

Stop The Great Lakes Nuclear Dump Inc. Submission

To:

Members of the Joint Review Panel

Concerning:

Ontario Power Generation's Proposed Deep Geological Repository
for Low and Intermediate Level Nuclear Waste
on the Shores of Lake Huron
in the Municipality of Kincardine

CEAA Registry Reference No. 06-5-17520

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May 13, 2013

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EXECUTIVE SUMMARY

Stop The Great Lakes Nuclear Dump Inc. (STGLND) is a non-profit organization whose purpose is supported by ever increasing numbers of Canadians and Americans. STGLND is deeply concerned about Ontario Power Generation's (OPG's) proposal to build a Deep Geological Repository (DGR) to bury radioactive nuclear waste on the shores of Lake Huron. The Great Lakes provide safe clean drinking water for 40 million people in two countries, as well as providing recreation, fishing, supporting agriculture, plant and aquatic life.

STGLND believes that radioactive nuclear waste should not be buried underground in a DGR anywhere in the Great Lakes Basin. We believe that the protection of our Great Lakes from buried radioactive nuclear waste is responsible stewardship, and is of national and international importance.

Site Selection

At the outset, Ontario Power Generations' selection of the proposed DGR site is highly controversial and should be a major source of concern for the governments and citizens of Canada and the United States as well as the Joint Review Panel (JRP). That Ontario Power Generation (OPG) did not actively solicit any other potential host communities or undertake geo-scientific studies of other sites is, we submit a fatal admission of a lack of proper due diligence and should provide sufficient cause for the JRP to recommend to the federal Minister of the Environment that OPG's plan is fundamentally deficient and must be rejected. That OPG has proceeded to plan a DGR within approximately 400 metres of Lake Huron without investigating potential other sites that are not situated in populous Southern Ontario and in close proximity to the fresh water supply of 40 million people is shocking on its face and provides clear evidence that OPG has failed with respect to broad based risk mitigation, scientific due diligence and failure to apply precautionary principles.

Decisions made today will impact 40 million people in two countries and all future generations to follow who rely on the Great Lakes for their drinking water. Our two countries are jointly responsible for the stewardship and protection of the Great Lakes under various laws and international agreements. An issue of this magnitude demands the involvement of all Canadians and Americans, all "interested parties" who have a stake in protecting this precious national treasure, but who have not been identified as such, nor informed or consulted by OPG.

2012 Protocol Amending the Agreement between the United States of America and Canada on Great Lakes Water Quality

Under the *2012 Protocol Amending the Agreement between the United States of America and Canada on Great Lakes Water Quality* ("GLWQP 2012") both governments have expressly agreed to share a duty and obligation to protect the Great Lakes from the threat of various sources of pollution including contamination from nuclear waste. We assert that this Protocol confers upon the Government of the

United States, "jurisdiction", as defined under the *Environmental Assessment Act, 2012* (the "CEAA 2012"), and accordingly the Canadian Minister of the Environment must offer to consult and co-operate with respect to the environmental assessment of the designated project with the Government of the United States. With the proposed DGR project presently being in the planning stages, by reason of the agreed international Protocol, the Canadian federal government ought to notify and consult with respect to the proposed project with the Government of the United States.

OPG's proposal to construct a DGR on the shores of Lake Huron clearly falls within the scope of GLWQP 2012. A fundamental principle of governance of our Canadian federal government structure is that a provincial agency such as OPG cannot be permitted to act outside of the binding international obligations agreed less than a year ago by the federal government of Canada with the United States.

Interested Parties

Under CEAA 2012 the Joint Review Panel (and not OPG) is the sole authority for determining if a person is an "interested party" relative to the environmental assessment of OPG's proposed DGR. We urge the JRP to exercise its authority and make a positive determination that "interested parties" for purposes of the environmental assessment of the DGR under CEAA 2012 should include, without limitation (i) all of the municipalities situated on Lake Huron, and other Great Lakes, representing many of the forty million (40,000,000) Canadian and American citizens who rely on the Great Lakes for their drinking water; (ii) all Canadian citizens with a keen interest in protecting a precious national resource notwithstanding that they do not rely on the Great Lakes for drinking water; (iii) all members of the Senate and Congress representing the 8 Great Lakes states; (iv) the State and Provincial Governments as defined in GLWQP 2012; (v) the International Joint Commission; and (vi) the Public as defined under the GLWQP 2012.

It appears that OPG has represented to the JRP that stakeholders were identified in "*geographic areas with potential to be affected by the DGR Project.*" However it further appears that OPG has ignored a vast geographic area and therefore a significant number of potentially affected stakeholders residing or located in these geographic areas. We submit that the aforementioned parties are "interested parties" because contamination from nuclear waste is a named identifiable risk specified under GLWQP 2012. We submit that OPG's apparent narrow stakeholder selection disregards the requirements of the GLWQP 2012 and therefore must be judged to be fundamentally deficient and fatally flawed.

We urge the JRP to give weight to the growing number of concerned Canadian and American citizens signing the Stop The Great Lakes Nuclear Dump petition as evidence of the need for their inclusion as "interested parties" under CEAA 2012.

Public Consultation

OPG's Environmental Impact Statement submission indicates that OPG's communications program is intended to fulfill the requirements for public participation under the *Canadian Environmental Assessment Act* and the *Nuclear Safety and Control Act*.

Although the Environmental Assessment Review process and framework provides opportunities for public input, it is our observation that the actual degree of participation by independent Canadians and Americans has been very limited. While the reasons for this may be many, a lack of awareness among the general public about the proposed project and the Environmental Assessment ("EA") review process presently underway may well be a key explanatory factor. It appears that OPG's communication program has been primarily locally focused, with the result that if people who might otherwise be interested aren't even aware, they obviously won't be engaged in the process. For this reason, we would urge caution on the part of the Joint Review Panel in reaching conclusions about general public sentiment about the DGR based solely on the very limited number of public comments received through the EA process and based on information provided by OPG, the proponent.

A review of OPG's public consultation information reveals a program that to us is deficient and flawed and which has produced predictable results. Following the maxim, "don't ask a question for which you don't already know the answer," we see a consultation process that appears to be less about discovery and more about hearing what you want to hear. We observe a consultation process primarily focused at local audiences, many who may have conflicts of interest because they rely on the nuclear industry for their livelihood or whose municipal governments have become accustomed to financial handouts from the nuclear industry. We observe a consultation program that appears to have failed to inform or seek input from the voices of many citizens, elected officials and other non-local stakeholders.

We urge the JRP to critically evaluate OPG claims of broad public support for its plan against the backdrop of contrary results now emerging from STGLND's public awareness campaign. STGLND's launch of an information-rich website, non-local communication activities, such as a digital billboard on the Gardiner Expressway in Toronto, and an on-line petition, have been designed to build public awareness and encourage much broader municipal, provincial, national and international awareness and possible engagement among Canadians and Americans, and importantly, to fill the communications gaps that appear evident, and OPG might have done, in its consultation program.

We submit that OPG's stakeholder consultation has failed to meet the guidelines for meaningful public participation as set forth in CEAA 2012, Ministerial Guidelines and Public Participation Guides and is therefore fundamentally deficient and fatally flawed.

Alleged Local Opposition

While OPG has characterized opposition to its plans as being localized in small pockets, we urge the JRP to give credence to the growing and broad based opposition that has now become apparent through over 10,600 citizens now having signed (with 1/3 leaving comments) on the STGLND petition. Citizens from all Canadian Provinces and Territories and 49 U.S. States have signed the STGLND petition. Signatories include prominent Canadians (some having received the Order of Canada), doctors (over 230), scientists, geologists, professors, lawyers, teachers, a former Chief Crown Prosecutor (Ontario), former Deputy Minister of the Environment (Ontario), a former member of the Seaborn Panel, First

Nations Chiefs and Peoples, church leaders, U.S. and Canadian politicians, members of Canada's armed forces, and scores of other concerned Canadians and Americans.

These are not small pockets of individuals but rather the voices of a broad cross section of Canadian and American society uniformly, eloquently, passionately and thoughtfully agreeing that burying the most toxic and lethal substance that humans have ever created within 400 metres of the drinking water supply of forty million (40,000,000) people in two countries defies common sense and should not be permitted to happen. The facts now before the JRP demonstrate that any support for the proposed DGR is itself now largely local and is itself a small pocket.

Financial Influence

Under an existing "Hosting Agreement," OPG has funneled substantial sums of money to several local municipalities in the years leading up to the current proposal. Payments are tied to the requirement that the municipalities must individually use "best efforts" to support the proposed DGR. ¹

It is submitted that the JRP must consider the potential clear impact and weight of OPG's financial arrangements with the local municipalities involved in determining whether local public support and community acceptance for the proposed DGR independently, freely and fairly exists.

Residual Concerns

Burying radioactive nuclear waste beside 21% of the world's surface fresh water supply defies common sense. Would you bury poison beside your well?

Any risk of radioactive nuclear waste contaminating the Great Lakes is too great a risk to take and need not be taken. No scientist or geologist can provide a 100,000 year guarantee that this toxic nuclear waste will remain fully and completely contained and stay safe. OPG itself, the proponent of this plan, is not providing any such guarantee. Computer models cannot predict what will happen in 100,000 years; the models cannot be validated or verified. Nuclear waste dumps in other countries are leaking despite steadfast assurances that this would not happen. Approval of the DGR could establish precedents that would pave the way for a second DGR to store nuclear spent fuel to be located in the Great Lakes Basin.

Conclusion

In conclusion, our Great Lakes are a cherished and precious natural resource – a resource that it is every Canadian's duty to protect. Any risk of contamination of our Great Lakes from a leak from a DGR containing lethal radioactive nuclear waste is too great a risk to take, and should never be taken. We believe it is our patriotic duty to protect our Great Lakes.

Members of the Joint Review Panel, in the coming days you will have the opportunity to demonstrate responsible leadership, and responsible stewardship... to lead the way, with wisdom, and concern, and

¹ http://www.nwmo.ca/uploads_managed/MediaFiles/537_HostingAgreement.pdf

to be remembered for doing so, as responsible leaders, as responsible citizens, as concerned scientists, as responsible Canadians... to speak for the protection of our precious natural resource, the Great Lakes... to show your concern and act in the best interests of society... to ensure that the process is fair, legitimate and protects the interests and lives of the 40 million people and their descendents who depend and will depend upon the sustenance of the water of our Great Lakes.

Recognize that the protection of our precious natural resource, the Great Lakes is a matter of national and international importance. Recognize that the protection of the waters of the Great Lakes is a public trust that must be upheld for the benefit of 40 million people in two countries. Recognize that OPG's proposal to bury nuclear waste on the shores of Lake Huron fails to apply precautionary principles and poses unacceptable risks to 40 million people that can and must be avoided and that *"not likely to result in any significant residual adverse effects to human health or the environment, including Lake Huron and the Great Lakes"* is not good enough. Recognize that this matter demands the involvement of all Canadians and Americans and that OPG's efforts to identify, inform, seek input and secure acceptance from the Canadian and American public are deficient, fatally flawed, fail to fully comply with statutory requirements under Canadian Environmental Assessment Act, 2012 and fail to fully uphold Canada's obligations under the GLWQP 2012. Declare that another solution must be found.

We implore the JRP to place the safety and sanctity of the waters of Great Lakes above all else and recommend against OPG's plan to construct a DGR on the site of the Bruce Nuclear Plant in the Municipality of Kincardine.

1. INTRODUCTION

Stop The Great Lakes Nuclear Dump Inc. is a not for profit corporation whose purpose is supported by ever increasing numbers of Canadians and Americans. We are deeply concerned about Ontario Power Generation's proposal to build a Deep Geological Repository ("DGR") to bury radioactive nuclear waste on the shores of the Lake Huron. The Great Lakes provide safe clean drinking water for 40 million people in two countries, as well as providing recreation, fishing, supporting agriculture, plant and aquatic life.

We believe that radioactive nuclear waste should not be buried in a DGR anywhere in the Great Lakes Basin. We believe that the protection of our Great Lakes from buried radioactive nuclear waste is responsible stewardship, and is of national and international importance.

We believe that an issue of this magnitude demands the involvement of all Canadians and Americans. Our two countries are jointly responsible for the stewardship and protection of the Great Lakes under The Great Lakes Water Quality Agreement. Decisions made today will impact the 40 million people in two countries and all future generations to follow who rely on the Great Lakes for their drinking water.

In order to bring this issue of national and international importance to Canadians and Americans, Stop the Great Lakes Nuclear Dump Inc., with the assistance of funds from private concerned citizens, launched an information-rich website², a digital Billboard on the Gardiner Expressway in Toronto³, a social media campaign and importantly, an online petition⁴.

To date, over 10,000 concerned citizens have signed our petition. We therefore present this submission with the strength of 10,000 people behind us (and more each day as public awareness of this matter continues to escalate), 10,000 voices all in agreement that an underground DGR should not be permitted to be built *anywhere* in the Great Lakes Basin. All are in agreement that the protection of our Great Lakes from potential contamination from leaking nuclear waste from an underground DGR is responsible stewardship, and is of paramount importance. All are in agreement and are saying that any risk of nuclear contamination of our Great Lakes from a planned DGR is too great a risk to take, and moreover need not be taken.

Our comments and concerns are respectfully provided below:

² www.stopthegreatlakesnucleardump.com

³ <http://www.lfpress.com/2013/01/09/opponents-to-lakeside-dump-buy-billboard-space>

⁴ <http://www.gopetition.com/petitions/stopthegreatlakesnucleardump.html>

2. SITE SELECTION

2.1 *Controversial Site Selection*

OPG's selection of the DGR site is highly controversial and should be a major source of concern for the JRP.

There was no process undertaken by OPG to consider, look at or determine the appropriateness of any other locations for the low and intermediate level nuclear waste DGR in Canada.

Information contained in Ontario Power Generation's analysis of potential sites for low and intermediate level nuclear waste appears to have been superficial at best. OPG's Environmental Impact Statement document contains 3,432 pages, yet written justification for choosing the site is contained in the equivalent of one single page.⁵

OPG's comment on achievability and acceptability of an alternative site option is reported in a single word, "*Unknown*".⁶ It appears OPG did not consider any alternative sites.

We note further that the JRP's information request to OPG (EIS-02-40) confirms that no other sites were considered by OPG.

In EIS-02-40 the JRP requested that OPG "*Provide further information on the location, salient features, evaluation criteria used, and a summary presentation of the comparison and selection process for alternative locations considered for the DGR.*"⁷

We note that the JRP provided the following context for information request EIS-02-40: "*The EIS Guidelines directs the proponent to consider the siting of the DGR in a location outside the existing site as an alternative mean. A brief reference is made to this matter in Table 3.4.2-1 and in Section 3.2.5 - "...the possibility of pursuing a Greenfield site at a location other than Kincardine was considered."* No supporting information is provided as to what off-site locations were considered and to what extent."⁸

⁵ Ontario Power Generation, Deep Geologic Repository for Low and Intermediate Level Radioactive Wastes - Environmental Impact Statement: Main Report, Volume 1, 00216-REP-07701-00001 R000, Section 3.4.2 and Section 3.2.5

⁶ Ontario Power Generation, Deep Geologic Repository for Low and Intermediate Level Radioactive Wastes - Environmental Impact Statement: Main Report, Volume 1, 00216-REP-07701-00001 R000, Table 3.4.2-1

⁷ <http://www.ceaa.gc.ca/050/documents/56805/56805E.pdf>

⁸ Ibid

A review of OPG's response to EIS-02-40⁹ is telling.

OPG first reiterates the following statement contained in section 3.2.5 of the EIS:

"the possibility of pursuing a Greenfield site at a location other than Kincardine was considered."

As evidence that the possibility of pursuing a Greenfield site at a location other than Kincardine was considered, OPG then states:

"This was not intended to imply that one or more specific greenfield sites were identified and assessed. Rather it refers to the approach that was taken to the assessment of alternative sites. This is described in the EIS; that is, looking conceptually at the alternative of locating the DGR Project on the Bruce nuclear site versus seeking a greenfield site off the Bruce nuclear site."

