

PMD 13-P1.166D

File / dossier : 8.01.07
Date: 2013-08-23
Edocs: 4190301

Supplementary Information

Oral intervention from Saugeen Ojibway Nation

In the Matter of

Ontario Power Generation Inc.

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

Joint Review Panel

September 16 to October 12, 2013

Renseignements supplémentaires

Intervention orale par Saugeen Ojibway Nation

À l'égard de

Ontario Power Generation Inc.

Étude proposée pour l'énoncé des incidences
environnementales pour l'installation de
stockage de déchets radioactifs à faible et
moyenne activité dans des couches géologiques
profondes

Commission d'examen conjoint

16 septembre au 12 octobre 2013

CEAA Registry Reference No. 06-05-17520

**Submissions of the Saugeen Ojibway Nation—Hearings for Deep
Geologic Repository Project for Low and Intermediate Level
Radioactive Waste—CEAA Ref. No. 06-05-17520**

**August 16, 2013
Toronto, Ontario**

TABLE OF CONTENTS

1. OVERVIEW	5
2. SON RIGHTS AND INTERESTS IN THE STUDY AREA	7
2.1. SON Are the People of the Anishnabekiing	7
2.1.1. SON’s Treaties and Relationship with the Crown.....	8
2.1.2. Recognition of SON Rights in the JRP Agreement.....	10
2.2. SON Culture and Identity Depend on Connection to Territory	11
2.2.1. Historic Relationship of SON to Their Territory	11
2.2.2. Recent Developments and the MEI Agreement.....	12
2.3. SON Commercial and Sustenance Fishery	13
2.4. SON Tourism and Recreational Use Economy	21
2.5. SON’s Future Depends on Health and Productivity of Territory	24
3. THE DGR PROJECT AND ITS THREAT TO SON.....	27
3.1. Project Creates Significant Potential Threats to SON	27
3.2. Stigma Effect from DGR Project.....	29
3.2.1. Requirements under CEAA and Guidelines	30
3.2.2. OPG’s Assessment and Conclusion on Potential Stigma Effects.....	31
3.2.3. Stigma Effects from DGR Project have not been Adequately Assessed	32
3.2.4. OPG failed to Consider the Extensive International Literature on Stigma	33
3.2.5. Failure to Consider Relevant Case Studies: Yucca Mountain, Nevada and Cumbria, England	34
3.2.6. OPG Performed Flawed Survey Work in Support of its Conclusions.....	40
3.2.6.1. Surveying Wrong Populations	40
3.2.6.2. Biased Survey Questions	42
3.2.6.3. Inadequate Survey Size and Geographical Scope.....	44
3.2.6.4. Unsubstantiated Methodology	45

3.2.7.	Stigma Effects will Cause Serious Adverse Impacts to SON Fishery and Tourism Economy.....	46
3.2.7.1.	The SON Fishery	46
3.2.7.2.	The SON Tourism Economy	50
3.3.	Impact on Fish, Fish Populations and Habitat	51
3.4.	Geology, Construction and Long-Term Performance	53
3.5.	Transportation Issues	55
3.6.	Connection Between the DGR and the HLW DGR.....	57
3.6.1.	Panel Decision Respecting the Consideration of the HLW DGR Project ...	58
3.6.2.	The HLW DGR Project Amplifies Risks and Harms to SON	59
3.7.	Harm to SON Identity, Spirituality and Connection to Territory	61
4.	OPG HAS NOT DEMONSTRATED THE TECHNICAL OR SOCIAL SAFETY OF THE DGR PROJECT	64
4.1.	Nature and Characteristics of DGR Project and its Risks.....	65
4.1.1.	Inclusion of Long-Lived Intermediate Level Nuclear Wastes.....	65
4.1.2.	Connection Between DGR Project and HLW DGR Project.....	70
4.1.3.	DGR Project Causes Serious and Permanent Harm and Risk to SON Rights and Interests.....	72
4.2.	OPG Required to Demonstrate Social Safety	74
4.2.1.	Requirements Under CEAA and the Guidelines	74
4.2.1.1.	Precautionary Approach.....	74
4.2.1.2.	OPG has Acknowledged the Applicability of Social Safety Requirements	76
4.2.2.	Requirements under Canadian and International Nuclear Waste Management Policy, Standards and Guidelines.....	77
4.2.3.	Legal Obligations to SON Under Law and Agreement.....	80
4.2.3.1.	Obligations Under Canadian and International Law	80
4.2.4.	Obligations Under Agreements between SON and Ontario	82
4.2.4.1.	Obligations Under the SON - Ontario Fishing Agreement (2013)	82
4.2.4.2.	Obligations under the MEI Agreement (2010).....	83

