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Royal Roads University

**Community Engagement Processes:
Site Selection for Depositing Used Nuclear Fuel**
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Moderated by Ann Dale

Participants

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e-Dialogue

Ann Dale

Welcome, panel, to our discussion today, I am looking forward to our discussion from a snow-bound cabin in the bush outside of Ottawa. Our topic today is designing the process for site selection for used nuclear waste, involving complicated public policy issues. For example, four provinces, Saskatchewan, Ontario, New Brunswick and Quebec have nuclear energy, if they have the benefits, shouldn't they bear the responsibility for the costs of disposal? Who gets to make the decision, how do we define community, geographically, of interest, or both? What are the boundaries of decision-making? Could I ask you to briefly introduce yourself, and then I will begin a series of questions? In the last half hour, we will take questions from the e-audience, whom I also welcome to our dialogue today.

William Leiss

I am an academic and consultant who has published ten books, in the areas of social theory, advertising, technology and society, and risk management -- as well as two works of utopian fiction, dealing with future risk issues. I take a risk management approach to nuclear waste issues, which means that, in my opinion, we should first assess the risks associated with long-term storage of radioactive material, and then pick the solution for disposing of the waste in which we have the highest confidence, taking

into account a set of desirable end-points, such as environmental protection, health protection, fairness, reasonable cost, etc., all taking into account the very long time frames (at least 10,000 years).

Joanne Tippett

I am a lecturer in Spatial Planning at the University of Manchester, based in the School of Environment and Development. I hold a PhD in ecological planning from the University of Manchester. I have undertaken a wide variety of community planning projects (across the UK, in Southern Africa, California and Europe). These have ranged in scale from a school of 5 hectares, to a rural development centre of 150 hectares, to an urbanised river valley covering over 5,000 hectares. I have developed tools to facilitate stakeholder engagement – e.g. www.ketso.com and my current work is looking at developing open source ways to make these more widely available whilst maintaining quality and capturing learning for ongoing development.

Ann Dale

Welcome, Bill and Joanne, we are just waiting for **Nola-Kate Seymoar** to connect from Hawaii, and Laura Chapman called me from England, she is quite ill but is hoping to join us if at all possible? Bill, what is the book you published on risk management, and can you share some nuggets of gold, Ann

Joanne Tippett

Greetings, thank you for setting up this opportunity, Ann, and hello to Bill.

William Leiss

Hello to you, Joanne.

Nola-Kate Seymoar

I am Nola-Kate Seymoar, President and CEO of the International Centre for Sustainable Cities (ICSC) headquartered in Vancouver. This morning I am coming in from Kauai - warm and humid.

Lenore Newman

Hi all, this is Lenore Newman; I'm an assistant professor at Royal Roads University and I study complex social/ecological problems

Ann Dale

Let's move to our first question, I knew you would rub it in, Nola-Kate, warm and humid?

What are the practical steps that should be taken to ensure that the process for selecting a site is fair? Who gets to make the decision? How do you define a community, geographically and what are the boundaries? Ann

Lenore Newman

I see openness as a key element of the process. If there is a sense that decisions are being made behind "closed doors" there could be real resentment and conflict down the road. An open and inclusive conversation must occur before a choice can be made, as the community as a whole will need to be comfortable with the responsibilities that will go along with hosting this material over the centuries that it will need to be managed

William Leiss

Lenore, you are absolutely right about openness, for the whole process, but especially at the community level: This whole project will take so long that it will never succeed if the procedural protections are not fully respected. I do also want to emphasize the legal structure that ultimately safeguards the process; the initial expression of community interest will eventually be subjected to an exhaustive review under Canada's federal environmental assessment legislation, where the procedural guarantees have the force of law.

Joanne Tippett

The boundaries are going to have to be nested – taking the whole of the nation as the minimum outer boundary, but then showing sub-sets – likely to be along administrative lines, but probably also a good idea to show ecological – geological boundaries superimposed on these, as ‘natural’ boundaries may well make more sensible decision making units.

Practical steps include creating the framework for mapping out communities and areas – how will information on geo-eco characteristics, administrative boundaries, and the socio economic characteristics be integrated and represented? Public Participatory GIS (PPGIS) is likely to be a good framework for making such information available, and allowing many people to explore options and make comments. A good example of using PPGIS to explore the issue of siting nuclear waste is explained here -

<http://www.ccg.leeds.ac.uk/projects/atomic/>

Ann Dale

Joanne, how do you define the boundaries if the waste has to be transported through multiple communities?