OPG goes on to state:

"Based on the results of this assessment, and because the Municipality of Kincardine had approached OPG to initiate the study of the WWMF as a long-term L&ILW waste management facility and is therefore a willing host, OPG did not actively solicit other potential host communities or undertake geoscientific studies at other sites."

A review of OPG's response to EIS-02-40 very clearly and definitively reveals that OPG did not consider any other sites off of the Bruce Nuclear Plant site "...OPG did not actively solicit other potential host communities or undertake geoscientific studies at other sites."

That OPG did not consider other sites is consistent with statements made in the press on November 30, 2012 by OPG officials:

"OPG hasn't considered other sites, said Kevin Powers, director of nuclear corporate relations."¹⁰

"We have a willing host with Kincardine. If that wasn't there, the OPG would do a lot more site investigation work," added Gord Sullivan, the OPG's DGR manager.¹¹

We submit that the information provided by OPG in response to JRP Information Request EIS-02-40, combined with the above noted statements made in the press by OPG officials, together are an unequivocal and clear admission of an absence of due diligence and should provide sufficient cause for the JRP to recommend to the federal Minister of the Environment that OPG's plan is fundamentally deficient and must be rejected. That OPG would proceed to plan a DGR within

⁹ Ibid

¹⁰ <http://www.theobserver.ca/2012/11/30/environment-canadas-first-underground-repository-is-safe-solution-opg>

¹¹ Ibid

approximately 400 metres of Lake Huron without investigating potential other sites not situated in close proximity to the fresh water supply of 40 million people is shocking on its face and provides clear evidence that OPG has failed in many respects with respect to broad based risk mitigation, scientific due diligence and failure to apply precautionary principles.

3. CANADA/U.S. BINATIONAL AGREEMENT

3.1 *Great Lakes Waterway*

The Great Lakes are a collection of freshwater lakes located in northeastern North America on the Canada-United States border, which connect to the Atlantic Ocean through the Saint Lawrence Seaway and the Great Lakes Waterway.

The Great Lakes Waterway is a system of channels and canals that includes the Welland Canal, the Soo Locks, and maintained channels that serve the St. Clair River and the Detroit River between Lake Huron and Lake Erie. The Great Lakes Waterway and Saint Lawrence Seaway are often jointly referred to as the St. Lawrence Seaway. The Great Lakes Waterway is co-administered by Canada and the United States.

Though the five lakes reside in separate basins, they form a single, naturally interconnected body of fresh water. The lakes form a chain connecting the east-central interior of North America to the Atlantic Ocean. Of the five lakes, Lake Michigan is the only one that is located entirely within the United States; the others form a water border between the United States and Canada.

We assert that the interconnected nature of these waters means that a leaking DGR has the potential to contaminate the Great Lakes as well as the Great Lakes Waterway, and that these waters are located in the provinces of Ontario, Quebec and all US states reliant on the Great Lakes for their drinking water ("Affected Area").

3.2 *Great Lakes Water Quality Agreement*

Under *The 2012 Protocol Amending the Agreement Between Canada and the United States of America on Great Lakes Water Quality* ("GLWQP 2012"), the two federal governments have committed themselves to "notify each other" of any "planned activity that could lead to a pollution incident or that could have a significant cumulative impact on the Waters of the Great Lakes" including "storage and transfer of nuclear waste or radioactive materials." (Article 6)¹²

The subject DGR project is still very much in the planning stages. Accordingly this is the opportune time for the Canadian federal government to notify and consult with the Government of the United States.

¹² http://www.epa.gov/glnpo/glwqa/20120907-Canada-USA_GLWQA_FINAL.pdf

Since adverse environmental effects could potentially occur in a province other than the one in which the designated project is being carried out, or outside Canada, we assert that Section 5 of CEAA 2012 requires that the environmental assessment of OPG's DGR project must consider environmental effects that occur in the Affected Area.

Under Section 5(1) (b) of CEAA 2012, the environmental effects that are to be taken into account in relation to the designated project are "a change that may be caused to the environment that would occur in a province other than the one in which the designated project is being carried out, or outside Canada."¹³

We note further that under Section 18 of CEAA 2012, the Minister, if the environmental assessment of the designated project has been referred to a review panel under section 38, must offer to consult and co-operate with respect to the environmental assessment of the designated project with any jurisdiction referred to in paragraphs (c) to (h) of the definition "jurisdiction" in subsection 2(1) if that jurisdiction has powers, duties or functions in relation to an assessment of the environmental effects of the designated project. We note that under Section 2(1) (g) of the CEAA 2012 "*jurisdiction*" means a government of a foreign state or of a subdivision of a foreign state, or any institution of such a government.

The governments of Canada and the United States share a responsibility and obligation to protect the Great Lakes from potential contamination from various sources of pollution, including the leakage of nuclear waste from a DGR.

The Minister of the Environment, Peter Kent in speaking about GLWQP 2012 is quoted as saying "Joint stewardship of the Great Lakes--a treasured natural resource, a critical source of drinking water, essential to transportation, and the foundation for billions of dollars in trade, agriculture, recreation and other sectors--is a cornerstone of the Canada-United States relationship," said Minister Kent. "The Great Lakes Water Quality Agreement supports our shared responsibility to restore and protect this critical resource, and builds on 40 years of bi-national success."¹⁴

Excerpts from the GLWQP 2012 relevant to points discussed herein in this Section 3.2 of our submission are described below:

Certain definitions of **Article 1 GLWQP 2012** include:

(b) "General Objectives" means broad descriptions of water quality conditions consistent with the protection of the level of environmental quality which the Parties desire to secure and which will provide a basis for overall water management guidance;

¹⁴ <http://news.gc.ca/web/article-eng.do?nid=694149>

(f) "Public" means individuals and organizations such as public interest groups, researchers and research institutions, and businesses and other non-governmental entities;

(g) "State and Provincial Governments" means the Governments of the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Wisconsin, the Commonwealth of Pennsylvania and the Government of the Province of Ontario;

(h) "Tribal Government" means the government of a tribe recognized by either the Government of Canada or the Government of the United States situated within the Great Lakes basin;

Under GLWQP 2012 Article 2, the purpose of the GLWQA is to "restore and maintain the chemical, physical, and biological integrity of the Waters of the Great Lakes" and in order to achieve said purpose both Governments agree to maximize their efforts to "cooperate and collaborate" and to "eliminate or reduce, to the maximum extent practicable, environmental threats to the Waters of the Great Lakes."

Under GLWQP 2012 Article 2, section 3, both governments recognize that it is necessary to "anticipate and prevent environmental problems, by implementing measures that are sufficiently protective to achieve the purpose of this Agreement."

Under GLWQP 2012 Article 2, section 4 both governments shall be guided by the following principles and approaches in order to achieve the purpose of the GLWQA, including without limitation:

(j) prevention – anticipating and preventing pollution and other threats to the quality of the Waters of the Great Lakes to reduce overall risks to the environment and human health;

(k) Public engagement – incorporating Public opinion and advice, as appropriate, and providing information and opportunities for the Public to participate in activities that contribute to the achievement of the objectives of this Agreement;

Under GLWQP 2012 Article 3 (1) both governments, in achieving the purpose of the Agreement, shall work to attain the General Objectives, among them being that "The Waters of the Great Lakes should:

- (i) be a source of safe, high-quality drinking water;
- (ii) allow for swimming and other recreational use, unrestricted by environmental quality concerns;
- (iii) allow for human consumption of fish and wildlife unrestricted by concerns due to harmful pollutants;

- (iv) be free from pollutants in quantities or concentrations that could be harmful to human health, wildlife, or aquatic organisms, through direct exposure or indirect exposure through the food chain;
- (viii) be free from the harmful impact of contaminated groundwater; and
- (ix) be free from other substances, materials or conditions that may negatively impact the chemical, physical or biological integrity of the Waters of the Great Lakes;”

Under GLWQP 2012 Article 4, Section 1:

Both governments, in cooperation and consultation with State and Provincial Governments, Tribal Governments, First Nations, Métis, Municipal Governments, watershed management agencies, other local public agencies, and the Public, shall develop and implement programs and other measures to fulfill the purpose of the GLWQA, in accordance with the Principles and Approaches set forth in Article 2, and under section 2 (a) (vi) these programs and other measures shall include pollution abatement, control, and prevention programs for sources of radioactive materials.

Under Article 6 (c) (i) of the GLWQP 2012:

“The Parties acknowledge the importance of anticipating, preventing and responding to threats to the Waters of the Great Lakes. The Parties commit to the following notification and response process:

- (c) **the Parties shall notify each other, through the Great Lakes Executive Committee, of planned activities that could lead to a pollution incident or that could have a significant cumulative impact on the Waters of the Great Lakes, such as:**
 - (i) **the storage and transfer of nuclear waste or radioactive materials”** [emphasis added]

Accordingly with reference to the excerpts from GLWQP 2012 noted above we assert that:

- as part of fulfilling its obligations under the GLWQP 2012, the Government of the United States has a duty to perform an assessment of the environmental effects of the designated project and as a result the Government of the United States falls within the definition of “jurisdiction” under section 2 of CEAA 2012.
- the proposed DGR represents a “planned activity that could have a significant cumulative impact” on the Waters of the Great Lakes and accordingly must be assessed by both the governments as part of fulfilling the requirements of Article 2 of the GLWQP 2012 so that both governments can maximize their efforts to “cooperate and collaborate” and to “eliminate or reduce, to the maximum extent practicable, environmental threats to the Waters of the Great Lakes” so that both governments can achieve the purpose to

"...maintain the chemical, physical, and biological integrity of the Waters of the Great Lakes."

- the threats posed by the storage of nuclear waste in close proximity to the Great Lakes could prevent the Governments of Canada and the United States from achieving the General Objectives agreed to and adopted under Article 3 of the GLWQP 2012.
- the Canadian government has an obligation under Article 6 to notify the Government of the United States about OPG's proposal to construct the DGR given that the the "storage and transfer of nuclear waste or radioactive materials" is a contemplated planned activity under said Article that could lead to a "pollution incident or have a significant cumulative impact on the waters of the Great Lakes."
- the exchange of information that would result from a JRP determination that the IJC, and State and Provincial Governments are "interested parties" under CEAA 2012 would dovetail with the notification provisions of Article 6 of the GLWQP 2012.

In addition, the JRP must recognize that a provincial agency such as OPG cannot be permitted to act outside of the binding international obligations agreed less than a year ago by Canada and the United States.

3.3 International Joint Commission

Research by the International Joint Commission indicates measurable transboundary impacts from Canadian nuclear facilities on the Great Lakes.

In its *Ninth Biennial Report*, the International Joint Commission on Great Lakes Water Quality recognized that a number of radiological contaminants from the nuclear industry should be considered "*persistent toxic substances*," and that the United States and Canada should aim for the virtual elimination of those man-made substances through a policy of zero discharge, acting on the basis of a "precautionary approach." The report stated that "*The management of radionuclides, including the temporary and long-term storage of nuclear wastes, is a matter of public concern ...*"¹⁵

Nuclear waste that is toxic for hundreds of thousands of years is not only a local or regional concern. Forty million citizens in the Great Lakes communities in Canada and the United States are potentially at risk.

¹⁵ International Joint Commission on Great Lakes Water Quality, *Ninth Biennial Report on Great Lakes Water Quality*, 1998, See chapter on "Specific Persistent Toxic Substances".

4. INTERESTED PARTIES

4.1 *Canadian Environmental Assessment Act 2012*

Under CEAA 2012 the JRP (and not OPG) is the sole authority for determining if a person is an “interested party” relative to the environmental assessment of OPG’s proposed DGR. We urge the JRP to exercise its authority and make a positive determination that “interested parties” for purposes of the environmental assessment of the DGR should include, without limitation (i) the 40 million Canadian and American citizens who rely on the Great Lakes for their drinking water, (ii) all Canadian citizens with a keen interest in protecting a precious national resource notwithstanding that they do not rely on the Great Lakes for drinking water (iii) all members of the senate and congress representing the 8 Great Lakes States, (iv) State and Provincial Governments as defined in the Great Lakes Water Quality Agreement (as hereinafter defined), (v) the International Joint Commission, and (vi) the Public as defined under the GLWQA.

Section 126(1) of CEAA 2012 provides that the environmental assessment of the Project is continued under the process established under CEAA 2012 and the *Amendment to the Agreement To Establish To Establish A Joint Review Panel For The Deep Geologic Repository Within The Municipality of Kincardine, Ontario Between The Minister Of The Environment And The Canadian Nuclear Safety Commission* (the “JRP Agreement Amendment”) is considered to have been entered into by the Federal Minister of the Environment under Section 40 of CEAA 2012.

We note that under Section 2 of CEAA 2012 that when a designated project has been referred to a review panel under section 38, the sole authority for making a determination that a person is an interested party rests with the review panel. A positive determination that a person is an interested party results if, in the opinion of the review panel, the person is directly affected by the carrying out of the designated project or if, in the opinion of the review panel, the person has relevant information or expertise.

It is our assertion that the 40 million Canadians and Americans who rely on the Great Lakes for their drinking water are “directly affected by the carrying out of the designated project” since they stand to be potentially affected if a leaking DGR results in radioactive contamination of the Great Lakes. We assert that U.S. and Canadian politicians, who have the power to enact legislation and who act as agents for their 40 million constituents, possess “relevant information or expertise.” We assert that the International Joint Commission (whose mandate and legal responsibility under the Great Lakes Water Quality Agreement includes, among others, protection of the Great Lakes) are “directly affected by the carrying out of the designated project” and possess “relevant information or expertise.” Finally, we assert that all Great Lake State and Ontario and Quebec government agencies and departments whose mandates include the protection of the environment and/or the Great Lakes possess “relevant information or expertise.”

We urge the JRP to exercise its authority under Section 2 of CEAA 2012 in a thorough and logical manner by expanding the list of parties that are "interested parties" as set forth above.

5. PUBLIC CONSULTATION

5.1 Joint Review Panel

The Joint Review Panel has a duty to consider the views being expressed by the public, and the public is speaking loudly and clearly.

Under Section 4 of *Agreement To Establish To Establish A Joint Review Panel For The Deep Geologic Repository Within The Municipality of Kincardine, Ontario Between The Minister Of The Environment And The Canadian Nuclear Safety Commission* (the "JRP Agreement")¹⁶ the JRP must conduct its review in a manner that discharges the requirements set out in CEAA 1992.

The *Canadian Environmental Assessment Act, 1992*, (CEAA 1992) which was in force at the commencement of this Environmental Assessment process until being superseded by CEAA 2012, in August 2012, indicates in section 1 (d) that a purpose of the Act is to "ensure that there be opportunities for timely and meaningful public participation throughout the environmental assessment process."¹⁷

Similarly, a purpose under section 4 (e) of CEAA 2012 is "to ensure that opportunities are provided for meaningful public participation during an environmental assessment."¹⁸

That the Joint Review Panel is bound to consider the views of the public is clear.

The 10,000 and more people who have now signed the Stop The Great Lakes Nuclear Dump Inc. petition, many of whom have provided comments, represent a broad cross section of society, some being residents of the local municipalities in Bruce County, but the vast majority residing outside of Bruce County.

Of the 10,143 citizens that have signed our petition, 3,478 citizens (about 34%) have also provided written comments. We appeal to the JRP to carefully review and give weight to the comments of concerned citizens who have signed the petition and expressed their respective points of view.

These points of view and comments are from individuals across Canada, the United States and other parts of the world. A selection of non-anonymous comments submitted to the Stop The

¹⁶ *Announced on January 26, 2009*

¹⁷ <http://www.canlii.org/en/ca/laws/stat/sc-1992-c-37/88854/sc-1992-c-37.html>

¹⁸ <http://laws-lois.justice.gc.ca/PDF/C-15.21.pdf>

Great Lakes Nuclear Dump petition are provided to the JRP as part of this submission to provide insight into the views of concerned citizens as regards OPG's plan (see attached Exhibit 1). In a separate submission to the JRP to follow, we will be forwarding a document which shows the complete list of all non-anonymous comments that have been received on the Stop The Great Lakes Nuclear Dump petition.