4.3.	OPG Failed to Demonstrate Social Safety	84
4.3.1.	OPG’s Alternatives Analysis	85
4.3.1.1.	Requirement to Assess Alternatives	86
4.3.1.2.	OPG’s Alternative Means Analysis was Deficient.....	87
4.3.1.3.	OPG’s Failure to Assess any Alternative Site	90
4.3.1.4.	Impact of OPG’s Failure to Consider Alternatives on SON Rights and Interests.....	93
4.3.2.	OPG Failed to Demonstrate SON or Public Support.....	95
4.3.2.1.	OPG’s Multiple Failures Have Undermined Confidence	95
4.3.2.2.	No Credible Demonstration of Support	96
5.	OPG’s COMMITMENT TO SON AND THE FUNCTION OF THE EA.....	98

1. OVERVIEW

The Saugeen Ojibway Nations (“SON”) are the Aboriginal people of the Bruce region, which they know as the Anishnaabekiing. SON have asserted and proven Aboriginal and Treaty rights throughout their Traditional Territory and continue to rely on this territory for their economic, cultural and spiritual survival. SON’s Traditional Territory, including their large reserves, is also the basis of significant and growing commercial fishing and tourism economies. Since time immemorial, SON’s identity, well-being and very existence has relied on the lands and waters of the Anishnaabekiing, and it continues to do so to this day.

Ontario Power Generation Inc. (“OPG”) has proposed to build a deep geologic repository for the permanent disposal of low and intermediate level nuclear wastes (“DGR Project” or “Project”) at the Bruce Nuclear site, in the heart SON’s Traditional Territory. SON has consistently expressed a fundamental and abiding concern that the DGR Project poses a grave threat to its peoples’ rights, interests and way of life. Concerns arise from the untested nature of the technology being used and the permanent—and irreversible—changes the Project will bring to SON Traditional Territory.

SON has particular concerns that OPG has not yet studied or understood many significant potential risks created by the Project and their impact on SON rights and Traditional Territory, including the strong potential for stigma impacts to their fishery and tourism-based economies. Another principal concern remains that the DGR Project has not been understood in the context of existing nuclear issues at the Bruce Nuclear site, including its connection to the long-term management plan for spent nuclear fuel. These concerns have resulted in a significant lack of confidence in the development process for the Project and an overall anxiety about the threat it poses to the SON people.

OPG was obligated to fully identify and address these issues under the terms of the *Canadian Environmental Assessment Act* (“CEAA”) and the Environmental Impact

Statement Guidelines (“the Guidelines”) for the Project. OPG has failed to adequately identify, understand and address these concerns. Consequently, the evidentiary record before the Panel is incomplete and provides an insufficient basis on which to recommend approval of the Project at this time.

Further, because of the unique characteristics of the Project—including OPG’s inclusion of long-lived intermediate level wastes, its connection to a future project for disposal of spent nuclear fuel and its potential for serious adverse affects on SON rights—OPG was required to plan for, site and develop its Project using a precautionary and adaptive phased management based approach. This required OPG to demonstrate, among other things, a robust and credible alternative means analysis and a demonstration of public confidence and support for its Project. Due to the potential for significant impacts on SON rights, and the special obligations owed to SON under law and by agreement, OPG was required to demonstrate SON community confidence, acceptance and ultimately support for the Project.

OPG has now recognized this requirement and has committed to SON that it will not proceed with construction of the DGR Project until such time as the SON community is supportive of the Project. This commitment was made by letter, dated August 7, 2013, from OPG President Tom Mitchell to the SON Chiefs.¹ SON commends OPG for taking this positive and necessary step. Only through the fulfillment of this commitment and the implementation of a process between SON and OPG to fully identify and address SON community concerns, leading to a clear demonstration of support by the SON communities, can the DGR Project be approved and proceed to licensing, and ultimately construction.

¹ Letter from Tom Mitchell (President, Ontario Power Generation) to Chief Arlene Chegahno (Chippewas of Nawash Unceded First Nation) and Chief Randall Kahgee (Saugeen First Nation), August 7, 2013 (“Mitchell Letter”).

2. SON RIGHTS AND INTERESTS IN THE STUDY AREA

2.1. SON Are the People of the Anishnabekiiing

SON is comprised of the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation. The lands that comprise SON Traditional Territory extend east from Lake Huron to the Nottawasaga River and south from the northern tip of the Saugeen Peninsula (also known as the Bruce Peninsula) to the Maitland River system, eleven miles south of Goderich. The waters that comprise SON Traditional Territory are the waters surrounding these lands and include the lakebed of Lake Huron from the shore to the international boundary with the United States and the lakebed of Georgian Bay to halfway across the Bay.² Various agreements with the Government of Ontario and with public and private industry proponents have expressly acknowledged these lands and waters as comprising SON's Traditional Territory.³ The SON communities occupy large, unceded communal lands (reserves) bordering Lake Huron and Georgian Bay and SON also has exclusive use of a large hunting reserve in the northern part of the Saugeen Peninsula.

SON and their ancestors have occupied these lands since time immemorial. As set forth in the affidavit of Chief Randall Kahgee, “[t]he undisputed historical evidence . . . establishe[s] that for centuries prior to the arrival of European settlers, the Saugeen Ojibway had occupied a vast area of what is now southwestern Ontario, encompassing all of what was known as the Saugeen, now the Bruce Peninsula, and including the area south of Georgian Bay and extending west to the eastern shore of Lake Huron.”⁴

² The SON Traditional Territory map is appended to the MEI Agreement between SON and the Ministry of Energy and Infrastructure in Right of Ontario, signed January 2010 (the “MEI Agreement”). It is also included as part of the EIS as figure 6.9.2-1.

