of site they choose based on geological factors is unwilling?

Discussion Leader: Well, you have to take for granted that there are a number of sites that could be selected.

M-14A: But that would be a good thing to know! The last time we met they told us that they still hadn't begun the selection process and that they still hadn't chosen any potential sites yet.

Discussion Leader: They're working on all that right now. As it stands, they're still determining scientifically what locations would make good sites – they're still in that phase of the process. But I understand what you're saying…

M-5A: Well, yeah, but they don't talk about the process – that's the thing. But what I do find interesting is how they mention that the communities of other regions could be considered if they were willing and volunteered. So, for instance, if they found that in Whitehorse there was the best geological site for it and that the community there was willing, then it's good to know that they wouldn't discount them as a potential host just because they're not one of the four nuclear provinces.

M-11A: I tend to agree with M-5A in the sense that they don't talk about the process per se. They talk about principles and values and they talk about an eventual process, but the process itself isn't there yet – they don't talk specifically about the way they'll go about designating potential sites. They don't explain any of that.

Discussion Leader: But you mention principles and values. So, what I want to know is if the principles and values reflected in this document provide a solid foundation.

M-11A: Well, it just seems as though it's more focused on principles of acceptability rather than principles of proposing and selecting potential choices.

Discussion Leader: So, if I understand you correctly, you would like for them to go a step further and give you something a little more concrete, am I right?

M-20A: Well, yes. I think it's about time they start explaining how they're going to do things for real. Yeah, I think we're past the stage of talking about principles and foundations.

Discussion Leader: But are they headed in the right direction with these principles?

M-6A: Well, for once I found that the white sheet, especially, was very clear and concise and I like that a lot.

Discussion Leader: OK, so the "Selecting a Site" document?

M-6A: Yes, it's very clear, very good. But there's one thing that I find funny – and I've found it funny at each and every meeting so far – is how they talk about traditional Aboriginal teachings/knowledge. It's funny because if this selection process is, as they say, transparent and objective and all that, then why are they talking about Aboriginals? It just gives me the impression that the site has already been chosen. I get the feeling that they'll choose a site up north somewhere. And who lives in the Great North? The Inuit do!

Discussion Leader: Whenever there's talk about a big energy project or nuclear plans, Aboriginals always argue that it's too close to their lands. And it's part of Canadian law now that all Native peoples must be included in these plans and that Aboriginals must be in agreement with whatever goes on before it happens. So, I think that's why they're always mentioning Aboriginals. They're just reminding us that no matter where they choose a site, they've kept Native interests in mind and have included First Nations people in the plans.

M-6A: I know, but it just seems out of place every time they mention it. It just sticks out – out of nowhere. I just don't see what their traditional knowledge has to do with nuclear energy. I have no problem with the fact that they mention Aboriginals, but it's the *way* they throw it in there. It's weird.

M-7A: I have a question. Does it have to be a community of private citizens who provides a host site? Or could it also be, like, a private

enterprise, a company that has a huge commercial lot or something? I just wonder about private interests getting in the way of the decision-making process. So, I would like to know who exactly would be allowed to offer themselves as a willing host.

Discussion Leader: Now, what I would like to know is how can we ensure that the process for selecting a site is fair? How, in your view, could fairness be best ensured in terms of a process for selecting a site?

M-4A: Well, we've been producing nuclear energy for 40 years now and they still haven't chosen a site. So, what makes them think that future generations will be any more willing to accept all this?

Discussion Leader: Are you saying that to ensure fairness we'd have to consider both this generation and the next generation as well and have both be equally involved in the process?

M-13A: I think it's funny how they talk about the risk across generations because they say they're doing things safely now, but that doesn't mean it's going to be fair and equitable 10,000 years from now. Look at what they're doing with oil now. They know that one day there won't be any left and yet they continue to pump it out of the ground every single day – they're ravaging future generations.

Discussion Leader: OK, so how could fairness be best ensured?

M-15A: But what exactly do they mean by "fairness"? Fair to whom? Fairness in terms of the provinces? Fairness in terms of generations? They talk a lot about fairness, but I just think they haven't clearly defined what they mean – fairness in what sense?

Discussion Leader: So, you find that fairness hasn't been clearly defined?

M-6A: Do they mean the provinces? Because it's like she was saying earlier, if they're only looking at Quebec, well then of course it's not fair because we only produce a fraction of what other nuclear energy-producing provinces produce.

Discussion Leader: How should the process for selecting a site take into account the needs of both this generation and future generations? How could risks and responsibilities be distributed fairly across the generations?