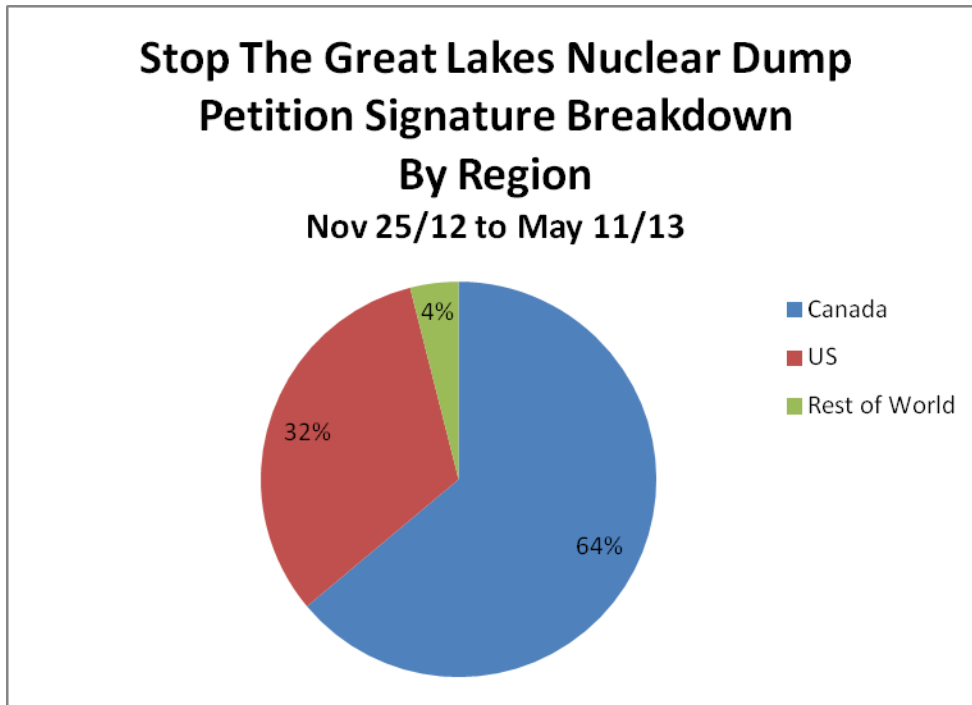
5.2 Citizen Engagement

Although extensive public participation is a distinguishing feature of assessment by review panels,¹⁹ a review of the actual degree of participation by Canadians in the present EA review process suggests a very limited degree of citizen engagement. While the reasons for this may be many, a general lack of awareness among the general public about the project and EA review process is a key explanatory factor. It appears that the design of OPG's communication program has played a large part in ensuring that awareness of OPG's plans remained largely local. It goes without saying that without awareness there can be no engagement. For this reason, we would urge caution on the part of the JRP in reaching conclusions about general public sentiment about the DGR based solely on the very limited number of public comments received through the EA process and based on information provided by the proponent.

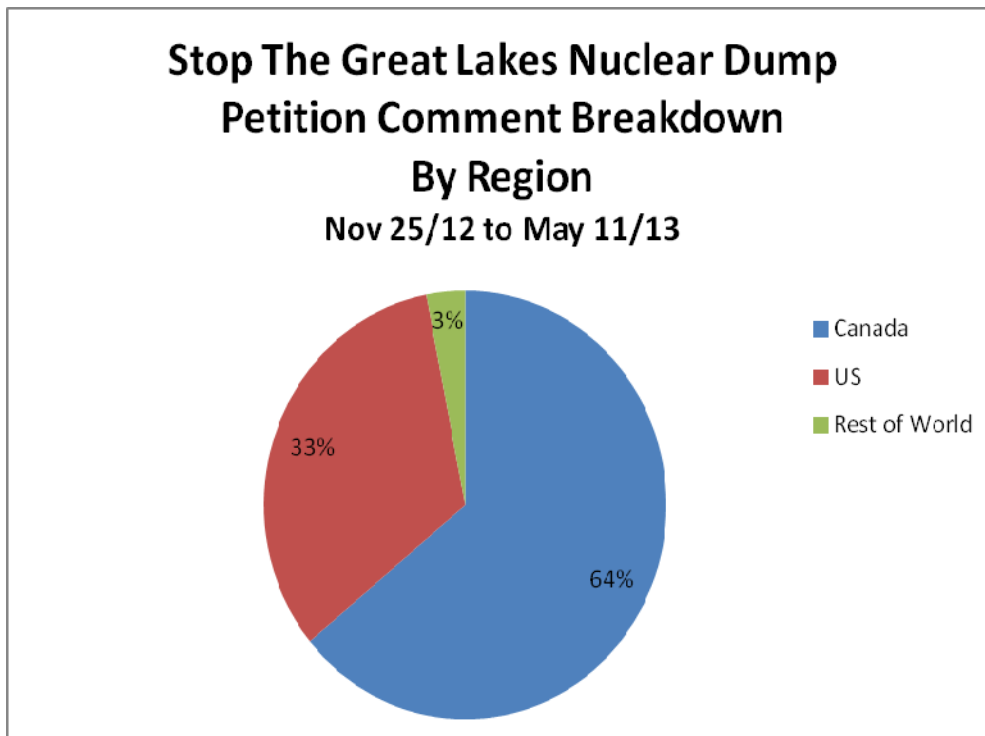
A review of the EA registry of public comments reveals that as of May 11, 2013, roughly 285 unique members of the public have submitted comments to the JRP. This stands in stark contrast to the 3,476 members of the public, some 34% of all signatories to the Stop The Great Lakes Nuclear Dump petition who have voluntarily and without prompting, provided comments on our petition.

A geographic distribution of the 10,143 signatures on our petition as of May 11, 2013 is shown below.

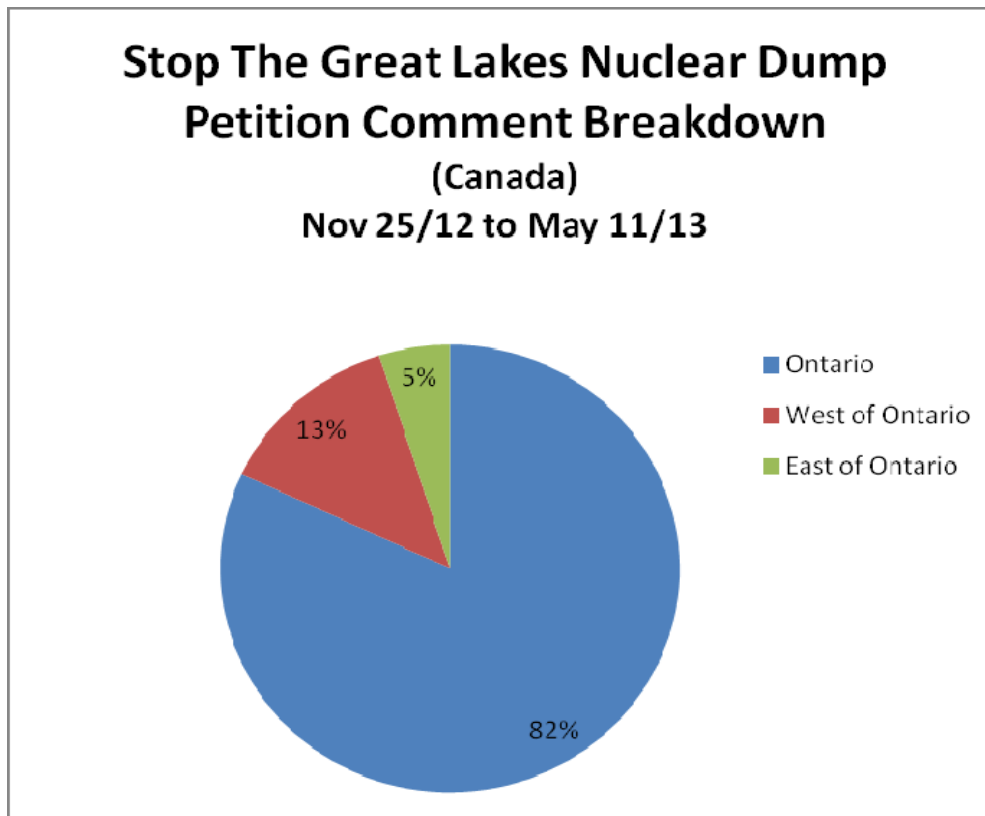
¹⁹ <http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=46425CAF-1&offset=3&toc=show#participation>



A review of the geographic distribution of the 3,476 comments submitted on the Stop The Great Lakes Nuclear Dump petition as of May 11, 2013 shows a similar breakdown:



Further analysis of the distribution of the 2,218 comments received from across Canada on our petition as of May 11, 2013 reveals the following breakdown:



We note that the geographic distribution of members of the public who have submitted comments to the JRP on the EA registry is not publicly available information. This information is however available to the JRP. We would urge the JRP to analyze the number and distribution of comments submitted by members of the public to the EA registry and compare this with the results shown above for the Stop The Great Lakes Nuclear Dump petition.

A review of the above results from the Stop The Great Lakes Nuclear Dump petition reveals the following:

- The number of petition comments exceeds the number of EA registry public comments by a factor of 12:1
- The number of members of the Canadian public from outside of Ontario leaving comments on the petition, exceeds the total number of citizens that have left comments on the EA registry.
- Despite the fact that members of the public residing in British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, Nunavut, and the Yukon, receive not one drop of water from the Great Lakes, all felt compelled to leave comments on the petition.

- The period over which public comments have been submitted to the EA registry spans a period of 82 months, whereas petition comments have been gathered to date over 5 short months.

With the above in mind, we urge the JRP to reflect on the following:

- Despite the fact that the duration of EA public comment phase has exceeded the current duration of the Stop The Great Lakes Nuclear Dump petition by a factor of 16:1, the level of citizen engagement under the Stop The Great Lakes Nuclear Dump petition has dwarfed the level of citizen engagement under the EA process by a factor of 12:1.
- Citizen engagement under the Stop The Great Lakes Nuclear Dump Petition includes broad representation from coast to coast across Canada.

Citizens who do not rely on the Great Lakes for their drinking water have nonetheless felt compelled to voice their strong opposition to OPG's plans.

5.3 Ontario Power Generation Communication Program

The lack of citizen engagement under the EA process is not surprising and we submit reflects the fact that information disseminated under OPG's communications program has primarily been directed at citizens and organizations in local communities.

We submit that the focus of OPG's communications efforts with stakeholders was locally focussed at the outset and has remained largely locally focussed over the past 10 years. This would appear to be consistent with OPG's view that "...the *majority of stakeholders are located within Bruce County...*"²⁰

A review of the list of interested parties, from whom OPG sought input back in 2003 confirms that, with the exception of 2 non local NGO's and small list of Michigan stakeholders, OPG's list of identified interested stakeholders are locally based, as shown below. ²¹[emphasis added]

- Elected Representatives - Municipality of Kincardine **(local)**
- Huron-Bruce MPs and MPPs **(local)**
- Grey Bruce Medical Officer of Health/Public Health Workers **(local)**
- Saugeen, Grey Sauble, Northern Bruce Peninsula Water Source Protection Committee **(local/Bruce County)**
- Chamber of Commerce Groups/Business Groups **(local)**

²⁰ <http://www.ceaa.gc.ca/050/documents/p17520/86370E.pdf> page 6

²¹ *Long-Term LLW and ILW Independent Assessment Study prepared by Golder Associates*

- OPG, NWMO, Bruce Power Employees and Retirees **(local)**
- Ratepayers' and Beach Associations **(local)**
- NGO Groups (2) **(non local)**
- General Public **(local citizens and organizations)**
- Michigan Stakeholders **(non local)**

As regards identified stakeholders, OPG notes:

*"...during the feasibility studies and the IAS (2003 to early 2004), engagement activities focused on the Municipality of Kincardine, as well as the neighbouring municipalities of Saugeen Shores, Brockton, Arran-Elderslie, and Huron Kinloss. Initial engagement efforts were targeted to the general public within the Municipality of Kincardine and its neighbouring communities and community leaders who, by nature of need, influence or direct interest, were identified to be key stakeholders for the DGR Project."*²²

OPG notes that following signing of the Hosting Agreement, and leading up to the community poll, engagement activities were *"more focused on the Municipality of Kincardine. Immediately following the community poll, engagement activities were again broadened to include the neighbouring municipalities surrounding Kincardine."*²³

OPG then notes that once the environmental assessment process began in 2006, engagement efforts were:

*"extended to include the three remaining Bruce County municipalities -Town of South Bruce Peninsula, Municipality of Northern Bruce Peninsula and Municipality of South Bruce. A DGR Community Consultation Advisory Group (CCAG) consisting of representation from the Warden of Bruce County, the Mayor and Chief Administrative Officer (CAO) of each of the Bruce County municipalities, and OPG staff (included NWMO staff from 2009 onwards) was formed to assist in identifying stakeholders and engagement opportunities."*²⁴

OPG notes that in addition to expanding the stakeholder list, another objective after the launch of the environmental assessment was to *"increase the number of engagement opportunities in Bruce County, with the intent being to identify new stakeholders and to ensure wider distribution of information about the DGR Project."*²⁵

²² <http://www.ceaa.gc.ca/050/documents/p17520/86370E.pdf> page 4

²³ Ibid, page 5

²⁴ Ibid, page 5

²⁵ Ibid, page 6

We submit that OPG's approach to identifying new stakeholders has ensured, by design, that their communications efforts remain locally focussed. No effort was undertaken by OPG to identify other stakeholders or to ensure a wider distribution of information about the DGR project outside of the Regional Study Area.

As regards the nature of consultations undertaken with the public OPG notes:

*"The general public continued to be a key stakeholder and this led to the creation of a special DGR mobile exhibit, which has been a mainstay at traditional community and special events **held throughout Bruce County**. The mobile exhibit is key to the "Take the DGR to the People" approach and makes it as easy and comfortable as possible for **members of the general public within Bruce County** to engage in two-way dialogue about the project."*²⁶ [emphasis added]

We submit that OPG's efforts to communicate, consult and encourage participation from interest-based stakeholders outside Bruce County has been limited in scope and reactive in nature.

OPG notes that *"Interest-based stakeholders have also been identified outside Bruce County including NGO groups within Canada, general public within the City of Owen Sound, elected representatives, officials and nuclear employees in Durham Region, Mayor of Sarnia, and national and Michigan-based media."*²⁷

OPG further notes that, as OPG becomes aware of interest in the DGR Project from groups and individuals either locally or outside Bruce County, efforts are made to contact the groups/individuals *"to offer a briefing on the Project and/or a tour of the WWMF and provide information."*²⁸ [emphasis added] OPG notes further that more recently efforts are being made to address the interests of a wider target audience *"particularly in the Greater Toronto Area as well as south of the border through efforts with the Great Lakes Cities and St. Lawrence Initiative. Engagement efforts will continue at a high level with the established stakeholder list within Bruce County, but efforts will also address the interests of any newly identified stakeholders."*²⁹

We urge the JRP to seek further information from OPG so that it can assess the adequacy and effectiveness of OPG's program for engaging with new stakeholders. The scope of said efforts seems to contemplate providing information but makes no mention of seeking input. Effective public participation requires both informing and seeking input.

As noted on the Great Lakes and St. Lawrence Cities Initiative (GLSLCI) website:

²⁶ Ibid, page 6

²⁷ Ibid, page 6

²⁸ Ibid, page 6

²⁹ Ibid, page 6

“The Great Lakes and St. Lawrence Cities Initiative is a **coalition of U.S. and Canadian mayors and other local officials working to advance the protection and restoration of the Great Lakes and St. Lawrence River**. By integrating their environmental, economic and social agendas, local governments are helping to sustain a resource that represents approximately 20 percent of the world’s surface freshwater supply, provides drinking water for 40 million people, and is the foundation upon which a strong regional economy is based. **Members of the Cities Initiative are committed to working together and with other orders of government and stakeholders to improve infrastructure, programs and services and increase investments that protect and restore this globally significant freshwater resource**. Only by working together to protect the Great Lakes and the St. Lawrence can we preserve and enhance the quality of life and economic well being of the people of the region.