³ For example, the MEI Agreement and the Agreement to Establish a Joint Review Panel for the Deep Geologic Repository Project by Ontario Power Generation Inc. within the Municipality of Kincardine, Ontario, dated December 2008 (the “JRP Agreement”).

⁴ *R. v. Jones and Nadjiwon*, [1993] 3 C.N.L.R. 182 at para. 44, including the area south of Georgian Bay and extending west to the eastern shore of Lake Huron.”

SON's Aboriginal and Treaty rights entitle them to be sustained by the lands, waters and resources of their Traditional Territory. SON has the right to protect and preserve their Traditional Territory to ensure that it will be able to sustain their future generations.

SON assert that their rights include, but are not limited to:

- The right to continue to be a distinct people living within their Traditional Territory;
- The right to maintain their culture, language and way of life;
- The right to be sustained by the lands, waters and resources of their Traditional Territory;
- The right to the exclusive use and occupation of their communal lands;
- The right to continued use of all of their Traditional Territory;
- The right to harvest for sustenance, cultural and livelihood purposes;
- The right to be meaningfully involved in decisions that will affect their Traditional Territory so that they can protect their way of life for many generations to come; and
- The right to be the stewards of their Traditional Territory.⁵

2.1.1. *SON's Treaties and Relationship with the Crown*

SON have signed numerous treaties with the Crown. These treaties are foundational promises and commitments that created a sacred and enduring relationship between SON and the Crown that exists to this day. These treaties are solemn agreements that allow others to share the use of SON lands while protecting and preserving SON rights to use and rely on those lands for all time and in the way they always have.

Notable among the treaties and commitments made by the Crown to SON is the Royal Proclamation of 1763. The Proclamation was a promise by the Crown (in the person King George III) to protect Aboriginal lands, including SON territory, from encroachment by non-Aboriginal settlers.⁶ The Proclamation was issued at a time when Aboriginal people held the balance of power in the Great Lakes region, and clearly

⁵ Affidavit of Randall Kahgee, August 15, 2013 ("Kahgee Affidavit"), at para. 50.

⁶ Royal Proclamation of 1763 (attached as Exhibit "B" to the Kahgee Affidavit).

recognized Aboriginal ownership of their traditional territory as a pre-existing interest that co-existed with any assertion of Crown “sovereignty.”

In 1764, Crown representatives met with more than 1,500 Anishnabek Chiefs and warriors at Niagara Falls, including the leaders of what would become SON. The Royal Proclamation was explained as a fundamental commitment to treat Aboriginal peoples with honour and justice. It was stated that the Crown only required the “eastern corner” of the Great Lakes, and that the Anishnabek would flourish with the British as their allies. These commitments—called the Treaty of Niagara—were entered into as an agreement between equals and sealed by the delivery of two wampum belts.⁷

After the Treaty of Niagara, SON ancestors signed a number of other major treaties with the Crown. In these treaties the Crown recognized SON rights throughout their Traditional Territory and set aside large unceded communal lands for their exclusive use and occupation. Of particular significance are Treaties 45½ and 72. Treaty 45½ was signed in 1836 under the threat of ever increasing encroachment by non-Aboriginal settlers and the government’s professed inability to prevent it. SON ancestors agreed to a surrender of 1.5 million acres of their lands south of the Saugeen Peninsula in return for, among other things, a promise by the Crown that it would protect the Saugeen Peninsula and surrounding islands and fisheries from further encroachment. This promise was not kept. In 1854, Treaty 72 was entered into under similar circumstances of encroachment on SON territory by settlers and was again signed in return for the same promises by the Crown to protect what remained of SON land. Pursuant to Treaty 72—the validity of which has been questioned by SON in a pending lawsuit—the majority of land on the Saugeen Peninsula was surrendered, with the exception of SON Communal lands.

⁷ Treaty of Niagara, 1764 (attached as Exhibit “B” to the Kahgee Affidavit).

2.1.2. *Recognition of SON Rights in the JRP Agreement*

In the JRP Agreement, the constituting agreement for these proceedings, the rights and central role of SON are acknowledged. The preamble to the JRP Agreement states:

Whereas the Project would be carried out within the area that the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation (collectively referred to as the SON) identify as Anishnaabekiing, the specified territory they identify that they have traditionally used and occupied;

Whereas the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation have expressed concerns that the Project might adversely affect potential or established Aboriginal rights, title or Treaty rights they assert in that area;

Whereas the Minister and the Commission acknowledge that a duty to consult arises when the Crown has knowledge, real or constructive, of the potential existence of Aboriginal rights, title or Treaty rights and contemplates conduct that might adversely affect it;

