

PMD 13-P1.85.B

File / dossier : 8.01.07
Date: 2014-10-06
Edocs: 4531685

**Written Closing Remarks from
The Inverhuron Committee Inc.**

**Observations écrites finales par
The Inverhuron Committee Inc.**

In the Matter of

À l'égard de

Ontario Power Generation Inc.

Ontario Power Generation Inc.

OPG's Deep Geological Repository (DGR)
Project for Low and Intermediate Level
Radioactive Waste

Installation de stockage de déchets radioactifs à
faible et moyenne activité dans des couches
géologiques profondes

Joint Review Panel

Commission d'examen conjoint

October 2014

Octobre 2014

Deep Geologic Repository Joint Review Panel

Closing Remarks from
The Inverhuron Committee Inc.

In the Matter of

Ontario Power Generation Inc.

Proposed Environmental Impact Statement for
OPG's Deep Geological Repository (DGR) Project
for Low and Intermediate Level Waste

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October 2014

The members of The Inverhuron Committee would like to thank the Joint Review Panel members for taking on a very complicated and difficult task. We have attended/watched the webcast of the prolonged Hearing of both Fall 2013 and Fall 2014, and we have appreciated your candour, thoughtfulness, astute questions and observations. You have a report to produce that will be the hallmark for the future disposal of nuclear waste in Canada and, likely, around the world.

Our reasons for submitting a closing document are twofold:

Firstly, we wish to reiterate the issues that we focussed on in our presentations of 2013 and 2014, which are essential to address before the location of a storage facility for nuclear waste is finalized. Many of these concerns are still unanswered or have been only partially answered over the past two years.

Secondly, we would like to underline the new information that has come to light through the Hearing process. Several issues have emerged that alter this project to the degree that it has now morphed into a new project. The Joint Review Panel cannot be an avenue to develop a project, it must be the body which examines the viability of a complete project, fully clothed in scientific accuracy and in community acceptability.

BASIC PARAMETERS

We feel strongly that the issue of nuclear waste not only requires an environmental examination, but also requires political, social, ethical and financial discussions.

Before moving to the choice of a “willing host”, we believe that our provincial and federal governments need to take the pulse on nuclear waste from all constituents and to set out clear policies and parameters to filter decisions. One of these parameters that we hope would be delineated is that **nuclear waste should not be stored permanently in the Great Lakes Basin**. Should this have been the case, the entire top layer of concern would have been lifted from this project.

As well, the burden of setting nuclear waste to permanent rest should not fall on a local municipality, a county or even an expert panel of scientists.

Most of the political, social, ethical and financial aspects of this issue should be dealt with ahead of the actual environmental assessment where the Panel can use their expertise to examine the project itself and not spend hours, or days retracing the history of the negotiations between, in this case, the Municipality of Kincardine and the proponent.

Not only should the government bodies create clear policies on disposal of nuclear waste, but there needs to be coordination among all those responsible

for waste, whether it be low level waste, intermediate level waste or high level waste. The best solution must be found, unhampered by the bureaucracy of provincial vs. federal responsibility.

Should the aforementioned have taken place, we would have found ourselves in a very different environment.

SUMMARY OF ISSUES FROM THE ORAL PRESENTATIONS OF THE INVERHURON COMMITTEE

Alternate Sites

We wish to bring forward from our two presentations to the Joint Review Panel the fact that actual alternate sites were not examined for this project as is the case in NWMO's Adaptive-Phase Management Plan for high level waste.

The Independent Expert Group who reported to the Panel in September 2014 gave a general report on an alternate virtual and general site in granite rock. Their study appears to circle back to the sedimentary limestone rock at the Bruce site. This leaves the public with more questions than answers.

Some of the questions that arise from the Report include:

- Why have many other countries chosen a granite rock site for the storage of nuclear waste?
- Why is the Nuclear Waste Management Organization continuing to study granite rock locations for the even more toxic spent fuel bundles from our Ontario plants?
- Why did the Independent Expert Group say that some granite locations would be acceptable and then appear to rule them out?
- Why was one of those particularly acceptable sites not examined in some depth?

We cannot use the superficial convenience of the offer from the Municipality of Kincardine, along with available land, to be the determining factor. The addition of early money in the process has muddied the waters and lost the trust of a large group of citizens.

Community Consultation

The community of Inverhuron was not included sufficiently in the consultation process. Mayor Kraemer's early plan to have a referendum on this issue is vital to the designation of "willing host". A quick telephone poll with a faulty structure and merely one biased question cannot take the place of a secret ballot.

Geology questions

We have heard from Ontario Power Generation regarding the suitability of the geology of the site but we also heard from Dr. Charles Rhodes who questions the water issues associated with ion diffusion once the repository is closed. Dr. Rhodes has also expressed concern about the long term sustainability of waste containers over 100,000 years.