The Cities Initiative was **founded in 2003** by Mayor Richard M. Daley of Chicago. Mayor David Miller of Toronto is the founding Canadian Chair. Over the last nine years, the Cities Initiative has grown to include **eighty-two member municipalities** of all sizes from around the Great Lakes and St. Lawrence Basin, **representing over 13 million people.**”³⁰ [emphasis added]

As regards the identification of the Mayor Mike Bradley of Sarnia as an interest-based stakeholder, Mayor Bradley is quoted in the press as saying:

*“..he and other mayors from cities surrounding the Great Lakes are also concerned that they haven’t been included in the consultation.”*³¹

In reply to the above assertion, Kevin Powers, director of nuclear corporate relations claimed that “Bradley was asked in 2010 if he wanted input about the proposal and declined....But Bradley disagreed, saying he was not consulted.”³²

As a result of this failure to be consulted, the Mayor of Sarnia proactively sought to raise awareness among his fellow mayors in the GLSLCI of the potential threats to the Great Lakes posed by OPG’s plans.

That OPG seemingly failed to identify, inform and seek input from the GLSLCI as an “interested party” at any time during the 7 year period (except at the 11th hour) that OPG has been engaged in consulting with interest based stakeholders is an incomprehensible fact and clear evidence of a deficient and fatally flawed consultation process when one considers the following: (i) GLSLCI mandate is focused on advancing the protection and restoration of the Great Lakes and the St.

³⁰ <http://www.glslicities.org/about/who-we-are.cfm>

³¹ <http://www.theobserver.ca/2012/11/30/environment-canadas-first-underground-repository-is-safe-solution-opg>

³² Ibid

Lawrence River, (ii) GLSLCI represents one third of the 40 million citizens (approximately 13 million) that rely on the Great Lakes for their drinking water, (iii) GLSLCI members include two of Canada's largest cities (Toronto and Montreal), (iv) GLSLCI includes the third most populous city in the United States (Chicago) whose gross domestic product is the fourth-largest in the world, (v) GLSLCI has been in existence throughout the 7 years that OPG has been engaged in consulting with interest based stakeholders, and (vi) GLSLCI membership also includes the local communities located in Bruce County.

It would appear that OPG's claimed identification of the Mayor of Sarnia as an interest based stakeholder was entirely reactive in nature and a more appropriate description would be that it was the Mayor of Sarnia and not OPG that identified the Mayor of Sarnia and the GLSLCI group as interest based stakeholders.

With respect to the engagement of Michigan stakeholders, OPG has indicated that engagement activities have been conducted with Michigan elected representatives, the Macomb County Board of Commissioners, Michigan Department of Environmental Quality, and NGO groups. OPG has acknowledged that comments received from these Michigan based stakeholders "noted concern with the DGR Project because of its proximity to Lake Huron and the perceived risk of potential contamination of the Great Lakes."³³ Given the interconnectedness of the Great Lakes it is not difficult to imagine that other Great Lakes states would share these same concerns and therefore would be interested in being informed and consulted. We would urge the JRP to ask OPG if it informed and sought input from stakeholders in the other Great Lakes States, and if not, why.

We submit that the timing of OPG's recent efforts in 2013 to address the interests of a wider target audience in the Greater Toronto Area is suspect given that it occurred shortly after a billboard was launched on the Gardiner Expressway located in the City of Toronto in January/February of 2013 by the Stop The Great Lakes Nuclear Dump citizens group.³⁴

We urge the JRP to reject OPG claims of an effective consultation program. We urge the JRP to view OPG's admission that it is only now, some 10 years into this process, seeking to address the interests of members of the public residing in the Greater Toronto Area, as shocking on its face, as clear evidence of the reactive and 11th hour nature of OPG's communications plan, and as clearly demonstrating that this plan is woefully inadequate and fatally deficient. We submit that similar comments apply in respect of OPG's 11th hour communications efforts with the Mayors of the Great Lakes and St. Lawrence Cities Initiative.

³³ <http://www.ceaa.gc.ca/050/documents/p17520/86370E.pdf> page 12

³⁴ http://www.bayshorebroadcasting.ca/news_item.php?NewsID=54487

We submit that it should have been entirely predictable to OPG, a sophisticated multi-billion dollar corporation, that communities downstream of the proposed site of the DGR would want to be informed about OPG's plan since it would be their drinking water at risk if the DGR leaked.

We submit that informing and seeking feedback from stakeholders in the remaining 7 Great Lakes States and in the Greater Toronto area, early on in the process, either directly or through contact with GLSLCI group, would have been a prudent course of action. We urge the JRP to seek information and explanations from OPG that would enable the JRP to make judgements on the adequacy of OPG's engagement of these interest based stakeholders.

Given that OPG's communication plan does not appear, to any significant degree, to inform and provide opportunities for input from citizens or governments residing outside of the Regional Study Area (as defined in OPG's EIS) with the exception of some limited consultation with Michigan stakeholders, we urge the JRP to judge such plans to be deficient and in their present form failing to meet the requirements of CEAA 2012 as well as the EIS guidelines. We further urge the JRP to include in its recommendations to the Minister of the Environment that the Minister judge OPG's communications plan to be deficient and that absent a broadening of its consultation program to include informing and seeking input from a significantly expanded list of interested parties, including stakeholders in all Great Lakes States, that OPG's plan be rejected.

5.4 Statutory Public Participation Requirements

OPG's locally focused stakeholder consultation has failed to meet the public participation requirements set forth in CEAA 2012 and in the Public Participation Guides and Ministerial Guidelines published by the Canadian Environmental Assessment Agency and is therefore fundamentally deficient and fatally flawed. We urge the JRP to give weight to the growing number of concerned Canadian and American citizens signing the Stop The Great Lakes Nuclear Dump petition as evidence of the need for their inclusion as "interested parties" under CEAA 2012.

While OPG has represented to the JRP that stakeholders were identified in "*geographic areas with potential to be affected by the DGR Project*"³⁵, we believe that OPG's consultation ignores a vast geographic area and a significant number of potentially affected stakeholders....40 million people. For this reason we believe OPG's stakeholder consultation efforts must be judged to be fundamentally deficient and fatally flawed.

Notwithstanding OPG representations that over the past 10 years its engagement activities have included open houses, municipal briefings, MP & MPP briefings, Provincial/ Federal Government briefings, beach association briefings, speaking engagements, mobile exhibit events, NGO

³⁵ Ibid, page 14

briefings, medical officer of health briefings, nuclear industry briefings, youth activities,³⁶ it appears that the vast majority of this engagement has been primarily locally focused.

Indeed, by its own admission, OPG's consultation with groups outside of Bruce County occurs only to the extent that OPG becomes aware of interest in the DGR Project from groups and individuals, at which time efforts are made to contact the groups/individuals to offer a briefing on the Project and/or a tour of the WWMF and provide information.³⁷

Reference is made to the Guidelines for the Preparation of the Environmental Impact Statement for the Deep Geologic Repository for Low- and Intermediate-Level Radioactive Wastes (EIS Guidelines)³⁸, prepared by the Canadian Environmental Assessment Agency (CEAA) and the CNSC, and in consultation with other expert federal departments including Health Canada, Natural Resources Canada and Environment Canada. Under section 6 of the EIS Guidelines, in preparing the EIS, OPG is required to demonstrate how it has engaged (i.e., shared information with, and gathered input from) interested parties that may be affected or have an interest in the project.

A review of the list of interested parties, from whom OPG sought input reveals a list dominated by local interests (see list in Section 5.3 of our submission).

As regards OPG consultation efforts south of the border; the fact that

- (i) OPG received input from Michigan stakeholders (individuals, NGO groups and County Commissioners) during the comment period for the draft guidelines and scoping hearing in 2006,
- (ii) comments from these stakeholders noted concern with the DGR Project because of its proximity to Lake Huron and the perceived risk of potential contamination of the Great Lakes, and
- (iii) stakeholders also said the DGR is not a local project, but has the potential to affect stakeholders on both sides of the border³⁹

and in the face of this information, determined that citizens, organizations, politicians and NGO groups located in the remaining 7 Great Lakes States were not "interested parties" is a glaring omission and provides clear evidence that OPG has failed to meet the public participation

³⁶ Ibid, page 17

³⁷³⁷ <http://www.ceaa-acee.gc.ca/050/documents/p17520/86370E.pdf>, section 2.1

³⁸ <http://www.ceaa-acee.gc.ca/050/documents/31039/31039E.pdf>

³⁹ <http://www.ceaa.gc.ca/050/documents/p17520/86370E.pdf>

requirements to “share information with and gather input from” interested parties that may be affected or have an interest in the project.

According to OPG's EIS submission, its communications program is intended to fulfill the requirements for public participation under the *Canadian Environmental Assessment Act* and the *Nuclear Safety and Control Act*.⁴⁰

Under Section 4.1 (e) one purpose of CEAA 2012, is to ensure that opportunities are provided for meaningful public participation during an environmental assessment.⁴¹

According to the Public Participation Guide (PPG) published by the Canadian Environmental Assessment Agency, extensive public participation is a distinguishing feature of mediation and assessment by review panels.⁴² The PPG further notes that, in accordance with the *Canadian Environmental Assessment Act*, public participation may include aspects of public notice and access to Registry records, but will also involve consultation or a higher level of engagement of the interested parties (e.g., more involvement or collaboration).

A review of Section 6.1 of the Ministerial Guideline on Assessing the Need for and Level of Public Participation in Screenings under the *Canadian Environmental Assessment Act*⁴³, shown below, provides insights into what meaningful public participation entails. For a public participation program to be meaningful, it should exhibit all of the following elements:

Early notification

- Where notification is to be given, it needs to be done early enough to allow the public to have the opportunity to influence the planning of a project and its environmental assessment process before any irrevocable decisions are made.

Accessible information

- The responsible authority should ensure that all participants are provided with the information they need to participate effectively on a timely basis. Consideration should be given to the appropriate language for this information and the need to use culturally sensitive means of communication. Access to information should only be limited in accordance with the laws relating to access to information and privacy.

⁴⁰ <http://www.nwmo.ca/uploads/DGR%20PDF/Environmental-Impact-Statement-%28Volume-1%29.pdf>, section 2

⁴¹ <http://laws-lois.justice.gc.ca/PDF/C-15.21.pdf>, Section 4.1 (e)

⁴² http://www.ceaa-acee.gc.ca/Content/4/6/4/46425CAF-50B2-408D-A2A4-EDFAD2A72807/Public_Participation_Guide.pdf

⁴³ http://www.ceaa.gc.ca/Content/1/F/E/1FE6A389-4547-4B5C-8DE1-1196B1AE19C9/Assessing_the_Need_for_and_Level_of_Public_Participation_in_Screenings_under_the_CEEA.pdf

Shared knowledge

- A project should be developed on the basis of both technical and scientific knowledge and community and Aboriginal traditional knowledge. Knowledge, concerns, values and viewpoints should be shared in an open, respectful and timely manner. This includes information on the potential consequences of a project. Any rights flowing from the ownership of information that participants may have need to be respected.

Sensitivity to community values

- Public participation processes need to be carried out in a manner that respects different community values and needs.

Reasonable timing

- A public participation process should provide the public with a fair and reasonable amount of time to evaluate the information presented and to respond to project proposals and to proposed decisions by proponents and responsible authorities.

Appropriate levels of participation

- A public participation process should provide for levels of participation that are commensurate with the level of public interest.

Adaptive processes

- Public participation processes should be designed, implemented and revised as necessary to match the needs and circumstances of the project and to reflect the needs and expressed preferences of participants. This process may be iterative and dynamic in keeping with the reasonable expectations of participants.

Transparent results

- Public participation is based on the premise that the public's contribution will be considered in the decision-making process. A public participation process should, at its conclusion, provide information and a rationale on whether or how the public input affected the decision.

We submit that the JRP must reject OPG's locally focused stakeholder consultation as failing to meet the guidelines for meaningful public participation as required under CEAA 2012. OPG's apparent 11th hour attempts to consult with stakeholders residing outside of the Regional Study Area fails to provide early notification. The very fact that public awareness of OPG's plan is severely lacking means that OPG has failed to provide the public with a fair and reasonable amount of time to evaluate the information presented and to respond to project proposals and to proposed decisions by proponents and responsible authorities.

We submit that the JRP must reject OPG's locally focused stakeholder consultation as having any validity as an indication of public support for the DGR or attempt to conclude that it has broad based support for the DGR. The Stop The Great Lakes Nuclear Dump petition very clearly demonstrates that citizen opposition to OPG's plan is geographically dispersed across many communities in Canada and the United States.

We urge the JRP to give credence to evidence gathered through the Stop The Great Lakes Nuclear Dump petition that shows opposition to the DGR is broad based. We have only recently become organized with respect to this issue compared to OPG's local efforts and we expect that the number of citizens signing our petition is the "tip of the iceberg" and in the coming days that the extent of opposition to OPG's plan will become plainly evident. It is our intention to provide an update of the number and geographic distribution of petition signatures to the JRP during the upcoming public hearings.

A copy of the Stop The Great Lakes Nuclear Dump petition together with petition preamble is attached herein as Exhibit 2 for your reference. As of the date of this submission, over 10,000 concerned citizens have now signed the petition.⁴⁴ We urge the JRP to reflect on the fact that Stop The Great Lakes Nuclear Dump Inc., a citizens group with very limited funding (in stark contrast to OPG, a multi-billion dollar corporation with millions of dollars at its disposal for advertising) has, through a public awareness campaign, clearly demonstrated in 5 short months that a significant and growing number of Canadians and Americans are strongly opposed to OPG's plan to construct a DGR on the shores of Lake Huron on the Bruce Nuclear Power Plant site.

In reflecting on the "significance" of the number of signatories to the petition, we would request that the JRP take note that the number of petition signatories now greatly exceeds the number of residents that were polled in the Kincardine community willingness telephone poll.

Based on the foregoing facts, with over 10,000 people so far, just from the STGLND petition alone, indicating opposition to the OPG proposal, and with only 4,067 in a telephone survey of 6,778 residents apparently indicating acceptance of some form of long term storage of nuclear waste in Kincardine, the JRP cannot logically conclude that there is broad support for the OPG proposal.

5.5 Ontario Power Generation Consultation of Local Residents

The consultation of local residents is inherently flawed in design and therefore provides a false indication of broader public acceptance of OPG's plan.

The question posed to Kincardine residents in the local telephone poll was "Do you support the establishment of a facility for the long-term management of low and intermediate level waste at the Western Waste Management Facility?"

⁴⁴ <http://www.gopetition.com/petitions/stopthegreatlakesnucleardump.html>

We assert that if the 40 million people that rely on the Great Lakes for their drinking water were surveyed in a telephone poll and read the following statement "While low-level waste can be handled without protective shielding.... intermediate-level waste will remain dangerously radioactive for an extremely long period of time....We're talking thousands and thousands of years and beyond[and] the average isolation period needed for intermediate-level waste was 250,000 years"⁴⁵ and were then asked "Do you support the burial of nuclear waste within 400 metres of Lake Huron, one of the Great Lakes and the source of your drinking water?" an overwhelming number of these citizens, who receive nothing but risk and uncertainty from this proposal, would strongly object to this plan.

While we acknowledge that any potential response to the above hypothetical question is conjecture, what is unquestioned is that (i) the nuclear wastes to be buried in the DGR are extremely dangerous and require safe containment for hundreds of thousands of years; (ii) *"Most of the waste packages are not designed to be long-lived. As they corrode or are damaged by rock fall, the wastes are exposed and the radioactivity can be released;"*⁴⁶ (iii) *"People living on or near the site could be exposed to the contaminants..."*⁴⁷ (iv) despite OPG possessing full knowledge of the aforementioned facts prior to conducting the local telephone poll, OPG made a conscious decision to not disclose the highly relevant facts to local telephone survey respondents; and (v) OPG made a conscious decision to conduct a local telephone poll rather than seeking responses from a more representative sample of the 40 million potentially affected citizens living in the Great Lakes region.