Whereas an environmental review of the Project by a Joint Review Panel is an important source of information about effects the Project may have on the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation's potential or established Aboriginal rights, title or Treaty rights, and would therefore support ongoing consultations between the Crown and the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation related to the Project.⁸

The JRP Agreement's recognition of the centrality of SON rights to this review process could not be more clear. Additionally, the mandate of the JRP, as described in the JRP Agreement, specifically identifies the rights of SON:

4.1 The JRP shall conduct the Review in accordance with the Terms of Reference attached as an Appendix to this JRP Agreement in a manner that:

- a) Discharges the requirements set out in the CEAA;
- b) Permits it to obtain the information and evidence required for it to consider the License Application under the NSCA; and,
- c) Permits it to obtain information and evidence about the adverse effects the project may have on potential or established Aboriginal rights, title or treaty

⁸ JRP Agreement, Preamble.

rights as identified to the JRP by SON and enables it to bring any such information and evidence to the attention of the Minister of the Environment and the Responsible Authorities for the Project in support of consultation between the Crown and SON.⁹

2.2. SON Culture and Identity Depend on Connection to Territory

2.2.1. Historic Relationship of SON to Their Territory

SON continue to rely extensively on their Traditional Territory for survival spiritually, culturally and economically. As explained by Chief Randall Kahgee:

Our identity as an Aboriginal people grows out of our relationship and connection to our territory. Our people have a fundamental and unbroken connection to our Territory, and we continue to depend on our lands for our survival economically and spiritually. We continue to define ourselves as a people through our connection to our lands.¹⁰

This explanation from Chief Kahgee aptly summarizes the deep, and abiding, connection of the people of the Saugeen Ojibway Nations to the Traditional Territory in which they have lived, and continue to live, since time immemorial. Chief Kahgee went on to explain that:

We use and occupy the Anishinaabe-aki now as our ancestors did, in a variety of ways and for many purposes, including hunting, fishing and gathering for sustenance, healing, cultural and trade purposes. It is the source of our identity as Aboriginal peoples, and the base for our cultural activities and spiritual ceremonies. We rely on its resources to support ourselves economically. We continue to exercise governance functions and stewardship, in order to protect the territory and ensure its ongoing ability to sustain our People.¹¹

In short, SON has maintained its culture, use and reliance on its Traditional Territory for millennia. This connection has been maintained notwithstanding centuries of

⁹ *Ibid.*, s. 4.1.

¹⁰ Kahgee Affidavit, at para. 21.

¹¹ Kahgee Affidavit, at para. 26.

encroachment by non-Aboriginal settlers and centuries of government action (and inaction) intended to impair and degrade SON's relationship to its Traditional Territory.¹²

2.2.2. *Recent Developments and the MEI Agreement*

After decades of having SON rights and interests in its Traditional Territory ignored or undermined by government, the Government of Ontario has at last begun to take affirmative steps to recognize and enhance the rights of SON in its Traditional Territory. In 2010, SON and the Government of Ontario committed to carrying out a first-of-its-kind study to understand and document SON historical, ongoing and future uses of land within SON Traditional Territory. This unprecedented study—called the “Natural and Cultural Values Study” (“NCVS”)—is a collaborative project between SON and the Government of Ontario. The commitment to undertake the Natural and Cultural Values Study is enshrined within the MEI Agreement,¹³ an agreement between SON and Ontario Ministry of Energy and Infrastructure, signed in January 2010, setting out a number of protection and accommodation measures relating to energy development initiatives within SON Traditional Territory.

This Natural and Cultural Values Study will include research into and analysis of historical, current and future aspects of:

- SON uses of land, water and resources with the area for spiritual and cultural purposes;
- SON harvesting for both traditional and sustenance purposes, and commercial purposes;
- Other economic purposes consistent with SON's historical reliance on the territory to support its culture;
- Existing measures of environmental protection such as protected lands, wetlands; and
- Natural heritage features.¹⁴

¹² See generally the Kahgee Affidavit and the Affidavit of Paul Jones, August 15, 2013 (the “Jones Affidavit”).

¹³ MEI Agreement, attached as Exhibit “C” to the Kahgee Affidavit.

¹⁴ *Ibid.*, ss. 24-27.

The Government of Ontario and SON have committed that the results of the NCVS will inform future consultations and decision-making processes between SON, government, energy planners and energy developers, with respect to, *inter alia*, future energy projects, future transmission expansion in SON Traditional Territory and potential energy development in the waters of SON Traditional Territory.¹⁵

SON and Ontario have engaged researchers from the University of Guelph to carry out preliminary scoping work for the NCVS. A draft proposal is now before the parties. Ontario and SON are still in discussions about securing the appropriate funding, which Ontario is committed to providing under the terms of the MEI Agreement. SON expects that substantive work on the study will begin soon once administrative issues are finalized.

The MEI Agreement, and the NCVS required thereunder, demonstrates a clear recognition by the Government of Ontario of the deep, abiding and profound relationship of SON's people to their Traditional Territory and of the need to protect, preserve and enhance that relationship. The as-yet-uncompleted NCVS further demonstrates that many questions about SON's rights and traditional land use remain unanswered and demonstrates the need to minimize activities in SON Traditional Territory until those rights and uses are more fully explored, explained and understood.