Lenore Newman

On Ann's point regarding movement of the waste, it seems that an open engagement of the public will be needed in that respect as well. Given the locations of the spent fuel and the nature of Canada's infrastructure it seems inevitable the fuel will need to be moved through populated areas. Somehow public buy in for the transfer will have to be achieved, and the site selection process, if successful, will form a part of that.

Joanne Tippett

On Ann' question about defining communities (sorry am having trouble make it into a thread so will just post here) I would say that there would have to be a geographical approach - where is the waste being generated, where might it go and what are the possible routes it may take. That would give one set of (fuzzy) boundaries, from which to draw communities of place. There is likely to be a need also for a degree of random selection from the entire population of Canada, perhaps modelled on or directly taking a citizens' jury approach, to give a less geographically orientated perspective.

So, it is clear that communities in this case need to be defined by place, and I would

suggest also by interest. Including perspectives from many different communities of interest can be used as a proxy for considering future generations and the environmental concerns, if representatives from interest groups who look at issues such as social equity and environmental justice are included. The communities of interest would include communities who have expressed an interest - but within that geographical area there are likely to be people who are not keen on having a site in their backyard, so this would need to be seen as different from communities of place.

I think there would need to be a process of stakeholder mapping – who may have a stake and how can many different perspectives and voices be represented?

You thus have at least three ways of defining boundaries. A combination such as this would be more likely to produce a fair and balanced result. However there is not perfect process – I think the key is to show how the mapping is being done, the reasons for it, and to evolve it as it goes along.

William Leiss

I have written about both theory and practice; I would approach this question about fairness in a practical way: Once some interest has been indicated by one or more potential willing host communities, we should open informal discussions, and get a sense from their representatives what they would regard as a fair process. The decision is ultimately a shared responsibility, with participation of the communities, the proponent (NWMO), the regulatory authorities, and, possibly, lawyers and the judiciary, the latter having the last word on fairness, if it comes to that.

Ann Dale

Bill, it is my understanding that some sites, based on specific geophysical characteristics, may be 'safer' than others. Should the preferred sites for deep geological repository be identified up front?

Nola-Kate Seymoar

NWMO has information on the best potential sites. As a first step that info needs to be shared (if it has not already been).

William Leiss

Ann, on "safer" sites, safety in the long term is guaranteed by a "suitable geological medium," either granite or sedimentary rock, both of which are very stable, including inhibiting water flows, over very long periods of time (in the case of the Shield, two billion years). But those candidate media are found over a huge swath of Canadian territory; thus actual safe sites are, for all practical purposes, innumerable.

Nola-Kate Seymoar

If the sites are innumerable, why does NWMO want to chose one near an existing community?

William Leiss

There will be a great deal of activity, involving many professional staff, at the site over a very long period of time. If it is not located near an existing community, then one will be building an entirely new community from the ground up.

Nola-Kate Seymoar

The most significant issue is trust in the process. This cannot be done by NWMO as an industry association. There needs to be a multi-sectoral governing body for the Adaptive Phased Management Process in general and for the Siting Process in particular. A model for this is the Public Private Community Partnership process- in this case it should be a public, private, scientific and NGO process. It would need to be established under law in order to be trusted.

Related to trust and communication... I was struck by the lack of specific information in the NWMO document. It was hard to tell that this was about nuclear waste. There was no specific mention of – what is the problem. First principle of basic risk communication is to acknowledge the problem, identify the degree and severity of the problem, and in this case – the timeframe. "long-term period" just doesn't communicate an acknowledgement of the problem. (see any of the stuff written by Vince Cavello on risk perception and communication).

William Leiss

Nola-Kate, in Canada there is a federal law that names NWMO as the responsible body for finding a site; no one else can be substituted for this role, and NWMO cannot in fact decline this responsibility, since it has no choice but to accept it.

Ann Dale

Given this unique mandate, and Nola-Kate's comments, what does this imply for the governance of NWMO and its Board of Directors? Should it have the composition that Nola-Kate has suggested?

William Leiss

Ann, once again the federal law takes priority: NWMO is the legal entity required by law to do all this; but they are also a privately-controlled corporation, and, again, there are laws which govern how such corporations behave. Ultimately, NWMO controls its own board composition. Remember, the owners of NWMO are public utilities, that is, crown corporations in three provinces, ultimately answerable to the provincial governments. So both layers of senior government are the ultimate actors in this business.

Nola-Kate Seymoar

I do not believe that this legal position has credibility with the public. Laws can be changed both for the good and bad. At a bare minimum if NWMO has control over its own board membership it can define a multi-sectoral board structure. Crown Corporations are not responsible to the electorate - they are governed by provincial governments, but not elected and responsive in the same democratic manner. The difficulty with the government overruling safety concerns about a year ago is an example where the public lost faith in the regulators. These sorts of issues need to be better thought through.