We urge the JRP to not dismiss that the above hypothetical question and undisputed facts conveyed above as meaningless conjecture and irrelevant to the assessment of issues currently before the JRP. We assert that if posing such hypothetical questions serves to create reasonable doubt in the minds of the JRP, then indeed such conjecture is instructive, helpful and must be judged to be worthy of consideration. The fact that there were significant omissions in the question posed in the local telephone poll, by design, and further that 40 million potentially affected citizens were neither informed nor consulted about their views on the acceptability of OPG's plan, by design, are highly relevant facts that must be taken into consideration in the JRP's assessment of the validity of OPG's consultation and results obtained therefrom.

We urge the JRP to question the validity of the Kincardine survey as a measure of community willingness. We urge the JRP to soundly reject OPG's narrow definition of community as being limited to the boundaries of the Municipality of Kincardine and assert that a more appropriate definition of community must include all communities that rely on the Great Lakes for their

⁴⁵ Statement by Marie Wilson, OPG spokesperson. See <http://www.theepochtimes.com/news/8-6-26/72480.html>

⁴⁶ Ontario Power Generation, Deep Geologic Repository for Low and Intermediate Level Radioactive Wastes - Environmental Impact Statement: Main Report, Volume 1, 00216-REP-07701-00001 R000, Section 9.2.1

⁴⁷ Ibid

drinking water. In our view, it would be unreasonable, imprudent, premature and lacking in logic to reach a conclusion that OPG's local survey of 6,778 residents represents a suitable proxy for gauging the willingness of 40 million people. We urge the JRP to take into account the results of the still active Stop The Great Lakes Nuclear Dump petition showing that over 10,000 citizens, 96% residing in Canada and the United States, are strongly opposed to OPG's plan as credible evidence casting further doubt of the validity of OPG claims of broad public support for its plan.

OPG has recently informed the JRP that stakeholder engagement strategies going forward will *"provide opportunities for informed two-way dialogue with local communities and interested parties outside of Bruce County."*⁴⁸ This begs the question as to why OPG is only now seeking to consult with parties outside of Bruce County after having spent the better part of 10 years focusing only on the local community. We believe that OPG's expressed plans to consult more widely at the "11th hour" must be viewed as an admission by it of the fundamental and major deficiency in the scope of stakeholder consultations to date.

6. ALLEGED LOCAL OPPOSITION

6.1 *Stop The Great Lakes Nuclear Dump Petition Results*

There is broad based opposition to OPG's plan as evidenced by the number and geographic distribution of citizens signing the Stop The Great Lakes Nuclear Dump petition.

Canadians from every Province and Territory in our great land have signed the Stop The Great Lakes Nuclear Dump petition, insisting that our Great Lakes be protected from potential contamination from an underground nuclear waste deep geological repository being located anywhere in the Great Lakes Basin. Americans from all but one U.S. States have also signed our petition. People from countries around the globe who share our concerns for the protection of this precious natural resource have signed our petition.

The signatories to our petition reside in all Canadian Provinces and Territories, 49 U.S. States and from 43 countries around the world located in Europe, Asia, South America, Central America, Africa, New Zealand and Australia. Roughly 96% of our signatures are from citizens residing in Canada and the USA.

There is growing broad opposition to OPG's DGR proposal.

All are concerned about the integrity of the fresh water of our Great Lakes and do not believe that a DGR should be permitted to be built anywhere in the Great Lakes Basin. Protection of the water of the Great Lakes outweighs all other considerations.

⁴⁸ <http://www.ceaa.gc.ca/050/documents/p17520/86957E.pdf> page 23

6.2 Stakeholder Sentiment

OPG has asserted that stakeholder sentiment about the DGR from the public has generally been positive and that opposition to the DGR is contained in small pockets. The Stop The Great Lakes Nuclear Dump petition clearly demonstrates otherwise.

In a written submission for the JRP Socio-Economic Technical Information Session OPG notes *"Much of the input from the general public and key stakeholders post-submission continues to reflect strong, consistent support for the DGR Project. Stakeholder opposition to the DGR Project, which has existed in isolated pockets from the initiation of the project, has become much more vocal and several new local NGO groups have formed."*⁴⁹

OPG's general overview of stakeholder input provided in a presentation to the JRP for the Socio-Economic Technical Information Session indicates that *"Many stakeholders continue to provide encouraging comments"* and that opposition to the DGR is being voiced by *"small pockets of local individuals, NGOs and national NGOs."*⁵⁰

We urge the JRP to question the validity of OPG's characterization and marginalization of individuals and groups opposing the DGR. Included among the more than 10,000 individuals who have signed the Stop The Great Lakes Nuclear Dump petition are First Nations Chiefs and Peoples, prominent and distinguished Canadians (some having received the Order of Canada), doctors , scientists, geologists, professors, lawyers, teachers, a former Deputy Minister of the Environment (Ontario), church leaders, a former member of the Seaborn Panel, members of Canada's armed forces, Canadian and U.S. politicians, and citizens of Canada and the United States and of other countries of the world.

These are not "small or isolated pockets" of local individuals as OPG alleges, but rather the voices of a broad cross section of Canadian and American society uniformly, eloquently, passionately and thoughtfully agreeing that burying the most toxic and lethal substance that humans have ever created within 400 metres of the drinking water supply of 40 million people in two countries defies common sense and should not be permitted to happen.

The facts now before the JRP provide evidence that support *for* the DGR is itself largely local and is itself a small pocket. Opposition to OPG's plan however is broadly based and geographically dispersed across communities in Canada and the United States.

When considering OPG's comment about "small pockets" we would ask the JRP to reflect on the fact that 4,067 individuals (60% of those polled) in the Municipality of Kincardine apparently indicated support to the question posed to them, while 100% of the 10,134 concerned citizens

⁴⁹ <http://www.ceaa.gc.ca/050/documents/p17520/86370E.pdf> page 18

⁵⁰ <http://www.ceaa.gc.ca/050/documents/p17520/86957E.pdf> page 18

who have signed the Stop The Great Lakes Nuclear Dump petition to date are saying “no” to OPG’s plan to construct a DGR on the shores of Lake Huron. A more accurate description clearly now is that support for the DGR is being voiced by a “small pocket” of individuals.

We urge the JRP to consider the Stop The Great Lakes Nuclear Dump petition comments of doctors, professors, lawyers, teachers, First Nations Chiefs, all very learned and highly respected citizens in society, and all directly contradicting statements made by OPG to the JRP that “much of the input from the general public and key stakeholders post-submission continues to reflect strong, consistent support for the DGR Project.” A selection of these comments is provided below.

- Petitioner #6563, Dr. Janet Christie-Seely, MD, MSc, FCFP, Director of Professional Services for the Satir Learning Centre of Ottawa and Professor of Family Medicine at the University of Ottawa:

“Humanity is in a pathological state of denial regarding the "safe" disposal of nuclear waste. It's high time we woke up!”

- Petitioner #3621, Dr. David Maxwell, retired professor of Family Medicine and Emergency Medicine at Dalhousie University, who spent many years as an emergency medicine physician at the QE 11 Hospital in Halifax, NS:

“I find it incomprehensible that we should need to point out the sheer stupidity of burying radioactive garbage in the immediate proximity to the drinking water supply for 40 million people.”

- Petitioner #2744, Dr. John Millman M.D., C.C.F.P., F.C.B.O.M. Occupational Physician:

“a proposal that needs to be determined by experts and authorities much more educated in the environmental issues than local municipal politicians who have only short term community interests at heart.”

- Petitioner #1655, Dr. Erica Fischer, Family Doctor:

“There is simply no way to guarantee the nuclear waste will not get into the land and Great Lakes water. The risk of such a project is too high.”

- Petitioner #1566, Dr. Suzanne Sorkin, an assistant professor and associate director of the Sparrow/Family Medicine Residency in Lansing who received her medical degree in 1980 from the University of Pittsburgh School of Medicine and graduated from the MSU/St Lawrence family practice residency in 1983:

"As a family physician I worry about the safety of the Great Lakes water supply for my current and future patients. A serious accident with these dangerous wastes could contaminate Great Lakes drinking water and fisheries far into the future."

- Petitioner #8077, Dr. Bernard Roberts, Dentist:

"Seems like an unconscionable decision with little public knowledge and awareness and therefore little democratic input."

- Petitioner #1699, Mr. David Wood, Town Councillor, South Bruce

"As a councilor with South Bruce, a community involved for selection of the high level waste dgr, I continue to critically oppose any such project within the Great Lakes basin. Regardless of how much money they are throwing at us."

- Petitioner #7673, Dr. D.W. Stephan, Professor of Chemistry, University of Toronto

"The solubility of limestone in water means that this will ultimately leach the waste into the lake. This together with the proximity of the proposed waste site to the lake and our fresh water supply is of grave concern to me. "

- Petitioner #7339, Dr. William Neal, Emeritus Professor of Geology, Grand Valley State University

"As a geologist I am very aware that the proposed site threatens a vital water resource. As a citizen who lives only 15 miles from a Great Lake from which our water supply is derived, I am extremely concerned, and cannot fathom that anyone would consider this."

- Petitioner #3608, Gracia Janes, former teacher and School Board Trustee, recipient of the Ontario Medal for Citizenship, the Canada 125 Medal and the Queens Golden Jubilee Medal and VP Environment Provincial Council of Women of Ontario

"Dear Minister Kent,

What a travesty it would be if the Federal government allowed a nuclear waste dump so close to the shores of one of our treasured Great Lakes, Lake Huron. Even if the dump is planned for low and medium non-fuel nuclear waste, should there be accidental releases these radio-nuclides last many thousands of years. And, no doubt if this dump is allowed NWMO will attempt expand its mandate to include a high level nuclear waste -something we saw coming when NWMO expanded its search from the northern Precambrian shield area to south western Ontario Ordovician shale formations.

These formations can experience "a sudden irreversible alteration, with low or moderate changes in temperature or stress" (J.F. Sykes, U of Waterloo #4 Science and Environment 2003- for NWMO). If this happens, the consequences will drastically affect the lives and

natural surroundings of millions of residents on both sides of the Canada/USA border for many generations.

Gracia Janes, on behalf of the Provincial Council of Women of Ontario, backed by the National Council of Women of Canada, both of which have strong precautionary policies on nuclear issues."

- Petitioner #4201, Dr. Dorothy Goldin Rosenberg, MES, PhD, holds a Masters in Environmental Studies (York University) and a PhD (University of Toronto).

"Common knowledge says this is a dangerous consideration."

- Petitioner #3362, Dr. Mary Shannan McNair, Associate Professor Department: Human Development and Child Studies, Oakland University

"The Great Lakes need our care and attention - this is not responsible."

- Petitioner #960, Rod McLeod QC, former Chief Crown Prosecutor (Ontario) and former Deputy Minister of the Environment (Ontario)

"As a former Deputy Minister Environment (Ontario) I think the OPG proposal is very unwise."

- Petitioner #7166, Chief Louise Hillier, Caldwell First Nation

"Nuclear waste has no business being dumped/hidden anywhere near waterways or where the waste could leach into the surrounding ground or the water tables underground. With all of OPG's money you just know they have the means to do research and to find an environmentally safe way to deal with the waste they manufactured."

6.3 Ontario Power Generation Community Acceptance Results

OPG's definition of "community acceptance" means only 4,067 people in the Municipality of Kincardine indicating "yes" in a questionable telephone poll. Granting 4,067 local citizens (many who stand to benefit financially if the DGR proceeds or who otherwise rely on the nuclear industry for their livelihood) the POWER to make a decision that affects 40 million people is unconscionable and highly undemocratic.

In the process that has been designed by the Municipality of Kincardine and agreed to by OPG and the provincial government, 4,067 citizens living in the town of Kincardine have effectively been given the power to decide upon the location of the DGR to bury some of the most toxic waste that humans have ever created - within approximately 400 metres from Lake Huron. Many of the citizens in the town of Kincardine, Ontario are employed at the Bruce Nuclear Power Plant; many citizens in the town of Kincardine stand to benefit financially and with jobs from this DGR to entomb this toxic nuclear waste.

The Municipality of Kincardine approached OPG to offer up their municipality as a location for the siting of a DGR for disposal of low and intermediate nuclear waste, and without considering any other potential locations, OPG accepted this offer. In turn the municipality set about confirming community acceptance within the Municipality of Kincardine for this scheme. A telephone poll of households that did not ensure anonymity surveyed 6,778 residents over the age of 18 within the municipality of Kincardine and 4,067 citizens answered "yes" to a question that did not mention the words radioactive, nuclear, or Deep Geological Repository.

How is it possible that we have granted an extraordinary power and trust to 4,067 people to make a decision concerning the acceptability of burying toxic nuclear waste approximately 400 metres from Lake Huron, when no geologist, engineer, scientist, or government can provide a 100,000 year guarantee that this DGR will not leak?

How is it possible that we have permitted 4,067 people in a small Ontario town, many who stand to gain financially from locating a DGR in their municipality, to make this monumental decision? Many of these same people are presently employed in the nuclear industry or otherwise own businesses that benefit from nuclear industry activity. How does one reconcile the evident conflict of interest of local supporters against the need to ensure protection of the Great Lakes for all future generations?

We urge the Joint Review Panel to reject OPG's narrow definition of "community acceptance" in favour of a broader definition that would include independent acceptance by all communities comprising the 40 million people who rely on the Great Lakes for their drinking water and who stand to be affected if the DGR fails to perform as predicted by the proponent.

7. FINANCIAL INFLUENCE

7.1 *Hosting Agreement*

The Hosting Agreement that OPG negotiated with the Municipality of Kincardine should be cause for concern with the JRP.

Commencing in 2005 through to 2034, OPG is paying out \$35.7 million dollars by way of lump sum and annual payments (inflation protected) to five (5) shoreline communities who, in OPG's unilateral view, are demonstrating willingness and support of OPG's application to construct and operate a DGR. According to the DGR Hosting Agreement the \$35.7million is allocated as follows: Kincardine \$22.1 million and \$13.6 million shared by Saugeen Shores \$8.5 million, Huron Kinross \$2.38 million, Arran-Elderslie \$1.36 million and Brockton \$1.36 million.

Between the years 2005-2012, and before approval to construct the dump is even received, OPG has paid out \$10.5million to the five municipalities.

Upon OPG being granted a license to construct the dump, the communities, in addition to their regular annual payments, receive another lump sum payment of \$2.1 million.

If OPG in its unilateral view, decides that the Municipality of Kincardine or any of the adjacent municipalities have failed to exercise best efforts to support the construction and operation of OPG's DGR, OPG may, in its sole discretion, and acting reasonably, decline to make further payments and the affected municipality will not have any right to receive or recover that payment.

It is not unreasonable to think that under the influential weight of such significant financial payments, all municipalities receiving such payments may be reluctant to express officially or to raise concerns about the proposed DGR.

The Ottawa Citizen reported that the Hosting Agreement "*...allows OPG to withhold payments should any of the municipalities have failed to exercise best efforts to support construction of the repository or to meet construction milestones. Politicians might interpret this to mean they cannot criticize aspects of the plan, for fear of losing the money, or that future councils cannot change course.*"⁵¹

The JRP must consider the impact of such financial arrangements in determining whether public support and community acceptance for the proposed DGR independently, freely and fairly exists.

8. RESIDUAL CONCERNS

8.1 Regional Study Area Boundaries

If no engineer, geologist or scientist can provide a 100,000 year guarantee that the DGR will safely contain the buried nuclear waste and that the DGR will not leak, then it is illogical to accept OPG's assumption in the Environmental Impact Statement that the Regional Study Area (essentially Bruce County) will encompass the area that can be expected to be potentially affected by the DGR.