2.3. SON Commercial and Sustenance Fishery

SON have a proven and exclusive Treaty right to a commercial fishery in the waters of Georgian Bay and Lake Huron, within SON Traditional Territory, including all the waters in and around the Study Area and a significant area adjacent to the Study Area. SON and their ancestors have been fishing these waters for sustenance and as the basis of

¹⁵ *Ibid.*, at ss. 28-35.

trade and commerce for many hundreds of generations, and they continue to do so today. This fact has been recognized by the courts and by the Crown.

The EIS describes the SON sustenance and commercial fishery at section 6.9.8. As noted in the affidavit of Councilor Paul Jones of Nawash, however, the description of the SON fishery in the EIS is fundamentally inadequate and without the necessary historical or contemporary context. As explained by Councilor Jones:

I have read OPG's description of our fishery. That description tells a stark and sad story—of a small and diminishing fishery. Maybe it is even intended to imply that this fishery is not worth protecting, or could easily be compensated for if lost. It is typical attempt to understand and quantify a fundamental part of our culture in terms of western science and economy.

But OPG's understanding of our fishery is impoverished. It fails to describe or understand the central role of our fishery in our culture and our economy. It fails to lay out the historical context which explains the current state of our fishery. It fails to tell the story of the hardships and constant struggles our people have faced to protect our right to fish. And it fails tell the story of the victories we have won in the courts and at the negotiating table, and the new future we have committed to with Ontario to restore our fishery to its central place in our culture and economy.¹⁶

As explained by Councilor Jones, the SON commercial fishery had been decimated as a result of several factors, including (i) overuse of fish stocks in Lake Huron and Georgian Bay by non-Aboriginal fishers, (ii) government action and (iii) exclusionary legislation. SON fishers were consistently, and systematically, prevented from exercising their rights and carrying out an economic activity that had sustained SON people for countless generations. Councilor Jones states:

For our ancestors and our Chiefs, the preservation of our fishery has always been a constant and singular concern. Commencing in the mid 1830s, the Province of Upper Canada sought the surrender of the Saugeen Territory. Even at this early stage, our people could see the growing threat to our use and reliance on the fishery posed by European encroachment. It was this encroachment and the

¹⁶ Jones Affidavit, at paras. 16-17.

long series of Crown actions and inactions in response that was the beginning of erosion of our rights and our fishery, notwithstanding promises to the contrary.¹⁷

The affidavit of Councilor Paul Jones sets out a very detailed account of SON's historical fight to have its rights and resource protected. Justice Fairgrieve, in the *R v. Jones and Nadjiwon* case, described the effect of the governmental legislative history to exclude and separate the SON from their fishery as follows:

What the evidence disclosed was a relentless, incremental restriction and regulation of the admitted aboriginal right, despite continuing protests, petitions, objections and resistance by the defendants' band. Much of the conflict appeared to have its source in the apparently inadvertent failure of the first Fishery Act to make any special provision for the treatment of native fisheries or existing treaty rights. The evidence documented as well a protracted intragovernmental policy clash between Fisheries and Indian Affairs. The former generally prevailed, and the fisheries came under increasingly stricter controls.¹⁸

By the end of the 1980s, SON communities were consistently excluded from the waters of their Traditional Territories and were being prosecuted for merely attempting to exercise their rights.¹⁹ October 13, 1989, Ross Forgrave, a Warton Justice of the Peace, forced eleven Nawash fishermen, including the Nawash Chief and elders, to stand for 45 minutes as he lectured them about fishing in excess of the meager Ministry of Natural Resources ("MNR") quota. He portrayed them as thieves, greedily taking too many fish. He imposed fines totaling \$32,000 plus jail time (\$200 and 30 days for one fisherman, who caught 9 fish). Paul Jones recalls these fisherman being called "rapers and pillagers" for simply seeking to survive by fishing the waters of their Traditional Territory.

Councilor Jones explains that the community had tolerated their rights being ignored for long enough, and a group of fisherman approached SON Joint Council urging that, rather than being under the constant threat of charge and imprisonment, SON should resolve

¹⁷ Jones Affidavit, at para. 22.

¹⁸ *Jones and Nadjiwon*, at para. 60.

¹⁹ See generally the Jones Affidavit.

their rights once and for all.²⁰ In 1989, Chief Howard Jones and Francis Nadjiwon were charged with fishing without a license and the sale of lake trout in excess of that which was allocated to SON. Nawash Band Council made the decision to divert resources out of the very limited programs and services budget of the community to assist Chief Jones and Mr. Nadjiwon in their defence. The cost of the defending Chief Jones and Mr. Nadjiwon was almost \$500,000.