M-16A: No, you can't take into account what's going to come in the distant future. Right here and now, we can talk about *this* generation and the next generation – our children and grandchildren – but we don't know what's going to happen ten generations from now. It's pure speculation. It's science fiction.

M-13A: In terms of fairness, they say "*équité sur le fond et sur la forme dans la répartition des coûts, des avantages, des risques et des responsabilités*"…. I would say that it's not impossible to ensure fairness, but I think they have to take into account some very specific factors. So, it's good that they're saying that it's important to ensure fairness, but to really do it, they really have to take into account a lot of things, for both this generation and future generations.

M-3A: I just think the plan can't be too rigid either because who says we won't come up with a miracle solution ten years from now that will replace everything we've planned for? So, perhaps remaining as open as possible might not be a bad thing.

Discussion Leader: OK, now, the NWMO has committed to only choosing a site in a location that is informed and willing. Tell me, how might the design of the process ensure that this happens? How can they ensure that a community is informed and willing?

M-7A: Education and awareness. I think it's definitely about time we start talking more about nuclear energy and waste. I don't know how it is in other provinces, but here it's as if all we've ever heard about are nuclear bombs and that's it. I mean, we know about the atomic bomb, but we don't know anything else about nuclear power.

M-13A: They could send out an information kit.

M-7A: Yes, but you still have to be interested and motivated to look through it and read it. They can send you all kinds of things by mail to your home, but if you don't care to read it… They would really have to make sure their message gets across in other ways too to reach as many people as possible, like in the form of television advertising or talks in schools.

Discussion Leader: And how would you know if a community was informed and willing? You've mentioned education and awareness as a means of informing people, but how can we measure in order to determine if a community is really informed and willing?

M-7A: Well, my question is, are they going to try and inform them or convince them? Because if they choose the perfect site… You know, there are a lot of ways to inform people. And if they choose the absolute best and most perfect site, then I think they may just try and convince the community by not necessarily providing all the information and telling them about all the potential risks. So, you know… There aren't any guarantees about how things will be done. And if they start flashing dollar signs and going on about job creation and so on

Discussion Leader: How do we know if a community is informed?

M-10A: I think it'll just happen automatically. That is, there will be an awareness campaign on TV and other education efforts and there will be media coverage and I think that's how we'll know. That's how we'll keep track. They could hold

public forums where every citizen would be welcome and invited to participate.

Discussion Leader: So, from what models and experience should the NWMO draw on in designing a siting process?

M-14A: I don't know what selection process they use to choose a site on which to build a nuclear reactor, but I imagine that there must be a similar process to choosing a disposal site. So, perhaps they could base themselves on that model – the model they use to choose a nuclear production site. And I believe at our last meeting we read something about the Scandinavian countries being at the forefront of nuclear waste management and I believe there was something about a deep geological repository already under way in Sweden. So, why not look at what Sweden is doing?

M-5A: I think it may also be worthwhile to look at some counter-examples, i.e. things that haven't worked in the past, in order to learn from those about the things to avoid and I'm thinking specifically about the time when Hydro-Québec decided to store PCBs… That clearly was not the way to do things and 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/their successes.

Discussion Leader: OK, so you're saying, basically, that past experiences – both positive and negative – as well as the experience of other countries around the world and what they're doing now should serve as models. What specific examples can you give me? You've named a couple so far like Sweden and Hydro-Québec. Are there any others you can think of?

M-5A: The Rabaska Project in east-end Lévis. If you look at what's happened, it's become a political power struggle. They started out with a

consultation process and a framework and everything…

M-16A: And the people didn't want to have anything to do with the project. That's right. And they still don't want it. No, but the decision was made for them that this project will go ahead.

Discussion Leader: OK, so how do we avoid political struggles like that? How can we get around that?

M-6A: I just think that every time we've been presented something here in an explicit manner with a clear explanation of things, that's when we've felt more informed and more comfortable. And it becomes interesting and engaging once we understand exactly what's going on – how it all works and what the impact is. For example, we just learned that the site cover an area of 1.8 square kilometres and up until now I never even imagined it would be that large a scale – that's quite impressive. So, I think through education and understanding… Because whenever there's an issue like this one, we always hear about people being against it, but we need more information to really understand what the issues are.

Discussion Leader: What can the NWMO do to keep their "ears open" to advice and expertise?

M-12A: First of all, I think they should take a multidisciplinary approach and include people from all walks of life in the process. There has to be scientists because, of course, we need their technical know-how, and we need environmentalists too. We also need to have a good variety of public interest groups of all kinds to represent society and all its constituents. That, to me, seems like a very democratic process.