Despite OPG's assertion that the measurable effects of the DGR will be felt in the Regional Study Area (note: the Regional Study Area encompasses Bruce County with the exception of the peninsula communities of the Town of South Bruce Peninsula and the Municipality of Northern Bruce Peninsula)⁵², we note that it is impossible to test the validity of this assumption. What we

⁵¹ Ottawa Citizen, July 28, 2005 Compensating Kincardine

⁵² <http://www.opg.com/power/nuclear/waste/pdf/NWMO%20216%20-%20EIS%20Summary.pdf> page 16

do know is that no geologist, engineer or scientist can provide a 100,000 year guarantee that the DGR will not leak.

If any of the predictions of OPG's consultants prove to be incorrect over the course of the 100,000 years that some of this waste remains toxic, and if any leakage ultimately results in any contamination of the Great Lakes, then the measurable effects of the DGR will extend far beyond the boundaries of the Regional Study Area. Such an outcome would be devastating for the 40 million people and the generations of people to follow who will rely on the Great Lakes for their drinking water.

"The precautionary principle denotes a duty to prevent harm, when it is within our power to do so, *even when all the evidence is not in.*"⁵³ Application of the precautionary principle demands that the JRP reject as wholly inadequate the proposed boundaries of the Regional Study Area proposed by OPG in its Environmental Impact Statement submission.

8.2 Proximity to Lake Huron

Burying radioactive nuclear waste beside 21% of the world's surface fresh water supply defies common sense.

Throughout the entire history of humans on our planet, no structure that humans have ever built has lasted much more than 4,000 years. The Great Lakes themselves were created by an ice age about 12,000 years ago. Yet some intermediate level nuclear waste remains toxic for 100,000 years. Some of the intermediate level nuclear waste is almost as toxic and radioactive as the high level radioactive nuclear spent fuel from inside nuclear reactors.

Is it reasonable and prudent to rely on representations by OPG that the DGR will safely contain its toxic radioactive contents for 100,000 years when the implications to the Great Lakes of a leaking DGR could be catastrophic?

OPG states in their documents that the DGR *"is not likely to result in any significant residual adverse effects to human health or the environment, including Lake Huron and the Great Lakes."* Does *"not likely"* provide sufficient protection for the safety and sanctity of the drinking water of the Great Lakes? Is *"not likely"* enough protection for the lives of 40 million people? Is *"not likely"* sufficient for the generations of people to come, who will depend upon the water of the Great Lakes for their survival?

OPG itself is not providing a guarantee as to the long term containment of the nuclear waste.

Any risk of radioactive nuclear waste contaminating the Great Lakes is too great a risk to take and need not be taken.

⁵³ <http://www.cela.ca/collections/pollution/precautionary-principle>

William Fyfe, a retired University of Western Ontario professor who is an international consultant on nuclear waste, says *"You do not put nuclear waste near things like the Great Lakes or the great rivers in case there's a leakage that you haven't expected."*⁵⁴

*"It is universally acknowledged that nuclear waste must be kept away from water circulating through the environment of living things, since water is seen as the main vehicle for eventual dissolution and dissemination of radiotoxic pollutants."*⁵⁵

OPG documents state that *"Most of the waste packages are not designed to be long-lived. As they corrode or are damaged by rock fall, the wastes are exposed and the radioactivity can be released."* And further states *"People living on or near the site could be exposed to the contaminants..."*⁵⁶

We submit that the JRP must consider this acknowledgement as heavy evidence of the risk associated with a proposal such as the one under review from OPG.

8.3 Suitability of Geology

Allison Mcfarlane, an MIT trained professor of geology and the present Chair of the Nuclear Regulatory Commission in the US said *"it is almost impossible to decipher the detailed history of a rock, let alone predict reactions into the geologic future. Geology has not advanced far enough yet to expect that it can do this..."*⁵⁷

The ability of the limestone and shale rock formations to block or even slow the migration of radionuclides from the repository is unproven. The repository must function to safely contain the nuclear wastes for over 100,000 years. No scientist or geologist can provide a 100,000 year guarantee.

Independent geologist, Professor J.F. Sykes of the University of Waterloo, in a study done for NWMO 'Characterizing the Geosphere in High Level Radioactive Waste Management' noted that *"Beneath the Bruce Nuclear Power Development on Lake Huron, the Ordovician shales of the Michigan Basin are likely to have hydraulic conductivities in the range of 10 to the 11th to 10 to the 14th m/s at depths of 500m (Moltyaner et al 1995). The pore water in the formation is highly*

⁵⁴ <http://www2.canada.com/ottawacitizen/news/story.html?id=f9ff8432-c3e9-41e2-877a-a9fc43a13aac&p=2>

⁵⁵ <http://www.glu.org/en/announcement/huron-declaration>

⁵⁶ Ontario Power Generation, Deep Geologic Repository for Low and Intermediate Level Radioactive Wastes - Environmental Impact Statement: Main Report, Volume 1, 00216-REP-07701-00001 R000, Section 9.2.1

⁵⁷ Uncertainty Underground. Yucca Mountain and the Nation's High-Level Nuclear Waste. Edited by Allison M. Mcfarlane and Rodney C. Ewing. Page 397

saline and stagnant. However, the physical properties of shale can undergo significant irreversible alteration with low or moderate changes in temperature, or stress."⁵⁸

There are no precedents anywhere in the world for burying radioactive nuclear waste in limestone. Why should such a high risk proposal for a DGR in the Great Lakes Basin be permitted to be the experiment for the burying of toxic radioactive nuclear waste in limestone, when this technology is unproven?

8.4 Computer Modelling

Computer models cannot predict what will happen in 100,000 years; the models cannot be validated or verified.

In speaking about the use of models to make predictions in relation to a planned and denied DGR in the US, Allison Mcfarlane, an MIT trained professor of geology and the present Chair of the Nuclear Regulatory Commission in the US, notes "Many assumptions go into these models. The problem, though is that one cannot make assumptions about the processes or features that one is not aware of."⁵⁹ She goes on to say that "Others have explored the use and misuse of models in the earth sciences and technical policy decision making. ...One of the main conclusions from these works is that these models *cannot be validated or verified.*"⁶⁰

At a nuclear waste facility in Maxey Flats, Kentucky, U.S., government and industry scientists were wrong when they said that the possibility of offsite migration of the waste was "essentially nonexistent." They reassured citizens that it would take 24,000 years for the plutonium to travel one-half of an inch on-site. Less than 10 years later the plutonium was found two miles off-site.⁶¹

We cannot permit an error such as the one that happened at Maxey Flats, to happen here in Canada, in Kincardine, within approximately 400 metres of our Great Lakes. The results would be catastrophic. The fresh drinking water and the lives of 40 million people in two countries will be affected.

⁵⁸ http://www.nwmo.ca/uploads_managed/MediaFiles/595_4-2CharacterizingtheGeosphereinHigh-LevelRadioactiveWasteManagement.pdf

⁵⁹ Uncertainty Underground. Yucca Mountain and the Nation's High-Level Nuclear Waste. Edited by Allison M. Mcfarlane and Rodney C. Ewing. Page 396

⁶⁰ Ibid. Page 397

⁶¹ http://www.nwmo.ca/uploads_managed/MediaFiles/607_1-5RiskandUncertaintyinNuclearWasteManagement.pdf Page 7

8.5 Failed Nuclear Waste Burial Sites

Nuclear waste dumps in other countries are leaking despite steadfast assurances that this would not happen.

Germany's Asse II DGR was intended to permanently house low and intermediate level nuclear waste. It is operated by the German government, and was licensed for the storage of low and intermediate level radioactive waste. The Asse II DGR went through strict government approval processes; the scientists, and the agency responsible for the burial of this waste (similar to our NWMO), conducted rigorous studies, and assured everyone that this Asse II DGR would be safe, and would not leak. We all know the German reputation for documentation and thoroughness.

The Asse II DGR is embedded in a rock formation that is approximately 250 million years old. The age of the rock formation, and quality of the rock material were thought to be excellent for the long term storage of nuclear waste. The Asse II DGR is in a salt mine; the important thing is not the type of rock, which differs from our rock here in Canada, but the insistence on the "facts" that this rock would house this nuclear waste safely.

Radioactive waste was placed in Asse II DGR between 1967 and 1978. Low level nuclear waste was placed 750 meters below the ground, and the medium level nuclear waste 511 meters under the ground. For many years, Asse II was seen as an example of how it was safe to bury low and intermediate radioactive waste in a DGR.

Since 1988, 12,000 litres of water per day have been leaking into the supposedly water-tight chambers containing the radioactive waste. No one has been able to identify where the water is coming from, or how to stop it; the integrity of this DGR has been breached. It is leaking, and has been leaking for 20 years. No one has been able to determine with certainty how to fix this leaking DGR. In fact, this DGR is in danger of collapse in the near future. Twenty years later, the "facts" of a completely dry and non corrosive environment have turned around 180 degrees. The assurances that were provided to the German people are worthless. The scientists and geologists were dead wrong. The Asse II DGR is an unmitigated disaster.

It is submitted that the facts associated with this precedent and the receipt of a similar proposal from OPG for a DGR should cause the JRP tremendous concern. Nuclear waste is currently leaking from a very well researched and approved DGR; a DGR that the German people were assured would never leak. Now, let's imagine if we here in Ontario were to take the disastrous DGR Asse II, with all its scientific proof, scientific computer modeling, and assurances, government reviews, strict rules and regulations that determined that this DGR would be safe, and not leak, and let's plunk it down in Kincardine, on the shore of Lake Huron. Let us pretend that the Canadian federal Minister of the Environment had approved this DGR before it started to leak. What would the result be? Radioactive contamination of our Great Lakes. The Great Lakes that supply more than 40 million people with their drinking water.

8.6 Deep Geological Repository Precedent Setting

The Kincardine DGR will pave the way for a second DGR to store highly toxic nuclear spent fuel to be located in the Great Lakes Basin.

OPG's Nuclear Waste Management Organization (a corporation 92% owned by OPG) is planning to establish a second underground DGR that would be used to bury irradiated nuclear fuel, or high level nuclear waste. Many of the potential sites for the high level nuclear waste DGR are situated in the Great Lakes Basin.

The implications of OPG's DGR proposal therefore cannot, and must not, be viewed as a stand-alone project; this project needs to be considered in a broader context. It is intimately tied to the development of the high level nuclear waste DGR. If the Kincardine DGR project is permitted to proceed, it will set precedents for geology, toxicity of the nuclear waste, and importantly, proximity of the burial of lethal nuclear waste to our Great Lakes.

9. CONCLUSION

In conclusion, our Great Lakes are a cherished and precious natural resource – a resource that it is every Canadian's duty to protect. Any risk of contamination of our Great Lakes from a leak from a DGR containing lethal radioactive nuclear waste is too great a risk to take, and should never be taken. We believe it is our patriotic duty to protect our Great Lakes.

Members of the Joint Review Panel, in the coming days you will have the opportunity to demonstrate responsible leadership, and responsible stewardship... to lead the way, with wisdom, and concern, and to be remembered for doing so, as responsible leaders, as responsible citizens, as concerned scientists, as responsible Canadians... to speak for the protection of our precious natural resource, the Great Lakes... to show your concern and act in the best interests of society... to ensure that the process is fair, legitimate and protects the interests and lives of the 40 million people and their descendents who depend and will depend upon the sustenance of the water of our Great Lakes.

Recognize that the protection of our precious natural resource, the Great Lakes is a matter of national and international importance. Recognize that the protection of the waters of the Great Lakes is a public trust that must be upheld for the benefit of 40 million people in two countries. Recognize that OPG's proposal to bury nuclear waste on the shores of Lake Huron fails to apply precautionary principles and poses unacceptable risks to 40 million people that can and must be avoided and that *"not likely to result in any significant residual adverse effects to human health or the environment, including Lake Huron and the Great Lakes"* is not good enough. Recognize that this matter demands the involvement of all Canadians and Americans and that the OPG's efforts to identify, inform, seek input and secure acceptance from the Canadian and American public are deficient, fatally flawed, fail to fully comply with statutory requirements under the Canadian

Environmental Assessment Act, 2012 and fail to fully uphold Canada's obligations under the GLWQP 2012. Declare that another solution must be found.

We implore the JRP to place the safety and sanctity of the waters of Great Lakes above all else and recommend against OPG's plan to construct a DGR on the site of the Bruce Nuclear Plant in the Municipality of Kincardine.

EXHIBITS

Exhibit 1: Stop The Great Lakes Nuclear Dump Petition Selected Comments

No.	Petitioner	Date	Comment
1	10099	11-May-13	We are moving to that area this summer with our 1 year old child, and now I feel this move might be the worst thing for our health should this site be approved. So many mishaps have happened in the past, we can not afford any to happen here... in the Great Lakes, in our water supply. Please take into account the risk this project poses, should any mistakes happen, should any leaks form, should human error happen at any stage in the project.
2	10085	11-May-13	Simply put, please don't do this. For the health of the people and this earth.
3	10067	11-May-13	This must not be allowed to happen
4	10062	11-May-13	One word: HANFORD
5	10059	11-May-13	this world is not yours to destroy
6	10021	11-May-13	There can be no excuse for risking the poisoning of the Great Lakes, one of the most important freshwater sources in the world. Do the right thing and refuse the application to site a dump on the shores of Lake Huron.
7	10002	11-May-13	It's an insult to science and geology that this is even being considered.
8	9989	11-May-13	It's absurd and outrageous to put nuclear waste near any lakes, let alone some of the largest and most important in the country. Don't subject our residents to this contamination.
9	9982	11-May-13	My home state is Michigan and I am alarmed and appalled that this is being even considered. Please do not dump nuclear waste here.
10	9963	11-May-13	unbelievable.
11	9960	11-May-13	KEEP THAT POISON AWAY FROM THE GREAT LAKES!
12	9959	11-May-13	Emphatically opposed to building an underground nuclear waste dump anywhere in the Great Lakes Basin!
13	9945	11-May-13	If this isn't an all out assault on North American's access to clean drinking water, I don't know what is...and I thought fracking was horrifying....
14	9930	11-May-13	stop this madness
15	9914	11-May-13	Please protect our most valuable resource - our great lakes water.