On April 26, 1993, Mr. Justice Fairgrieve of the Ontario Court of Justice issued the *R v. Jones and Nadjiwon* decision. This decision recognized SON's Aboriginal and treaty right to commercially fish within their Traditional Territory. As a direct result of this judicial affirmation of SON's fishing rights, a series of negotiated agreements between SON and the Government of Ontario were entered into.²¹ Councilor Jones explains that, "[o]ur position was simple: while we did not need an agreement to fish, an agreement would stabilize our relationship with the Crown and bring some peace to our communities. It would also help us rebuild our fishery, reversing years of damage."²²

On June 22, 2000, SON signed an agreement with MNR and Indian and Northern Affairs Canada ("INAC"). The specific terms of the agreement are confidential, but it contained the following key components:

- It more broadly defined the waters for SON fishing within their Traditional Territory, allowing for broader SON commercial fishery than what had been allocated under the previous licensing scheme employed by MNR;
- It ensured that the fishery would be protected by the application of sound science to the setting of safe harvest limits and that SON would be an active participant, and not a mere "stake-holder," in determining the quota that was allocated; and

²⁰ *Ibid.*

²¹ Jones Affidavit, at paras. 53-84. Among these were two "interim" agreements that SON negotiated with the Government of Ontario, which set out measures of protection for SON's fishing rights and measures aimed at protecting the resource.

²² Jones Affidavit, at para. 61.

- It provided for a mechanism by which SON could better assess the fishery by providing for the exchange of data between SON and MNR, and by securing a funding mechanism for this exchange of data.²³

While this agreement provided some measure of protection, it did not create mechanisms sufficient to allow SON to rebuild their commercial fishery in order to, as Councilor Jones says, “restore our fishery to the centerpiece of our culture.”²⁴

In April 2011, SON and Ontario began negotiations towards a substantive fishing agreement that would ensure enduring protection of both the SON right to fish and the resource itself. On August 27, 2011, SON and MNR executed a foundational Framework Agreement to assist the parties in negotiating a long-term substantive fishing agreement.²⁵ That agreement contained several important principles:

- A new relationship with a willingness to build a more positive and better future for the parties;
- Mutual respect created through a willingness to act in good faith and in a manner respectful of each other;
- Mutual participation in implementing mechanisms that achieve further participation by both parties in decisions about commercial fishing in the waters
- The agreement is based on a Government to Government relationship in which SON decision makers would sit directly with MNR decision makers; and
- It created a Governance Committee comprised of SON and Ontario leadership to implement the objectives, commitments and responsibilities set out in the framework agreement.²⁶

²³ Jones Affidavit, at para. 63.

²⁴ *Ibid.*, at para. 105.

²⁵ *Ibid.*, at paras. 75-81.

²⁶ *Ibid.*

The Framework Agreement also made commitments to deal with specific key issues, including:

- Mutual economic benefits;
- Capacity for SON to allow for reconciliation to continue;
- The mutual setting of safe harvest limits based on sound science and not the unilateral allocation of quota under a licensing regime;
- A commitment to study and address the impacts of MNR stocking programs in the waters of Lake Huron;
- The sustainability of the fishery and the waters that support it; and
- The engagement of the Federal Crown.²⁷

On January 24, 2013, SON signed a final substantive Agreement with Ontario (MNR). This Agreement incorporates and implements the commitments and obligations contained in the August 2011 Framework Agreement. It contains Schedules relating to (i) incorporation of the Framework Agreement (Schedule “A”); (ii) the waters covered by the agreement (Schedule “B”); (iii) fishing within the waters (Schedule “C”); (iv) total allowable catch and data exchange (Schedule “D”); and (v) a compliance protocol for SON and non-aboriginal fishers (Schedule “E”).²⁸ The Agreement also contains terms of reference for working groups on (i) Capacity and Economic Development; (ii) Expert facilitation for TAC Determination; and (iii) Expert Facilitation Regarding Fish Stocking.²⁹

Importantly, the January 2013 Agreement also contained provisions for SON and Ontario to work collaboratively to rebuild the SON fishery by creating a high value, vertically

²⁷ *Ibid.*

²⁸ *Ibid.*, at para. 85.

²⁹ *Ibid.*

integrated fishery with the aim of maximizing economic benefit to the SON communities.³⁰

The Capacity and Economic Development Working Group has been established as a collaborative effort between SON and Ontario to develop plans to derive greater economic benefits from the fishery through vertical integration.³¹ This will include efforts to identify and provide for: (i) equipment requirements of SON; (ii) cold storage needs; (iii) processing of fish; (iv) marketing of fish; (v) distribution of fish to the market; (vi) enhancement of revenue for SON processed fish; (vii) employment and training; (viii) costs necessary to address the capacity needs of SON in an economically viable and self-sustaining commercial fishery. In addition, the terms of reference for this Working Group require the identification of the necessary agencies (governmental and non-governmental) to support and implement the terms of reference, and the necessary capital required for implementation of the business plan by the Governance Committee.