William Leiss

Well, Nola, one thing that can be said is that Canada has been trying to find a proper solution for this problem for 30 years already. If you are serious in wanting to change the legal structure, add another 10 years before anything else will be done.

Nola-Kate Seymoar

Bill, You have not addressed the issue of credibility, if NWMO can define its own Board membership, what would it need to do now to improve its credibility? If I am not mistaken the NWMO has worked on the nuclear waste issue for 6 years, not 30, and on siting for one year.

William Leiss

Yes, but the process predates NWMO by many years. What I am implying is that, if you want to struggle over NWMO's credibility, that is fair game (I certainly do not regard the 2002 federal law as ideal, far from it (I think that the federal authorities should have retained direct control). But changing it at this point means not doing anything else for 10 years.

Ann Dale

Key question, also we opened with the whole issue of trust, the Board composition should demonstrate the NWMO principles--integrity, excellence, engagement, accountability and transparency? I think in some ways we are agreeing? That is, if you want to have a site process that reflects these statements and achieve your objective, the public is going to shine a spotlight on accountability and authenticity of the Board, that is just plain common sense? They are mutually interdependent, shall we say?

Nola-Kate Seymoar

It is not an either - or. Surely there are significant steps NWMO can take to improve their credibility now- and efforts can be made at the same time to improve the governance structure and make it more in line with the principles it says it values. That being said – let's focus on the other questions.

William Leiss

My view is that NWMO's performance must be judged according to a standard of best practices that are based on the principles you list. If it does so (and we will be able to judge for ourselves), then from my perspective the board composition is irrelevant. If it does not do so, it doesn't matter who is on the board, the process will collapse.

Ann Dale

The Board of Directors is then accountable to three provincial authorities? Is there not a national and international governance interest? Is the siting of a nuclear waste depository a public policy issue or a private interest? I think the answer to the last question determines the governance.

But let's move to practical steps, so the first step is to identify potential steps, or is the first step to identify the potential sites, and then communities can self-identify? What are the next steps, and at what stage does the community engagement process kick in?

Joanne Tippett

In response to the question - when to involve the community, the experience in the UK points to the answer - pretty much from the beginning. Not having done this in the past in decisions about nuclear waste and then trying to involve communities later on damaged trust in the whole process. The sooner that maps of possible sites and information is made available, the more likely the process will genuinely engage communities in the long term.

Ann Dale

1. Governance decisions regarding trust, accountability, scope of the issue and so forth
2. Communities self-identify or are identified?
3. Map potential geographical areas of preferred safety
4. Identify transportation corridors
5. Define boundaries, using socio-ecological mapping
6. Stakeholder mapping
7. Governance decisions
8. Community engagement process (Joanne has suggested almost immediately?)

Just a start, next question, moving into the community engagement process, who should be involved in the process for selecting a site, and what should be their role?

Joanne Tippett

I will elaborate on the socio- ecological mapping - In the UK, the Sellafield nuclear reprocessing plant is located in a rural community (by our standards - still very close to major cities by Canadian standards!) in a fairly poor area with few economic prospects.

It is reasonably likely that any community that expresses an interest is one in which the jobs created and the potential financial gain from taking the risk of the waste are large incentives (e.g. likely to have high unemployment / low prospects and be poorer.). Not that they will be, but they are likely to be.

Whilst this does not necessarily mean that sites should NOT be located in these areas, it is important that the socio-economic characteristics of the areas are made apparent in any geographical analysis, so that this information becomes more apparent and can be taken into account. Environmental justice as a theory and practise has shown the importance of mapping pollution hot spots against issues such as ethnicity and indices of deprivation. Making such information available in an easy to read form (preferably as maps) in conjunction with the more 'hard science' about geology etc. can provide an important tool for more fair and open dialogue about choices.

Nola-Kate Seymoar

Joanne, I think your ideas about the mapping process are excellent. We have used mapping as a youth engagement process and also a community engagement process and find it works well, almost regardless of cultures.

Lenore Newman

I'm curious as to the mechanics of community consultation will work in this case. Will there be town hall meetings? Surveys? How will the internet be utilized? In an age where community is very fractured and most people live very insular lives within their own families and careers, it seems like a fascinating challenge to build a community consensus. After all, this process will be judged by tens of generations in the future-how do we ensure they say "these folks did a good job of consultation during the siting?"