No.	Petitioner	Date	Comment
16	9907	11-May-13	<p>Please do no pollute our lakes!!</p> <p>There is this great Native American saying I stumbled upon which I feel best suits this current time.</p> <p>"When the last tree has been cut down, the last fish caught, the last river poisoned, only then will we realize that one cannot eat money."</p> <p>I want my children to grow. I want my grandchildren and their generations to prosper, not falter.</p> <p>We are too consumed in materialistic gain, and forgetting altogether what life is, and as humans we too will die. We too will be the soil, the dust, the rain, the lakes.</p> <p>We must give back to mother nature, not infect it.</p> <p>Please re-think your decision.</p> <p>Give life a chance.</p>
17	9900	11-May-13	This is a crime against nature and humanity. It has been proved time and time again that dumping of nuclear waste is not secure.
18	9899	11-May-13	this is insanity!
19	9893	11-May-13	I realize the waste has to go somewhere but in the middle of an area of potable water? That is ludicrous.
20	9890	11-May-13	Where did the great country of Canada disappear to, is there any hope in finding it again, sadly i don't think so!
21	9869	11-May-13	This abuse of our natural resources as well as our health & well being cannot be permitted!
22	9864	11-May-13	I spent many years in Idaho dealing with the reality that the leakage from INEL -- and nuclear waste inevitably leaks -- ran into the Snake River Aquifer, contaminating the groundwater for miles and miles around. We do not need the even worse scenario that will -- inevitably -- occur when nuclear waste leaks into the Great Lakes. pardon my bluntness, but you people are delusional!
23	9842	11-May-13	Shameful! Must be stopped.
24	9829	11-May-13	<p>The half-life of these materials is equivalent to the entire time since the dawn of agriculture and the very beginnings of civilization itself. This the largest freshwater system in the world. It may seem to the engineers that they know all they need to know, but risk MUST be multiplied by potential cost, and the potential for a Black Swan in this context is enormous. Furthermore, we're not talking about the evaporation of fictional assets, we are talking about nuclear waste and the Great Lakes: in other words, the health and safety not of our children's children's children, but of humans and other creatures who stand in the same relation to us as we do to those who walked the Earth thousands of years before the beginnings of recorded history. It is imperative that you put an end to this insane plan, immediately. Stop this thing. Stop it.</p>

No.	Petitioner	Date	Comment
25	9656	11-May-13	Our water is the " blood" of this country and it should be safeguarded by its people for the generations to come.
26	9647	11-May-13	I grew up on the Great Lakes. We need to treat these, the largest freshwater lakes in the world, as a sacred trust. If you can't remember Love Canal and Chernobal, can you at least think about the horror that is still unfolding from the Japanese disaster? Nuclear waste is forever and highly dangerous. Putting it near this precious water supply would be a criminal act.
27	9646	11-May-13	Put any nuclear dump site very far up north. Away from human habitation, and significant water sheds.
28	9642	11-May-13	what is going threw your heads!!!! why dont you just dump it right in!!! beyond stupid!
29	9640	11-May-13	So close to the Great Lakes. This is INSANITY.
30	9628	11-May-13	The Destruction of the Great Lakes must stop.
31	9622	11-May-13	This insanity has got to stop!!!! NOW!!!!!!!!!!
32	9618	11-May-13	Never near the water
33	9617	11-May-13	I have lived in Ontario most of my life, and plan to return there one day. I have spent most of those years close to one of those Great Lakes or another. As much as we need a safe disposal site for nuclear waste, this is not it. Any site proposed has the risk of eventually leeching into ground water, the soil around it and the air. This site poses a huge risk to all the bodies of water it is connected to.
34	9612	11-May-13	That this plan is even being considered astounds me.
35	9608	11-May-13	It's not worth the risk!
36	9540	11-May-13	You have to be insane to seriously propose that we put the most toxic poison on the planet anywhere near the most abundant fresh drinking water supply on earth.
37	9526	11-May-13	Please consider the risks to the environment that so many lives depend on. These issues are too great to make irreversable mistakes. Please make caution THE priority ! Please hear the people ! This is a universal issue .Let Canada lead in dealing with the needs for our survival on this Earth !
38	9017	10-May-13	I am my family depend on water from the Great Lakes for drinking and recreational purposes. Who are you to assume this risk on our behalf?
39	8995	10-May-13	I grew up in Michigan, have family and friends there, and intend to return there some day. This is the most INSANE idea ever proposed. The great lakes are a beautiful resource. But why would you risk the best source of fresh water in the COUNTRY for a nuclear waste dump? NO. There is no answer to that question that isn't either completely insane or driven by greed and total neglect for the immediate future of humankind.

No.	Petitioner	Date	Comment
40	8990	10-May-13	This is a insane proposal. Why would a spot SO immediately close to the great lakes be chosen as a suitable spot for something like this?!
41	8987	10-May-13	This is the worst place to dump nuclear waste! These lakes provide some of the best fresh water in the world, about 20% of it, in fact! Fouling it with waste will devastate habitats, destroy beautiful places for people to recreate, and devastate the land and economies of the surrounding communities. Shame on you for even considering this as an option!
42	8986	10-May-13	I have lived most of my life on the Great Lakes in Wisconsin and Illinois, U.S., and have enjoyed many forms of recreation in and from them, including fishing and swimming. They are precious gems to us in the bordering states of the U.S. not only for recreation and beauty, but for drinking water. I strongly object to your poorly advised, ill-intentioned plan that will destroy this resource for both Canadians and Americans. We demand that you immediately stop this move to profit in such a way as to destroy resources that are not yours to use in such an egregious manner.
43	8931	10-May-13	Incomprehensible lack of foresight.
44	8930	10-May-13	Please don't do it for the sake of future generations!
45	8928	10-May-13	Please stop this attempt to risk poisoning our precious, life-sustaining, CRITICAL water.
46	8924	10-May-13	Shame on you for proposing this atrocity...
47	8922	10-May-13	Once destroyed by nuclear waste, ours and your pristine waters will be from then on a disaster. Please don't do this.
48	8920	10-May-13	Putting anything this potentially dangerous near the largest fresh water supply on the planet is totally ridiculous!!!
49	8903	10-May-13	Please no nuclear waste so near to a fresh water resource! It's like committing mass genocide for humans and animals alike ~ to do such a thing..
50	8887	10-May-13	In the face of so many unanswerables, it is completely careless and unconscionable to bury nuclear waste practically IN the drinking water of millions. We are fast losing our minds!
51	8879	10-May-13	Putting an underground storage dump for nuclear waste any where near the Great Lakes is just plain crazy and totally irresponsible.
52	8855	10-May-13	You know why it's a bad idea? Because it's so obviously a bad idea.
53	8854	10-May-13	What a disastrous legacy to leave for future generations.
54	8730	09-May-13	Radioactive waste is one of the core problems of nuclear power. Placing it out of sight does not get rid of it.
55	8706	09-May-13	This is extremely risky. Please don't bury nuclear waste anywhere near water - especially fresh water!
56	8700	09-May-13	Here in New Mexico, we have radioactive elements leaking from waste storage at Los Alamos National Labs into the underground water table. Please don't bury nuclear waste where it can contaminate the water supply.

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57	8687	09-May-13	We must protect the water supply for the current and future generations of people and other species.
58	8684	09-May-13	Allow me to be succinct... "Are you out of your freaking minds?!?!?!"
59	8658	09-May-13	<p>If something were to happen to this dump site and it leaked, it would affect 40 million people between the US and Canada! How big could the potential impact be if it escaped the Great Lakes and went into the Ocean!</p> <p>I imagine an immediate leak would shut the Great Lakes down forever which would destroy any and all of the communities that depend on the lakes. Thunder Bay in Canada, Chicago in Illinois, Duluth in Minnesota. These cities require shipping and tourism to stay alive and healthy.</p> <p>Please, don't build a toxic site right next to one of the greatest wonders in North America. These lakes are something every Canadian, US Citizen, and American (All of North America) should treasure and hold dear.</p> <p>Thank you for taking the time to read this.</p>
60	8648	09-May-13	As a lifelong Michigan resident and frequenter of the Great Lakes I'm appalled that this is the first I have heard of this proposal. I urge you to look closely at long term, and very long term impacts that any failure of this system may create.
61	8619	08-May-13	This is insane. I don't understand how this idea could have ever been approved of.
62	8617	08-May-13	<p>Someone needs a reality check here. Putting that amount of nuclear waste that close to some of the world's largest supply of fresh water is beyond ludicrous. Maybe some thought should be given to 'what if...'. What if there is an earthquake in southern Ontario (not unheard of). What if it leaks...and don't tell me that in the life of the contaminated waste...over 100,000 years...that leaks aren't possible. Nothing is that guaranteed.</p> <p>We could be dooming our children and future generations to a future of contamination and hardship.</p> <p>Please...rethink this ill conceived idea, and if we must persist with nuclear energy, put the waste somewhere far away, where risk of contaminating drinking water and large populations are significantly lower.</p>
63	8610	08-May-13	ARE YOU PEOPLE NOT THINKING? NEXT TO OUR FRESH WATER SUPPLY ???? We have enough nuclear accidents!!!!
64	8607	08-May-13	Great lakes nuclear dump sounds like a sick joke considering it is a death sentence for all living beings now and for ever . Who could even think of something so ridiculous , how many more disasters do we need to have . Such ignorance is truly profound

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65	8530	07-May-13	Where are the Politicians these guys won't get my vote again.
66	8528	07-May-13	This is one of the most ill-informed and short-sighted ideas I've seen to do with North America's environment. Surely there is a place farther from the lake to dispose of nuclear waste. Let us observe some sensible solution, but not this one!
67	8508	07-May-13	IDLE NO MORE
68	8466	07-May-13	Please consider the long term effects that will result from this action. Sustainable development practices are a necessary aspect of city/state/nation building. I urge the responsible parties to reconsider this proposal and revisit the possibilities that may be available to them. Cost effective dumping is a relative term - are you willing to pay the price for environmental, societal, and economic degradation that occurs from this irresponsible nuclear waste dump? Please use your foresight, power, and influence to stop this environmental atrocity.
69	8356	06-May-13	Burying nuclear waste does not happen in a vacuum. What is done in Canada affects all of North America AND the whole Planet!!! NO!!!! PLEASE do not do this to not only YOUR children, but do NOT do this to MY children and our grandchildren!!!!
70	8340	06-May-13	bury nuclear waste by fresh water ? water that we need to drink in order to live.... after all of those water conservation messages ... I don't think anyone has thought this through based just on that obvious point alone. do not do it
71	8338	06-May-13	I live on the edge of Lake Michigan. These valuable lakes must be taken care of to insure that clean fresh water is available to 40 million Canadians and Americans, plus countless species of wildlife. This is a life and death matter, not a political one. Stop the repository!
72	8319	05-May-13	fresh water is a concern for many people on the earth it is foolish to endanger ours, we have been truly blessed with large bodies of water and should do everything to protect them.....nuclear waste has no business near our life source!
73	7673	21-Apr-13	The solubility of Limestone in water means that this will ultimately leach the waste into the lake. This together with the proximity of the proposed waste site to the lake and our fresh water supply is grave concern to me. Dr. D.W. Stephan Professor of Chemistry University of Toronto
74	7339	16-Apr-13	As a geologist I am very aware that the proposed site threatens a vital water resource. As a citizen who lives only 15 miles from a Great Lake from which our water supply is derived, I am extremely concerned, and can not fathom that anyone would consider this.

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75	7166	13-Apr-13	nuclear waste has no business being dumped/hidden anywhere near waterways or where the waste could leach into the surrounding ground or the water tables underground. With all of OPG's money you just know they have the means to do research and to find an environmentally safe way to deal with the waste they manufactured.
76	6611	01-Apr-13	<p>What's the IQ level of OPG's people making this decision? Any group or individuals with any kind of "common sense" would realize burial in proximity of the great lakes is a bad idea. They don't know or can't guarantee proof beyond a reasonable doubt the public safety the consequences of this project. (for 100,000 years, yeh what a joke) (40 million people, do they really care?) Go Figure!</p> <p>Scarey thing of it is OPG is a Government agency just with a separate identity. The bottom line is going to be the accepting municipality will be bought by the almighty dollar regardless of the far reaching consequences down the road.</p> <p>I would also like to add that up until this time the issues surrounding the disposal of low/ intermediate waste and high level waste OPG and the nuclear industry has been safe sensible and reliable. Now for some reason maybe due to an urgent time frame agenda, etc. is OPG no longer going to uphold their environmental commitment nor be a trusted world Guardian? In the past OPG has been 100% responsible but everyone has to question their thought process on this one. `Who let the Rabid Dog Out?' Idle No More!</p>
77	6563	30-Mar-13	Humanity is in a pathological state of denial regarding the "safe" disposal of nuclear waste. It's high time we woke up!
78	6467	26-Mar-13	Canada is big enough to find someplace else for your waste. Stop threatening Michigan's shores!
79	6451	26-Mar-13	I am a proud Michigan resident who husband is serving in the USAF. We are planning to return to Michigan after retirement. Please do not make Michigan a dumping ground for toxic waste and ruin our beautiful Great Lakes!
80	6214	18-Mar-13	There is no plausible explanation for turning one of the seven wonders of the world into a nuclear waste hazard waiting to happen. Please be responsible for the benefit of the common man, who leaders are SUPPOSED to represent over any other thing. Thank you for your conscientious efforts!
81	6096	16-Mar-13	Go poison your own well.
82	6090	16-Mar-13	It defies logic that anyone would consider placing a nuclear dumpsite anywhere near any body of water let alone the great lakes..... No true Canadian would allow this to happen.
83	6035	15-Mar-13	There are a lot of lesser populated areas in the far north,very accessible,that should be used.This would not put the pollution of the great lakes,or a heavily populated area in jeopardy if a human error,or natural disaster should occur.

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84	5978	11-Mar-13	Why! WHY!
85	5911	10-Mar-13	What short sightedness, mortgaging future generations health for the expediency of a few dollars for a few thousand residents in the proximity of the "dump".
86	5906	10-Mar-13	This represents too great a risk to the environment and on health due to the length of time nuclear waste stays radioactive, uncertainty of long-term reaction and/or effects of nuclear waste when containers start to disintegrate over time, fault lines in the earth, protection of our environment to sustain life in future generations, etc., etc., etc.
87	5850	08-Mar-13	I encourage our elected leaders to set basic good example to our children and grandchildren about preserving a clean environment and not polluting life-sustaining resources. Please go back to the drawing board and come up with a clean plan that respects our right to clean safe water.
88	5786	08-Mar-13	Pull your head out of your ass Canada! I didn't go to Afghanistan to come home and watch you destroy the country I fight for!!
89	5725	07-Mar-13	Nuclear Waste should never be buried close to a living body of water. It just is not safe, no matter how often you repeat that it is. Even though this is a matter to be decided in Ontario, the lake water also affects the fishes and other lives in the lakes as well as the people in the U.S. Please don't let this happen
90	5525	05-Mar-13	My father retired in 1978 from being the Assistant Chairman and Legal Advisor to the Canadian side of the International Joint Commission. I guarantee, he would be appalled by this nuclear waste proposal, as am I.
91	5511	05-Mar-13	Limestone is too soluble in ground water.
92	5327	04-Mar-13	Michigan has already suffered many times with underground contaminated water, do we really want to risk it again..... I would hope not..... We should be stewards and guardians our lakes. It's not like we can just go get some more!!
93	5319	04-Mar-13	Fresh reliable clean water is one the things that define Canada. We are lucky that we have fresh water - it's vital to ensure we protect what we already have and make wise choices in preservation & protection of fresh water - the elixir of life.
94	5307	04-Mar-13	How about a little common sense here!
95	5208	04-Mar-13	I echo this sentiment: It defies common sense to bury the most toxic waste humans have ever created beside the Great Lakes, drinking water for 40 million people in two countries. No need for any further comment.