Councilor Jones explains that the significance of these efforts and the Working Group is that:

[P]roperly implemented over the long term, this economic working group can restore our fishery, undoing the effects of our historical exclusion, and make it a center piece of our economy, as it once was . . . Our fishing agreements with Ontario set out the foundation for SON, working with Ontario, to rebuild our fishery from the decades' long history of destruction caused by encroachment by European settlers and government actions. This long process of rebuilding is now beginning. Under the 2013 Agreement, for the first time, we can and will restore the fishery to its rightful place within our economy so that it will no longer be the case that only a few fishermen can survive from fishing, but rather that many SON members will be support by our fishery, whether through catch, assessment, processing, marketing or distribution.³²

³⁰ *Ibid.*, at para. 89.

³¹ Jones Affidavit, at para. 94.

³² Jones Affidavit, at para. 92.

It must be noted that despite these recent efforts to rebuild the commercial fishery and maximize economic benefit, to the SON people the value of their fishery—even their commercial fishery—cannot be understood in simple economic terms. As Councilor Jones says, “the right for any SON member to go to the water to catch a fish to feed his or her family, or to make a living, is a right that cannot be assigned an economic value. Rather, it is fundamental to who we are as a people . . . [t]hese lands and waters are part of our belief system; they are not just ‘rights’ which are inalienable to our people. This is engrained in our prayers to the creator in regard to the spirits in the lands and waters.”³³

SON has undertaken enormous efforts politically and legally to protect its rights and the fishery itself. SON has intervened in almost every significant regulatory proceeding respecting industrial projects and plans that stood to affect the waters, fish or fish habitat of Lake Huron and Georgian Bay.³⁴

It is the view of SON that their commercial fishery is the basis of a renewed economy for their people and communities. They have fought many decades to protect their right and the resource. SON has just now created the conditions that will allow them to restore their fishery:

Our goal is to preserve our ability to live off our fishery, as our people always have. The fight for our inherent aboriginal and treaty rights has come at an enormous cost to our communities. But today, for the first time in our recent history, we believe we are on the road to rebuilding our fishery because of 150 years of work and a newly signed 2013 Substantive Fishing Agreement SON negotiated with the Province of Ontario. We are doing so primarily under the terms of that Agreement, while at the same time another arm of the Ontario government is seeking to bury nuclear waste within hundreds of meters from our waters and important spawning grounds.³⁵

³³ Jones Affidavit, at para. 20.

³⁴ See generally Jones Affidavit.

³⁵ Jones Affidavit, at para. 8.

SON communities have expressed a deep and persistent concern that the DGR Project threatens to undermine these efforts and threatens to fatally harm their commercial fishery:

[W]e believe, and have reason to believe, that the DGR could strike a fatal blow to our fishery. The burial of nuclear waste at the shore of Lake Huron will stigmatize our fishery, will increase development with our territory, and will ultimately increase stressors on the waters of Lake Huron to the detriment of our commercial fishery and our connection to the lands and waters. Should the Panel approve OPG's plan, and the DGR is built, the decision will be irreversible and will change our territory forever.³⁶

The mere possibility of the DGR Project may undermine SON efforts to attract investments needed to rebuild their fishery. As Councilor Jones says, "I worry that nobody will be willing to make these investments if they fear there will be no market at the end of the day if fish from Lake Huron become stigmatized as 'fish from the nuclear waste dump.'"³⁷

2.4. SON Tourism and Recreational Use Economy

SON's communal lands and Traditional Territory have developed over time to include a thriving recreational leasing and tourism economy. This economy has become a critical component of the SON economy, and stands to increase in absolute and relative importance into the future.

As discussed in the report on SON's tourism business,³⁸ Saugeen First Nation operates a profitable cottage leasing business, with over 1,200 cottages available on or near the shore of Lake Huron. Rental rates range between \$750 and \$1,250 per week. The business generates \$33 million in private incomes annually an additional \$7.4 million in revenues to Saugeen First Nation. Saugeen First Nation's cottage income represents

³⁶ Jones Affidavit, at para. 10.

³⁷ Jones Affidavit, at para. 99.

³⁸ Daniel Charles Mussatti, "SON and Tourism" (August 15, 2013) ("Tourism Report").

approximately 30 percent of SFN's annual budget. Many of the individual Saugeen members of who derive income from leasing activities have limited alternative income sources on the reserve.³⁹

In addition, the Saugeen communal lands contain the vast majority of what is referred to as Sauble Beach, one of the premier beach locations and tourism attractions in Ontario. This area draws hundreds of thousands of visitors each year, from which the SON community derives significant economic benefit. The Saugeen First Nation plan to continue to increase the value of this resource for the economic benefit of its members.⁴⁰

The Chippewas of Nawash have approximately 500 cottages for lease along the shore of the Georgian Bay, as well as the Cape Croker Indian Park camping grounds, which attracts between 3,000 and 4,000 visitors annually. The Nawash cottages rent for between \$650 and \$1,000 per week. Park rates range from \$30 to \$40 per night for campsites and cabins are \$65 per night. In 2012, the Park accommodated about 125 seasonal campers, 5,000 to 10,000 overnight campers and 1,000 to 2,000 weekly visitors. From all sources, the Nawash camping and leasing activities generated approximately \$1 million in income.⁴¹

As explained in the Tourism Report, the ongoing viability of the SON recreation and tourism economies is dependent on the unique natural characteristics of the Saugeen Peninsula and Lake Huron and Georgian Bay. These areas are still marked by exceptional natural beauty and diversity. The Saugeen Peninsula is home to two national parks, eight provincial parks, and four Federation of Ontario Naturalists Parks. Parks Canada describes the region as:

In the heart of a World Biosphere Reserve, the 'Bruce' is place of global significance. Thousands of visitors come each year to experience the massive,

³⁹ *Ibid.*, at p. 8.