Joanne Tippett

At the risk of sounding like a mixed methods fanatic, again I would say a combination is important - meetings with people in the room, on line forums, and participatory mapping so that people can post comments, and surveys. The key is to make sure that the information is captured and made available for people to view, so there is a record of it, and a trail for future generations to follow. This means that public meetings should endeavour to have some sort of artefact to capture their input, from flip charts and post it notes to America Speaks type digital engagement, to other hands-on facilitation tools. These records can be made available on line (and it is very helpful to link the data and ideas coming from meetings with the geographical location and possibly sectors represented, if possible).

It seems essential to have a citizen's panel of some sort, as I suggested earlier, possibly selected through a citizens' jury process. It also seems important to make sure there are representatives from environmental, social justice and aboriginal groups, along with representatives from industry and the public sector.

Of course then a question becomes how to facilitate such involvement of people in what is likely to be a lengthy process – there may need to be a system that provides some resources to cover for people's time, and a rotating membership (with overlaps to allow for learning between the different representatives).

Ann Dale

Joanne, can you expand on citizen juries, please?

Joanne Tippett

A similar process to selecting a jury for a trial is followed, so that a small sample of the population is chosen. They then hear evidence from several sides of the argument (at the least for and against a particular proposal, possibly from different perspectives about an issue such as how to deal with drugs use amongst teenagers in a town). This process is taken very seriously and people are expected to listen to the evidence as if they were on a jury, and they then come to a judgement about the issue under discussion. It is one approach to community participation that embodies the random nature of the sample, NOT stakeholder mapping to get particularly view points.

I expect for an issue such as nuclear waste it would help to have both approaches. A citizen jury / juries could be set up to scrutinise decisions, to deliberate on the proposed process for stakeholder engagement, to deliberate between several sites once they have been narrowed down.

Ann Dale

Who decides who should be at the table in order to have a fair, just and open process? Or should this be decided, I have worked in many communities where there is an in-group and an out-group, and how do you define community member, would standing be granted to an external group who is opposed to nuclear energy, when this issue is confined to nuclear waste. Our e-Dialogues to date have all agreed that we have an existing problem that needs to be dealt with, and there is scientific consensus that deep geological repository is the safest disposal method, using adaptive phased management. I would also like to introduce an audience comment here that NWMO is

not communicating the risk in an appropriate way, by comparing the waste to six hockey rinks, that that does not communicate fully the dangers and risks and insults the public intelligence?

William Leiss

Ann, on the hockey rinks: That is only intended to give a clear idea of how much waste is involved (in terms of volume). It is not part of the risk communication. If you read the NWMO documents, there is no attempt whatsoever to conceal the dangers involved in the type of waste we are talking about; after all, that's why one wants to put it down a deep and secure hole, in solid granite, after sealing it with stainless steel, copper, and clay to inhibit water movement.

Ann Dale

Thank you, this discussion has been very thoughtful, let's move to our last question, and you have made reference to this in your comments, do you know of any other information and tools that can facilitate greater community engagement?

Nola-Kate Seymoar

In both Calgary and Durban South Africa, during the "imagine" public engagement process, they took their questions out to the public and to schools and engaged people in their natural habitat so to speak. So they went to seniors homes and nursery schools, hockey rinks and the stampede - anywhere where they could get people to pause for a moment and discuss their ideas. Calgary had 18,000 people engaged and in Durban the numbers were smaller but they were more focused on engaging the marginalized populations in the townships - used cartoons, schools dialogues and interviews. I don't know what methods would be most successful because it will depend on where the finalists are located, but I do know that open houses and web based consultations are not effective in and of themselves.

Ann Dale

Nola-Kate, I think consultation is outmoded, and irrelevant, if people are going to engage, they need to know their voice will be heard, and that they can make a difference. I truly believe we need to move to dialogue, that the issues now facing Canadian society are so complex, that we all need to assume a moral mandate to educate and communicate as effectively as we can, consultation does not imply any

moral imperative to share power? Also, your idea of knowledge collaboratives may be helpful here?

Joanne Tippett

This puts me in a tricky spot - as the inventor of some tools! Full disclosure there for transparency.

But what I can say is to outline some key principles that I think any tools should have:

a genuine endeavour to include more voices, and this will include the need for thinking of people who would often have difficulty getting their views heard (e.g. people with learning disabilities, shy people, people with less formal education, in some cases, women) - that was my starting point for developing a hands on toolkit that is visual, and lets everyone contribute

Whilst I am all for internet based systems, I think there needs to be some communication off line as well!

A focus on the positive and creative thinking as well as critical thinking - something has to be done with this nuclear waste - how can the process come up with the best solutions? Appreciative Inquiry is a good starting point.