Discussion Leader: You mentioned environmental groups specifically. What other types of interest groups do you think should be involved?

M-20A: Whoever they are, the groups that are involved should represent a good cross-section of Canadian society and people from all walks of life. Everyone should feel they're being represented.

M-12A: I just want to go back to the previous point for a moment… I can't recall where this happened, but recently there was a community where they wanted to build a wind farm. And the city council sent out information and invitations to every citizen to participate in public consultations and all that. But there was an enormous lack of participation on the part of the people. So, finally, what happened was that the mayor signed off on the project – because, of course, there were dollar signs behind it all – and only then once the deal was made was there a huge outcry from the people. But, I mean, what was the mayor supposed to do? Nobody would show up to the meetings! It's only after the fact that everybody started to get involved and say "No, we don't want this ruining our landscape!" So, ultimately, what I think should happen is that there needs to be a multi-tiered system for signing off on plans. No one person should have the power to unilaterally make the final decision. So, in other words, before consensus or an agreement is reached, no one should be able to sign on the dotted line.

M-9A: I'm reminded of how during the 1950s the city of Arvida was founded – an aluminium-producing city. So, in other words, they created a city with the sole purpose of producing aluminium. And there was a whole boom around it that attracted many, many people – workers, investors, etc. – because there was the promise of economic prosperity. And there was a lot of enthusiasm and a lot of solidarity around this uni-vocational city because everyone was excited about being part of this one huge thing and the attitude was "Our life is aluminium." So, this reminds me a little bit of that. And while society at large is becoming increasingly individualistic – people don't identify at all with a common good – smaller communities still

have a sense of working towards a common goal. And we've been reading a lot about community, so I'm just thinking it might be a good idea to look at the potential of smaller communities of people where people are more homogenous and there's a lot more solidarity among the people. I think that might be a more viable solution because people in larger cities are much more individualistic and much more politically cynical.

M-16A: In a perfect world, everyone would agree on everything. But the world isn't perfect. And even if it was and everyone today agreed, who says that in 40 years or more things won't be completely different? So, if we choose a site today, what I want to know is if there's a way to keep the decision open so that future generations could decide to, say, move the site to another location. Is there a possibility to reconsider at some point later down the line?

Discussion Leader: OK, so you would like to see some control or a progressive evaluation…

M-3A: Yes, because we're talking about something that's going to continue for the next 10,000 years, so I just think that the decision shouldn't be final.

M-20A: 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.

M-15A: Well, it says here on the left-hand side "*définir ce qu'est une collectivité.*" And it says "*Doit-on définir une collectivité de manière étroite et seulement d'après ses frontières politiques tel que les limites de nos municipalités, etc*…?" Well, yes it's important for people who live near the site to be willing, but let's say that they finally decide the best place to dump all this waste is somewhere in northern Quebec and the people who live there accept and are willing.

That means that all the nuclear waste from all the other provinces will be deposited there. Well, as a Quebecker, I personally don't agree with that! And someone can argue "Yes, but you don't live there – it's none of your business." And it's true – I don't live there. But there will be greater consequences to the rest of society and the environment in this province and that *is* my business. And it would especially be detestable for us to collect and store the other provinces' nuclear waste since we hardly produce any ourselves. So, it just simply wouldn't be right if it came to that and I would like to have my voice be heard. We're *all* citizens of Quebec, after all.

Discussion Leader: We talked a little bit about different people and groups of people who should be involved in the process. Are there any others? Any other groups of people that we didn't mention and who would be an essential part of the process?

M-15A: I think the people who live and work in Gentilly right now, those are some very important people to consult with. They could serve as a very important source of information, expertise and advice.

M-4A: Economic experts to determine if the site chosen will be economically viable.

M-5A: Well, there's a lot of discussion about the people who will be *receiving* the nuclear waste, but 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. So, when choosing a site, it's equally as important to consider transportation and the trajectory that will be taken and all the communities of people along the way and consult them as well as the host communities.

APPENDICES

i. Navigator Personnel
ii. Discussion Leader's Guide
iii. Backgrounder 1: Selecting a Site
iv. Backgrounder 2: Framing the Discussion
v. Backgrounder 3: Learning from Others

I. 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.

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.

II. DISCUSSION LEADERS 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

- Brainstorming about what an information package should look like.
- 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)

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

- **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)

- **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?

- 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)

- 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)

- 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

III. BACKGROUNDER 1: SELECTING A SITE

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.

IV. BACKGROUND 2: FRAMING THE DISCUSSION

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

V. BACKGROUNDER 3: LEARNING FROM OTHERS

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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