The Ministry of Natural Resources has expressed concern about the movement of radionuclides from the site and suggested that Ontario Power Generation “consider a more appropriate conceptual model of solute transport” but this was not done.

Dr. Wilf Ruland refuted Ontario Power Generation’s claim that “the intermediate bedrock grouping includes predominantly shale rock formation which can potentially provide a significant water and/or containment transport barrier between the DGR and shallow bedrock formations above” as an **inaccuracy** as “there is little in the way of shale in the intermediate bedrock formation. This rock contains predominantly carbonates and evaporates. Yet only shale can be considered an effective long-term barrier to groundwater transfer.”

Dr. Peter Duinker, hired by the Joint Review Panel, concluded that the Environmental Assessment done by Ontario Power Generation is “not credible”

Visioning Exercise by the Municipality of Kincardine

The visioning exercise done by the Municipality of Kincardine did not use the proposed deep geologic repository as a backdrop to the future sustainability of the municipality.

In 2011, the Kincardine Sustainability Committee made no mention of the repository at their meetings and only three sentences on page 16 of the future plan for the town mention the repository.

As well, The Municipality of Kincardine funded a study by the Ivey School of Business at the University of Western Ontario. This study stated clearly that the future economic development of the Town of Kincardine will be decimated by the construction of a deep geologic repository.

How then can the Council members of the Municipality of Kincardine say to their constituents that this project will provide economic growth for the townspeople?

The only economic boost to the Town comes with the short-term influx of money from Ontario Power Generation to obtain support for the project.

Property Value Protection Plan

Dr. William Leiss chastised the Municipality and Ontario Power Generation in the Fall 2013 proceedings of the Joint Review Panel for not having a clear and fleshed out Property Value Protection Plan. This essential component needs to be discussed now.

In the Hosting Agreement, it is stated that the properties are only protected if specific contamination is proven.

This Plan needs to be discussed with the property owners of the Municipality and not decided by the politicians and the proponent whose properties will not be affected and who will already have, in their hands, a license to prepare and construct the repository.

A Property Value Protection Plan must include the stigma effects of having both nuclear reactors and a nuclear repository in close proximity to the towns of Kincardine and Port Elgin and, particularly for those property owners living next door in the hamlet of Inverhuron.

Leaving the development of a Property Value Protection Plan for discussion, after licensing takes effect, puts property owners in a vulnerable and unfair position as compared to the proponent.

The “Outmigration¹” of Founding Families due to the presence of the DGR

Since the founding families, who reside in the hamlet of Inverhuron are not primarily Bruce Power employees nor future employees of NWMO, they are the most likely group to feel the impact of the deep geologic repository. For the most part, these families have been part of the Inverhuron landscape for five, six and seven generations. Our tie to the hamlet is strong and makes up the foundation of the family value system and the traditions of our children and grandchildren.

The history of Inverhuron Beach and the families who first came here in the late 1800’s is the focus of several books by local authors.

As Chief Kahgee mentioned regarding the Saugeen Ojibway Nation, this project is in the “heart of our home”. We cannot pick up and move an entire hamlet and all of its history to another location that would have the same significance for close to 2,000 members of our families.

The arrogance of replacing us with more nuclear friendly people smacks of a big brother approach!

¹ “There is an expectation of some outmigration of people due to the location of the DGR and replacement of people who would be more tolerant of the DGR.” Final Peer Review for the Municipality of Kincardine, page 203, Section 8.3.1.1 - Likely Effects, Hardy Stevenson and Associations Limited

WHAT WE HAVE LEARNED SINCE THE HEARING IN SEPTEMBER 2013

There is no “model” already in place that works successfully to house nuclear materials

During the Hearing of 2013, Ontario Power Generation used the repository model of the Waste Isolation Pilot Plant in New Mexico, as their example of a successful repository.

Our position was one of scepticism since this repository had only been in operation for 15 years, was built in a salt dome (not limestone) and was located away from major population.

In addition, the only similar deep geologic repository was located in Germany and this repository, the Asse II, has leaked radionuclides into the surrounding area. This repository has been closed, and the German government is working at full force to clean up the environmental disaster that this repository has become. It has been labelled as the worst environmental disaster in Germany's history.

Our scepticism turned to shock when in February 2014, the Waste Isolation Pilot Plant spewed smoke and radiation into the shafts and into the surrounding air and ground during two separate accidents, the first a diesel truck fire and the second, an unidentified incident which occurred deep inside the repository, causing the repository to be shutdown. Ontario Power Generation, since that time, has distanced itself from this event, refusing to consider it a “disaster” and has touted an excellent safety culture on their part as their best defence against this accident.

One can never plan for human error – there are documented incidents at the Bruce Nuclear site since its inception.