An endeavour to talk a holistic view and to really make the most of the vast amount of resources that are going in to this consultation (which is impressive in its questioning and endeavour to include different views from what I can see here) to really think about the future of Canada, its energy solutions, how the landscapes will be used in generations to come - so including some systems thinking tools and principles of sustainability into the discussion and the process of imagining what the future may be. The natural Step principles can really help create such a holistic perspective.

Lenore Newman

Though I am a great fan of electronic engagement and the internet in general, I think good old fashioned mail-out surveys might be of use simply to raise awareness among the local citizens. The trick will be to roll out a very diverse suite of engagement from local newspapers to internet forums. I don't think there will be one easy answer

Joanne Tippett

By the way, I am taking it for granted that this process needs to move beyond consultation into active participation, engaging people in developing options, and to take a deliberative dialogue approach.

Ann Dale

Concluding comments, colleagues, we have had a most interesting e-audience conversation which we will archive as well as that of the e-panel. As well, I will be writing a report from our first e-Dialogue that was private and this one, which will also be published on-line when completed, to meet our research principles of inclusivity, and thank you, Joanne, our purpose as researchers is to demonstrate the principles of deliberative dialogue. Thank you for the richness of our conversation, and I wish you and your families a joyous holiday season, Ann

Joanne Tippett

Super, thanks Ann. This has been most interesting, and given me some great ideas for teaching my next cohort of students in community planning.

Any chance that a check for typos can be done before this is posted?

Best wishes to all for a happy holiday season.

Ann Dale

The only changes we make to the conversation is spelling and grammar when meaning is unclear, and some re-ordering for flow. Hope to see you in the New Year. Ann

Nola-Kate Seymoar

I agree re consultation in the traditional mode, but if you engage using Appreciative Inquiry or Choice Dialogues or deliberative engagement processes you get a whole different process happening. Joanne's tools are part of the emerging best practices. I also think that old fashioned going door to door can be an effective element of education/engagement. Depending upon the size of the community, we have used community members to interview their neighbours - the result is community building -

which is what you want to have happen if you are seeking consensus. I think the overall concern I would have is to design the engagement process with a multi-stakeholder group. They may well create their own versions and methodologies.

Joanne Tippett

Well, given that one of my typos is to call it 'his process' not 'this process' that may be a good thing to do!

Many thanks to all, that was most interesting.

Nola-Kate Seymoar

It was nice meeting you - many thanks for including me Ann. Perhaps we should begin a Knowledge Collaborative on Public Participation and sticky issues. All the best for a very Merry Christmas and a Happy New Year. NK

e-Audience Dialogue

Chris Ling

Welcome to the e-audience discussion. Comment here on the panel discussion and if there is time questions and comments may be fed into the panel discussion for the last half hour.

Keith W. Steeves

Hello & Greetings,

My name is Keith William Steeves, writing from Vancouver, BC.

Typing is an awkward medium in which to communicate. I assumed the panel for this e-Dialogue discussion would have come on via voice instead of type. Also, since there is no working 'Spell Check' here, you will have to allow for my poor spelling!

First, I wish to say - and I don't wish to be impolite or rude here, but the fact is that I wish to note here is that CRCResearch is not doing this e-Dialogue out of the

"goodness -of-its - heart", but is instead acting as a paid agent either directly or indirectly for NWMO. I am assuming the purpose is to "market" or facilitate the "marketing" of this Nuclear Waste Site Selection Process in order to make it acceptable to the various stakeholders.

In coming to this web site, I am not sure if I should take either an confrontational - adversarial role, or whether I should extend an olive branch and be cooperative in this discussion.

What upsets me in regards to this discussion is the advertised CRC Research comment about this topic which stated:

"... how to design a fair, open, just and equitable community engagement process. Who gets to make the decisions, who decides who is included or not, and are there key stakeholders that must be at the table?"

Or, as NWMO stated in their "Moving Forward Together" pamphlet, the question:

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

By the sound of these statements, the objective of NWMO is to exclude various parties if they have no interest or relationship to the issue. Well, I beg to differ on this issue. Please inform NWMO that:

I exist, and I am a "person", and I am a "Canadian Citizen", and as a citizen, like all other Canadian citizens, I have "Rights"! IF NWMO in any way thinks or attempts to deny me my rights, diminish my citizenship, or my person, or my very existence, that will not happen! If they try that, I will see them in Court!

Ann Dale

I would like to respond directly to Keith as the lead on this project. In no way shape or form are we paid agents of anyone, our principles are that none of receive any personal remuneration for our efforts in trying to increase literacy through on-line real-time dialogue on critical public policy issues regardless of our own personal opinions on the issue. And further, any reports we publish as a result of leading e-Dialogues for a number of external parties is always public, and never private. And any monies received on contract goes into our ongoing research budget, and must adhere to our research principles and objectives. I would like to reiterate that we are researchers, not marketers and I am sorry that you have reached that conclusion.