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96	5135	04-Mar-13	<p>No one should unknowingly or unwillingly be subjected to such imminent danger. Burying toxic waste so close to fresh water is folly at its most absurd.</p> <p>Most Canadians do not know about this plan and likely would never consent to it. Worse yet, future generations have the ability to do neither.</p>
97	5103	04-Mar-13	<p>This plan is a recipe for disaster, maybe not in the short term but definitely in the long term. Politicians tend to think in terms of four year periods - I'm deeply concerned about my children and grandchildren. We have to find another solution to "disposing of" nuclear waste- keep it away from highly populated areas.</p>
98	5065	04-Mar-13	<p>Human Error, Unforeseen Natural Disasters, Outright Incompetence (as seen in BP Oil Spill)...</p> <p>All will happen at some time...we cannot stand by and allow our most Precious Resource in the World be put at risk.</p>
99	5006	04-Mar-13	<p>Please don't allow the disposal of nuclear waste in the Great Lakes region. The stakes are too high, if radioactive pollution occurred it could deprive millions of people of fresh drinking water. Please Mr. Kent, use some common sense here !</p>
100	4962	04-Mar-13	<p>We are smarter than this...</p>
101	4953	03-Mar-13	<p>Absolutely embarrassing that this is even a possibility</p>
102	4915	03-Mar-13	<p>Locating a nuclear waste dump so close to Lake Huron, a geologically unstable area already experiencing glacial rebound will not contain the wastes for the millions of years necessary. In fact, it guarantees leakage and damage to our descendants</p>
103	4768	03-Mar-13	<p>If we fail to be the stewards of our earth, there will be no earth to steward. There are other options to store this waste. I implore you to find them and keep the Great Lakes safe!</p>
104	4759	03-Mar-13	<p>We must find a better alternative. This is unacceptable.</p>
105	4732	03-Mar-13	<p>I don't understand the short sightedness of people who willingly blind themselves to the nature of the truly evil deeds that they commit or support (such as burying human toxic waste for others to suffer from after they are gone). And if it is out of sheer ignorance, then their ignorance is not only appalling, but an inexcusable passivity for which they must be held responsible as much as if they knew and did nothing. Where will humanity go when the earth is poisoned? Where are the caretakers, the wise ones for our age? We the boomers are a huge population; if falls to us to be the caretakers, for the next generation. We have clout by our very numbers. Instead of chasing our own eternal youth and pleasure, we should be spending some of our energies as wise ones, protecting the youths of today and tomorrow by our very loud voice. Then we shall have spent ourselves well. Go to it, boomers! Lead the way.</p>

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106	4714	03-Mar-13	Is this another expedient industry and government solution, done at the expense of the public, now and for generations to come ? Please develop a healthier alternative !
107	4684	03-Mar-13	This would have to be one of the most irresponsible acts ever conceived. The Great Lakes are one of the most important resources we have. To allow an irresponsible organization like OPG to dump that filthy waste anywhere near our lake system is reprehensible!
108	4637	02-Mar-13	I live with the Hanford Nuclear Reservation in my state and constantly hear about the problems cleaning up this nuclear dump site (leaking tanks and all). It defies logic to dump nuclear waste near such an important body of water.
109	4562	27-Feb-13	The possibility of nuclear waste leaking in to Lake Huron, with its' attendant lawsuits, both Canadian and American should give you pause as to the efficacy of this idea. You should not approve this proposal as it is INSANE!!
110	4538	26-Feb-13	This is absolutely irresponsible. I think the Precautionary Principle should be employed here.
111	4520	26-Feb-13	Why isn't this on the news (every channel, every day) until we all know about it? Shame, shame, shame....
112	4427	23-Feb-13	Our sacred Great Lakes, our great national treasures, do not deserve to be dumping grounds for nuclear waste. In my own lifetime I have seen Lake Winnipeg (my childhood home) destroyed. We must make every effort to protect and save our water heritage...for the sake of the fish, birds and OUR CHILDREN!!!
113	4265	19-Feb-13	Water is LIFE!
114	4249	19-Feb-13	It is a criminally irresponsible act to put these perpetually hazardous wastes beyond human control, which is the ultimate intention. To jeopardize the Great Lakes watershed because of the engineering hubris of Canada's nuclear establishment would be unforgiveable.
115	4201	16-Feb-13	Common knowledge says this is a dangerous consideration.
116	4092	13-Feb-13	Money continues to flow, in the disguise of funding community programs, from the power authorities , Bruce Power, OPA, etc, to the potential "willing" communities. Draw you own conclusions
117	4083	13-Feb-13	If humans are so brilliant, we can come up with a much better solution than burying nuclear waste - especially near the Great Lakes!
118	3635	04-Feb-13	Minister Kent, I add my voice to the others who are begging you to think of not just this generation, or the next, or even seven generations. Your decision will affect more than a thousand generations to come. Our convenience now should compromise the lives and health of billions of people across more than a thousand generations - we need certainty not predictions about safe storage of nuclear fuel in such an important location for life.

No.	Petitioner	Date	Comment
119	3632	04-Feb-13	All life has a right to water that is uncontaminated. A nuclear waste facility near the Great Lakes endangers present and future generations and is completely and utterly irresponsible. Investors are losing heart in the nuclear industry - doesn't that tell us something?
120	3621	04-Feb-13	I find it incomprehensible that we should need to point out the sheer stupidity of burying radioactive garbage in the immediate proximity to the drinking water supply for 40 million people.
121	3608	04-Feb-13	<p>Dear Minister Kent,</p> <p>What a travesty it would be if the Federal government allowed a nuclear waste dump so close to the shores of one of our treasured Great Lakes, Lake Huron. Even if the dump is planned for low and medium non-fuel nuclear waste, should there be accidental releases these radio-nuclides last many thousands of years. And, no doubt if this dump is allowed NWMO will attempt to expand its mandate to include a high level nuclear waste -something we saw coming when NWMO expanded its search from the northern Precambrian shield area to south western Ontario Ordovician shale formations.</p> <p>These formations can experience "a sudden irreversible alteration, with low or moderate changes in temperature or stress" (J.F. Sykes, U of Waterloo #4 Science and Environment 2003- for NWMO) . If this happens, the consequences will drastically affect the lives and natural surroundings of millions of residents on both sides of the Canada/USA border for many generations.</p> <p>Gracia Janes, on behalf of the Provincial Council of Women of Ontario, backed by the National Council of Women of Canada, both of which have strong precautionary policies on nuclear issues.</p>
122	3562	02-Feb-13	FRESH WATER IS ALREADY SCARCE AS IT IS AND THIS WILL ONLY MAKE THINGS WORSE.
123	3543	01-Feb-13	The Great Lakes Basin is important to Albertans, too! Our country. Our continent. Our planet. Our grandchildren!
124	3503	30-Jan-13	As a former resident of Ohio near Lake Erie, I join in the movement to prevent nuclear waste anywhere near our Great Lakes. We almost poisoned our Lakes beyond recovery once before - let's not risk doing it again.
125	3362	28-Jan-13	The Great Lakes need our care and attention - this is not responsible.
126	3125	25-Jan-13	Think ahead 7 generations in all you do.
127	3087	24-Jan-13	I was told when I was young that this non-native society was better than that of my own Anishinaabe society. Let us see whether their scientists can make the waters as clean as they were when the European first came. I have heard much about how their science is superior and can do many things; let us see if it is true!

No.	Petitioner	Date	Comment
128	2992	23-Jan-13	Keep the radioactive waste where it is created - that way future generations will know where it is - instead of stowing it in underground caverns all of whose history will disappear over the thousands of years required for safety.
129	2744	20-Jan-13	a proposal that needs to be determined by experts and authorities much more educated in the environmental issues than local municipal politicians who have only short term community interests at heart.
130	2111	13-Jan-13	The same insane scheme we defeated in Port Hope in 1995, but on a far larger scale. They have never learned that nothing can be guaranteed beyond 500 years, and in fact, nothing can be permanently isolated from everything else. Everything in creation is interrelated and interdependent. They are clearly desperate to find a "solution" to the Pandora's Box they have opened. These Crazy Caverns must be stopped.
131	2094	13-Jan-13	I'm signing this Petition because it is our duty as Anishnabe People to help protect these Lakes! I don't believe a word OPG says, and they should be ashamed of themselves for using what people are always wanting and that's Money! I can't believe that this is a secure way to tend to this Toxic Garbage! No I refuse to let you money hungry people throw your toxic waste near our Lakes! I think it's all a lie what OPG states! It's not safe! How do we know this waste that lasts forever and kills everything not seep into our Lakes?? I say no to this waste dump! Not near our water!! What's wrong with you people??(OPG)?? Without this water alot of people would suffer! We were given this from Creator and our Duty is to watch over Mother Earth and all the beauty she provides! OPG you should be ashamed of yourself! Stay the Heck away from our water our beautiful lake!!!! No you can't have it!! Why don't you keep it in your basements OPG if you people think its that safe! Leave our water alone!! I know go give to Steven Harper let him sleep with it! IDLE NO MORE!!
132	1927	10-Jan-13	With the highly probable,virtual inevitability of future leachate from a radioactive nuclear repository situated adjacent to such an invaluable, strategically vital supply of fresh water, as a consequence, this proposal is the epitome of short-sighted expedience and stupidity.
133	1896	10-Jan-13	As a scuba diver, I know how precious our underwater ecosystems are and how easily they can be disrupted. Let's take the precautionary route here.
134	1840	10-Jan-13	I can't express strongly enough how much of a Bad Idea this is. This can not take place.
135	1699	07-Jan-13	As a councilor with South Bruce, a community involved for selection of the high level waste dgr, I continue to critically oppose any such project within the Great Lakes basin. Regardless of how much money they are throwing at us.
136	1693	07-Jan-13	I am delighted that people have taken the initiative and shown leadership in trying to fight this horrible situation. Good luck to all!

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137	1655	04-Jan-13	There is simply no way to guarantee the nuclear waste will not get into the land and Great Lakes water. The risk of such a project is too high.
138	1643	04-Jan-13	This is DISGUSTING!!! Get your act together!!!
139	1566	01-Jan-13	As a family physician I worry about the safety of the Great Lakes water supply for my current and future patients. A serious accident with these dangerous wastes could contaminate Great Lakes drinking water and fisheries far into the future.
140	1471	24-Dec-12	I was speechless when I read of this possibility of a nuclear dump in a location like that where even one unknown would constitute a risk. How can the OPG's application even be taken seriously? Because of potential consequences, it's insane to even consider such a thing. Do the right thing, Mr. Kent.
141	1290	18-Dec-12	Common sense dictates that you do not construct a DGR for nuclear waste adjacent to Lake Huron or anywhere near the Great Lakes. Todate there is no scientific proof anywhere in the world that proves the safety of a DGR. Why would anyone permit the "experimentation" this close to he Great Lakes.
142	1275	18-Dec-12	"Only two things are infinite: the universe and human stupidity, and I'm not sure about the former." -- Albert Einstein Are you Canadians REALLY that hell-bent on out-dumbing us Americans? What a source of national pride that will be! Cancel this project. NOW.
143	1270	18-Dec-12	Why? People talk about crimes against nature and crimes against humanity- -that is, what this would be.
144	1264	18-Dec-12	Our water source is too valuable to squander with thoughtless actions.
145	1195	17-Dec-12	My objections stem from the inadvisability of putting nuclear waste in porous rock, from the ecological sensitivity of the area and from the lack of confidence that a comment like "not likely" to affect the surrounding area. We have the technology to find a more secure containment area.
146	1191	17-Dec-12	Madness.sheer bloody MADNESS.
147	1025	16-Dec-12	I thought the Bruce Peninsula was supposed to be protected by our government as being a natural environment for us all to enjoy. This is why we bought our summer/retirement home there 34 years ago. Dumping Nuclear waste so near to one of our precious Great Lakes can only be an insane act of people with no vision of our future on this planet.
148	960	15-Dec-12	As a former Deputy Minister Environment (Ontario) I think the OPG proposal is very unwise.

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149	944	15-Dec-12	I am asking that there be no stone left unturned in protecting Lake Huron, a hugely valuable clean drinking water resource, from possible contamination now and for as far as we can manage into the future. Our lives and the lives of our children depend on it.
150	839	14-Dec-12	The nuclear waste should be put in a geologically safe repository. It should not be put near the great lakes or near any vulnerable watershed. Just because the nuclear facility is nearby is not a good enough reason for dumping it there. Find a safe place for this waste!
151	820	14-Dec-12	I do not believe in Nimbyism but this just looks like the quickest cheapest most irresponsible "solution " with far to high risks.
152	686	13-Dec-12	It is incredible hubris to pretend that we can maintain this site over deep time.
153	674	13-Dec-12	A Deep Geological Repository has NO place anywhere near the shores of Lake Huron or ANY one of the Great Lakes!
154	652	13-Dec-12	Ask any professional geologist, with even the best of seals, hydrocarbons can leak from depths of many km to the surface, sometimes at a rapid pace through natural faults and fractures that can be impossible to detect. Nuclear waste should be kept in man built facilities that can be monitored and away from major populations and certainly away from the great lakes.
155	590	13-Dec-12	I am not opposed to nuclear power, but we can manage production and waste management far more efficiently and safely than this. Think about it.
156	529	12-Dec-12	It is unacceptable to have this so close to the drinking water in the Great Lakes. More and more, we are now discovering how the promises of safety were repeatedly lies, and that safety is not at about safety, but about a decision that certain risks were acceptable so that somebody can be greedy. It is no longer acceptable to take risks that in time will harm the interests of the greatest number of people, and that is precisely the situation here. It is crazy, irrational, and ridiculous.
157	525	12-Dec-12	Environment Hamilton supports clean, green renewable energy. We are concerned about plans for underground deep geological storage of nuclear waste in the Great Lakes Basin.
158	456	12-Dec-12	Non à l'uranium, aux centrales nucléaires et aux déchets radioactifs. Au Québec 320 municipalités contre la filière uranifère, 4 compagnie uranifères mises à la porte par les citoyens. Au Québec nous n'en voulons pas, et nous n'en voulons pas pour tout le pays, qui est encore nôtre...
159	420	11-Dec-12	The Pre-Cambrian Shield is probably much safer than the permeable limestone here!
160	395	11-Dec-12	I am lost for words. This is crazy, too risky, too much at stake if something goes wrong. Once you put anything in the ground and you have a problem with it, you have a real problem.
161	196	09-Dec-12	This is a preposterous suggestion. Please find a remote location away from such significant and vital water source.

No.	Petitioner	Date	Comment
162	195	09-Dec-12	Surely in all of Canada a burial site can be found which is not in proximity with a huge, shared body of water which provides water for many in both countries!
163	169	09-Dec-12	I live in Kincardine Township and I know for a fact that most people have no idea how dangerous radioactive waste is . That is people in a nuclear town !! It proves the level of misinformation that is thrown at the people here . We have people walking around with dollar signs in their eyes and no clue what is at risk or that if something goes wrong here , just how much damage that will cause to soo many people!!! It's down right unconscionable !!!
164	164	09-Dec-12	minister, allowing a municipality of 11,000 persons, where clearly 60% plus owe their living to opg and bruce nuclear power, and with opg bribing the community with millions of dollars of hush money(hosting agreement to be more formal) is not a recipe for a truly rigorous and objective due diligence process which if there is a leak could impact 40 million people on both sides of the border. keep the waste above ground where it can be monitored or find a drainage which does not empty into the great lakes basin.
165	152	09-Dec-12	Some of these radioactive wastes proposed to be buried here will last far longer than recorded history. Many of them bioaccumulate and bioconcentrate in the food chain, which we utterly depend on - along with these irreplaceable fresh waters. Radioactive substances affect the health and future DNA of our communities, our ecosystems. What legacy will we leave the generations yet unborn? Fresh water is less than 1% of all water on earth and we must quit poisoning this precious water that all life depends on.
166	128	04-Dec-12	The risks are too many here. There has to be a better location than beside the great lakes. This will cause irreversible damage.
167	106	30-Nov-12	This must be stopped. It is unconscionable.
168	42	29-Nov-12	Human, animal, marine life. We are not expendable or disposable. The lakes are valuable water sources. Once destroyed they cannot be replenished. Protect our environment instead of causing the demise of our eco system.
169	14	27-Nov-12	More research has to be done to determine the long term effects of such a measure - we cannot just literally shove our garbage under the carpet and pretend to be unaware of the potential consequences. There has to be a better way.

Exhibit 2: Stop The Great Lakes Nuclear Dump Petition



STOP THE GREAT LAKES NUCLEAR DUMP

Petition published by [STGLND](#) on Nov 24, 2012



Target: The Honourable Peter Kent, Minister of the Environment

Region: [Canada](#)

Web site: www.stopthegreatlakesnucleardump.com

Petition Background (Preamble):

Ontario Power Generation (OPG), a multi-billion dollar power generation company, is seeking approval to **build a nuclear waste dump** (a Deep Geological Repository or DGR) 1 km from the shores of Lake Huron.

The Dump will extend underground to **approximately 400 meters from the Lake**. Some of this nuclear waste remains toxic and lethal for over 100,000 years.

Approval is anticipated within 9 months.

This dump puts at risk the fresh water of the GREAT LAKES, relied upon by 40 million people in two countries.

Any risk of buried nuclear waste entering the largest body of fresh water in the world is too great a risk to take, and need not be taken.

We can and must deliver an overwhelming wave of opposition to OPG's plan. Tell Minister Kent and the Canadian federal government to stand up for the protection of the Great Lakes.

Tell your friends on Facebook, Twitter and email.

Petition:

“We call on you to refuse Ontario Power Generation’s application to build an underground Deep Geological Repository for radioactive nuclear waste within the Municipality of Kincardine on the shores of Lake Huron that would threaten the drinking water of 40 million Canadians and Americans.

We stand with concerned citizens in opposition to the building of an underground nuclear waste dump anywhere in the Great Lakes Basin.”