Considering that the timeframe for isolating some of the intermediate level nuclear waste is over 100,000 years, the proponent cannot make guarantees of safety.

Type of waste to be placed in the Repository

When the Hosting Agreement was signed in 2004 by the Municipality of Kincardine and Ontario Power Generation, the waste to be housed was almost entirely low level waste with a lifespan of about 100 years. Much of that waste is incinerated and stored in bins at the Western Waste Management Facility at the moment. As part of the initial plan, there would be a small amount of intermediate level waste in one section of the repository. The initial figures in percentages were 90% low level waste and 10% intermediate level waste. The capacity of the repository was listed as 130,000 cubic metres of total waste.

In a letter to the Joint Review Panel dated October 24, 2012, Ontario Power Generation re-evaluated the total cubic metres of waste, indicating an increase of

just above 70,000 cubic metres of waste for a new capacity of 203,995 cubic metres with the ensuing cost estimate increases.

This letter changed the profile of the contents of the repository to have sufficiently more intermediate level waste than initially planned and agreed to.

The project began to morph in percentage of low vs. intermediate level waste, the size of the project, design alterations and the radioactivity of the material to be placed in the repository.

As the Hearing of 2013 proceeded, we began to understand that Ontario Power Generation required a repository to house the decommissioning waste that would come from the shutdown of various nuclear reactors throughout Ontario. It appears that this waste will be added to the initial project. Once again the project morphed to double the original estimate of size and the profile of the waste changed to be incrementally more intermediate level waste with a much longer life span of radioactivity.

As recently as the end of October 2013, Ontario Minister of Energy, Honourable Bob Chiarelli indicated that there will be no new “builds” of nuclear reactors in Ontario, and, therefore, there will be a refurbishment of current reactors to extend their life and the decommissioning of reactors as they reach the end of their life cycles.

This will mean yet another addition to the proposed deep geologic repository at the Bruce site as all of the decommissioning waste (approximately 200,000 cubic metres) is tucked away inside the vaults, raising the amount of intermediate level waste again to a higher percentage.

At the end of the entire cycle of the Ontario reactors and of the proposed deep repository, there would be the closure and decommissioning of the entire nuclear cycle of waste.

The project proposed for the Bruce Nuclear site has morphed into an entirely new project in terms of size, profile of waste, percentage of low to intermediate level waste and the environmental impact.

The document entitled Commitment (079) of Ontario Power Generation indicates that the proponent is required to merely develop a public relations/stakeholder plan to keep the communities informed of these changes once an initial licence is granted.

At the Hearing of 2014, the Canadian Nuclear Safety Commission, through Dr. Thompson, indicated clearly that a new Environmental Assessment would be started if the additional waste were to be part of the repository waste cycle.

Considering the metamorphosis of the low and intermediate level nuclear repository project and, with a new environmental assessment required, we would strongly request that the investigation of other suitable and actual sites for all nuclear waste levels be studied in depth!

Baseline Health Studies

We were interested to hear in various oral presentations at the Hearing that there is no baseline health study in Bruce County relative to incidence of health issues such as cancer, Down syndrome, auto-immune and genetic diseases, respiratory illnesses, etc. in order for the Ontario Ministry of Health and/or Health Canada to be able to follow and track the trends in disease that may be indicative of the proximity of the nuclear plant and a deep geologic repository.

We are no longer living in a society where citizens trust that the government will ensure our health and safety. We want studies and statistics to support claims!

The Consultation Process

Lastly, we would like to comment on the understanding of consultation by Ontario Power Generation.

For those of us in attendance or watching on the webcast, we observed the explanation of Ontario Power Generation personnel as they spoke about their “engagement” with the community.

The verbs used in all of their explanation of this process were: “informed; briefed; helped them understand; provided information; or invited them to Open Houses.”

The true nature of consultation would have included such verbs as: “discussed; listened; modified our plan; shared concerns and identified hazards; as well as held forums/community meetings.”

Another generation previous would have accepted the premise of “trust the big companies” to look after us but we have moved far from that mindset.

We are a global community with open access to the digital world where we can seek out information ourselves. We can read peer review documents, research scientific journals, look at and compare experiences around the world.

What stakeholders want today is a venue to express their concerns, more in-depth answers than the superficial design and measurements of a project such as the repository.

In actual fact, the Hearing process was the first opportunity to ask complicated questions, to listen to scientific experts and to balance the view of Ontario Power Generation with other experts in the field. This has opened our eyes to the risks inherent in this proposal.

CONCLUSIONS

The Inverhuron Committee has worked diligently over the last two years to participate in the process set out by the Minister of the Environment and the Canadian Nuclear Safety Commission.

In the end, we have concluded that there is too much at stake, still too many unanswered questions, a project that has morphed and not enough certainty of the safety of this project to allow it to move forward.

The Inverhuron Committee