In my own inquiry, I try to think of the best way to communicate my ideas and to ensure that the other party stays open to the conversation, rather than shutting down conversation. The questions I am posing are deliberately designed to stimulate further

questioning, further thinking and trying to determine principles a priori for the most open and inclusive process possible. These are fundamental principles that guide my own research and indeed, my personal life, particularly that of inclusivity.

Darlene Buckingham

Hello All , thank you all for opening these dialogues for community participation in the discussion for the safe storage of nuclear waste. I would like to thank Nola for bringing up the point I am most concerned about - that public documents on nuclear waste do not tell the public how dangerous nuclear waste is to their health and to the environment. I am gravely concerned when I read these documents and see comments such as there are 6 hockey rinks filled to the top with nuclear waste and a picture of a woman holding a fuel bundle that has not been used. This is misleading to the people about the dangers. I would like to see all documents with the nuclear waste warning symbol - that the analogy of hockey rinks no longer be used - this is insulting to the intelligence of those who know that nuclear waste is dangerous and lulling the public into a false sense of security - I would like to see actual pictures of nuclear waste, drilling and mining for uranium and the inside of nuclear reactors - if there is a problem with security than that in itself shows the true dangers. When I speak to people - most are not aware of the serious risks - if the truth was told up front and bluntly who in their right mind would agree to having nuclear waste stored in their community. Would any of you? I also find it misleading to say that France, Sweden and Finland are solving the problem of nuclear waste. This is untrue. When one checks the facts there is a huge discrepancy in what you are telling the public. What about the failed Yucca Mountain project that in 30 years has still not solved the problem. If the public were more aware of the huge obstacles to a deep geologic repository the billions of dollars required to build, store and steward nuclear waste, the hundreds of thousands of years nuclear waste remains toxic and the audacity to think we can safely store nuclear waste safely for thousands of years, counting on a unknown and future technology to solve this terrible problem perhaps the public would not agree to the 2 new new nuclear reactors proposed for the province. It is time to be absolutely transparent about the dangers of nuclear waste so the public can make informed decisions about the future of this province and future generations that will have to deal with our decisions. To obscure the truth any longer is criminal. There are already many people in this Province and around the world that are sick and suffering from the release of uranium into our water, air, earth and thus the food chain. Now is the time to be CLEAR that nuclear waste is extremely dangerous and poses a serious threat to our health and to our environment. Also make it clear that we do not have a solution to the storage of nuclear waste - this deep geologic repository is based on speculation not science - there is not one such repository in existence that has been built or that is successful. The time lines proposed also do not speak to the urgency or seriousness of the problem to be solved before going forward with any new nuclear reactors.

Chris Ling

Hi Darlene

How do you think this should best be communicated by the NWMO - so that the truth is presented, yet also the urgency that something HAS to be done with the waste?

Keith W. Steeves

Hello Darlene,

You have legitimate concerns. I find your comment is more important than the comments made by the panel discussion members. One item that I would like to note about your comment is in regards to 'people getting sick'. For clarification, at what point in the the nuclear cycle are you referring to in your comment? Are you referring to mining or nuclear planet operations or nuclear waste from reactors?

Darlene Buckingham

Mapping is not going to help you. Getting out and speaking to the community will. There is a proposed open pit uranium mine for our community. Why? Because where I now live Haliburton County is the site of historic uranium mines. Now it is the home of people with small businesses based on tourism and the love of the environment. Most people moving into the area now are health conscious and environmentally concerned at how our present day technologies are contaminating and destroying our water, air and land. The junior mining companies were surprised that our community is not interested in the money from mining but in earning money from protecting and preserving Ontario - the community wants nothing to do with mining but due to the antiquated Mining Act we are forced to accept drilling for uranium in our area. This area is a depressed economic area when compared to big city centres but we pride ourselves on earning money from promoting health and the health of the environment. It may be very difficult to find a remote community that values money over their health and the environment. The only way you are going to find a community for this deep geologic repository is to force them to accept or lie to them about the dangers. This is the history of uranium mining - First Nation's people have been the ones to suffer from our bad decisions. It was easy to force them to accept this contamination. It is going to be harder to accept the mixed population that is living in these proposed site areas now. I do not want to see Ontario forced into being a national sacrifice area - as this will happen if there are more nuclear reactors, more nuclear waste, more open pit uranium mines and now the location for storage of low level, medium level and high level. This is a terrible future for Ontario. I would like to see immediately the seriousness of this problem discussed and a

moratorium on uranium mining and new nuclear reactors in this province until this problem is solved. If you continue to tell the government that there is a safe solution to this problem at this time we will only dig deeper into nuclear nightmare.

Darlene Buckingham

If nuclear waste is so risky that we have to spend billions of dollars digging a very deep hole through granite to protect ourselves why are we using such a technology that puts us at such risk and requires such extreme measures to protect ourselves? Are you truly satisfied that the NMWO is clearly explaining to the public the risks and dangers of nuclear waste and is providing enough information allowing the public to make clear informed choices about their health and safety?

Keith W. Steeves

Hello Darlene,

In reply, my answer is No! With regards to providing information, my company, A.P.S.E. Inc. and I have provided NWMO with NWMO Option # 5, but you will have to do a lot of digging through 'Freedom of Information' requests to Natural Resources Canada to learn more. It has history. Too much to explain here.

The position of A.P.S.E. Inc. is: NWMO Option # 5 exists, its still there, it is still available, and IT IS NOT GOING AWAY! The race is still on!!!

One comment about the Study Phase design is that NWMO only give about one and a half years for the Design Process for Selecting a Site. Why the rush? Given the history and the 10,000 year impact, is this really adequate? Also, once this NWMO process gets going, is there really anything that will stop it? It would be like trying to stop a train on a railway track. For example, say five minutes before midnight before the day when APM goes into operation and someone comes up with workable transmutation process to solve the nuclear fuel waste issue, will or would NWMO drop APM in favour of this new process? Obviously, the answer is No. The point I am trying to make here is that NWMO is not flexible and is a bureaucracy with their own agenda (my opinion and my company's position).

Our time must be running out.

Dianne Loubier

Hello all

I am participating in this e-dialogue to learn & acquire more facts on exactly what is involved for a community to be part of a site selection process. We are interested in attaining information on the type of site required to contain & isolate used nuclear fuel within deep geological repository constructed in suitable rock formations as our community is surrounded by bedrock, granite etc.

I Turnbull

Hello, my name is Ian Turnbull, joining you from the Findhorn Community in northern Scotland. This is a creative looking format and I'd like to add in my insights on this whole subject. I've thought for a long time that we need to develop an inquiry about the social and spiritual nature of the Atomic world and nuclear energy itself. I've advocated this approach several times to NWMO. It goes against the grain because so much authority that has gravitated to the scientific view, so it is not easily heard. Still, I commend a whole and holistic view of nuclear power to your group. If it is real, then I think you'd find communities lining up to be part of the waste management scenario. Because the work in essence would be about developing a collective social and spiritual technology that can respond to the dis-ease that is the substantial nature of radiation.

This is a big topic. Please look in at this web site www.nuclearnewcomer.com where I've time to enlarge on an holistic view of the profound subject.
Thanks and good luck.

Dianne Loubier

It is my understanding that NWMO uses a Adaptive Phased Management approach which is both a technical method and a management system with the end-point of the containment being isolate in a deep geological repository constructed in a suitable rock foundation. Is there planned collaboration with all involved & have all aspects of NWMO's adaptive phased management system meet or exceed all applicable regulatory standards and requirements for protecting the health, safety and security of the communities & environment they will be involved with

Darlene Buckingham

If this is to be a fair and equitable process than it is absolutely imperative to give the public up to date realistic data on nuclear waste - again I emphasize that telling people that we only have 6 hockey rinks of nuclear waste is not a realistic description of nuclear waste - when I first started following this which was a year ago - it was one rink here and 1 football field in the U.S - again I would like to see real pictures and the whole story told about uranium from drilling and exploration, to mining to processing to nuclear energy to what is being temporarily done with nuclear waste to depleted uranium weapons to atom bombs. There has to be complete transparency about uranium. The public must be engaged in an intelligent and informed manner . This is unconscionable that the problem has become so seriousness - it is up to all of us to solve it. If any community is lied to or forced to accept this solution the problem will only get worse. Nuclear waste is a serious threat to our health and safety and to the environment. The public must be told clearly there is a serious problem and we have to solve it now. There have been cover-ups in our community and people are getting sick because of this. It is your responsibility to alert people to the serious problem facing us and the environment. It is also up to you to let the government know how far away you are from a solution and suggest they find new energy sources.

Dianne Loubier

First I would like to say I am a community member from Ignace, Ontario, Canada.

I agree with Darlene Buckingham that the public needs to be engaged in an intelligent & informed manner. Communities who are contemplating the option of being considered for used nuclear repository site should have all the facts presented to them the outlines all the pros and cons to proceeding with such a venture. Everything has to be up front & transparent & that is not the case currently. It looks like communities are not being provided all the information so they would be able to make informed decisions.

Darlene Buckingham

Hello Keith , the people getting sick in our community is due to uranium in their wells. As this is not a mandatory test people in our community are only recently becoming aware of high levels of uranium in their well water and radon gas in their homes. We have no way of proving if these elevated levels are due to the hundreds of holes drilled in the area looking for uranium. We were not told about the drilling for uranium. The only evidence we have is anecdotal - nobody has done a comprehensive study on the contamination of the aquifers and well water. The children who are sick live near a decommissioned uranium mine so it is quite possible the contamination was from the mine. Who knows? Nobody is testing here, we are not told we are in danger - this is

only uranium tailings-less dangerous than processed nuclear waste and people are getting sick. It does not take a huge leap to understand that nuclear waste poses a much more serious threat to health and to our environment. I am concerned about the cover-up here. That tells me that the government, mining companies and the nuclear industry know the dangers and are proceeding anyway. It is becoming clear that our society is based on greed - the financial meltdown - every day there is new evidence of corruption. The corruption in the nuclear industry is more serious as it affects our health and our water, air, and earth. We are engaged in a low level nuclear war in Iraq and Afghanistan. Most Canadian people do not know that depleted uranium weapons are being used in Iraq and are causing sterility, birth defects and cancers. I as a Canadian am horrified at the cover-up going on regarding uranium and will do whatever I can to let people know what is truly going on. The fact that we do not have a safe way to store nuclear waste after 60 years and it is at least 60 years before we have a site in place tells me we are in trouble. I find these discussions disturbing as I see no sense of urgency to solve this issue. The fact our community was forced to accept drilling for uranium leads me to suspect that a community will be forced to accept this repository for nuclear waste and the nuclear industry will continue to contaminate our world.

Chris Ling

Thank you for comments - they will be incorporated into the transcript of the dialogue and in our report to NWMO. Both of these will be published on our website.

We will leave this open for a few more minutes for final comments.

Darlene Buckingham

How can NWMO with any good consciousness discuss nuclear waste as being sustainable or renewable. This misuse of language has to stop now. It is unconscionable to suggest that uranium is sustainable and can be used in a sustainable way or that it is renewable. The nuclear industry's claim that nuclear energy is clean and green in the view of the problem of nuclear waste must be stopped immediately and I would appreciate it if you gave them this message. It is a crime against humanity to misuse language in this manner and lull the public into a false sense of security. It is our responsibility to protect our children and future generations from the continued contamination of water, air and earth - this is what keeps us alive and healthy - certainly not nuclear energy. There are better ways to power our planet. To continue to promote nuclear energy and downplay the dangers prevents us from moving into a true renewable future. It is the responsibility of the NWMO to protect all those who do not know better and are not being given good information on how to protect themselves. Uranium is the perfect killer - tasteless, odourless colourless - one would never know they are drinking it, breathing it or ingesting it if they did not test or were told they are at risk. Nuclear waste is a serious problem and a threat to our health and environment. I

send you all positive energy possible to solve this terrible problem. I ask you tell the truth.

Keith W. Steeves

Regarding your last post, I am aware (i.e., at least know of the topics) of many of the issues and concerns that you have expressed. Your primary concerns appear to focus on the front end of the nuclear cycle, whereas mine are on the back end with nuclear fuel waste disposal. I whole heartily agree with you that the front end problems are a very important issue that needs to be addressed more fully. What or how the issue is to be addressed, I cannot say. I will say though that one thing is certain and that is uranium mining will not stop since both the nuclear industry and nuclear power is not going away anytime soon. That's the reality because the power is needed.

I have to go now. Good Bye.

Darlene Buckingham

How can you say nuclear is the only way. I find it hard to believe that another way to power our planet cannot be found. To say nuclear is the only way to get power is absurd and ignores the imagination and potential of humanity,

I am concerned about the WHOLE system -it is all dangerous to all of us everywhere on the Planet. Until we take a holistic approach and acknowledge that our most precious resources are clean water, air and nutritious food we are in trouble. The whole industry is corrupt from beginning to end. I am sorry to talk in such strong language but I do not understand why the WHOLE process is not discussed from uranium mining to processing to nuclear energy to disposal. This is a whole system - talking about it as if mining or waste does not exist is what is part of the problem. And this power is not needed - nuclear accounts for 15% world wide and 50% in this province. We better find another way or we are going to be a national sacrifice area and nuclear waste site province. I happen to love Ontario but I will not live here if the open pit uranium mine is approved or 2 new nuclear reactors are approved. I will continue to speak out from a distance.