⁴⁰ Kahgee Affidavit, at para. 22.

⁴¹ Tourism Report, at p. 8.

rugged cliffs of the park, inhabited by thousand year old cedar trees, overhanging the crystal clear waters of Georgian Bay. The park is comprised of an incredible array of habitats from rare limestone barrens to dense forests and clean lakes.⁴²

In 2010, almost 1.5 million people made visits to Bruce County and spent roughly \$169 million, including \$41 million on accommodation. The vast majority of these visitors are considered “eco-tourists,” meaning they are drawn by outdoor/nature-related amenities. Particularly relevant to the proposed DGR, visitors to the Saugeen Peninsula regularly rank water-centred activities as their primary reason for visiting (boating and fishing), underscoring the importance of Lake Huron’s pristine waters to the perceived value of visiting the Peninsula.⁴³

SON’s recreational and tourism based economy is already a critical component of the overall economic sustainability and well-being of the SON communities. It is a significant way in which the SON Territory supports and sustains the SON people. As Chief Kahgee states in his affidavit: “our Aboriginal and Treaty rights entitle us to be sustained as Aboriginal Peoples by the lands, waters and resources of our territory, and to protect our territory to ensure that it will be able to sustain us far into the future . . . [t]he rights recognized in our Treaties are not frozen or predetermined. They evolve to allow us to exercise our essential rights and practice our way of life as Aboriginal Peoples in a modern context.”⁴⁴ Consequently, a threat to the ongoing viability of the SON Territory to sustain an tourism based economy—*i.e.* as a result of adverse impacts from a DGR related stigma—would compromise SON’s ability to continue to be sustained by their Territory. This, in turn, would represent a profound impact on the SON as people. “If we

⁴² See Parks Canada/Bruce Peninsula National Park of Canada: <http://www.pc.gc.ca/eng/pn-np/on/bruce/index.aspx>. (August 14, 2013).

⁴³ Tourism Report, at pp. 1-3.

⁴⁴ Kahgee Affidavit, at paras. 48-49.

were every required to leave our Territory, if our lands and water could no longer sustain us, it would be the end of us as a people.”⁴⁵

2.5. SON’s Future Depends on Health and Productivity of Territory

The continued sustainability of SON is dependent on the lands and waters of their Traditional Territory. SON people define themselves through their place on the land and their connection to the land. Councillor Paul Jones recounts how his father explained the SON connection to their lands and waters:

My elders told me that our land is sacred to all the Ojibway. Aishinaabek surround the Great Lakes. I heard stories of how the Ojibway used to have their sacred ceremonies on the Bruce Peninsula. When they had their sacred ceremonies they could hear the heartbeat of the earth – the wave at Lake Huron against the Bruce Peninsula.⁴⁶

Chief Randall Kahgee explains, “[m]ost significantly, however, our people and communities rely on our Territory for our cultural identity—the Saugeen Ojibway people and our culture cannot be separated from this place.”⁴⁷ Chief Kahgee quotes Professor Darlene Johnston, a Nawash member, during her expert testimony at the Ipperwash Inquiry as saying: “for the Anishnaabeg, the Great Lakes region is more than geography. It is a spiritual landscape.”⁴⁸ During that inquiry, Professor Johnston spoke of the connection between SON people and the land:

Professor Johnston explained the connection between totemic identity and the soul that remains with the body. The Aboriginal people in the Great Lakes area have a totemic or clan system that is patrilineal. Children are born into the clan or dodaim of their father. The Anishnabek belong to clans such as the Beaver, Crane, and Caribou. They believe they derive from animals. In Aboriginal culture, there is an “interconnection... between people and animals” and “the

⁴⁵ *Ibid.*, at para. 46.

⁴⁶ Jones Affidavit, at para. 3.

⁴⁷ Kahgee Affidavit, at para. 44.

⁴⁸ *Ibid.*, at para. 45.

land.” The dodaim or totemic identity is inscribed on the grave posts rather than the personal name of the deceased.⁴⁹

The defining difference between the SON people and other residents of the Bruce area, is that for the SON, there is no other place to go. As Chief Kahgee says:

I have spent my whole life listening to my Elders. I have spent many many hours listening to my community as their Chief and I know this – if we were every required to leave our Territory, if our lands and water could no longer sustain us, it would be the end of us as a people. We have no other place to go. And if our people start to fear developments in the Territory, if we become anxious about the safety of our lands and waters, if we develop a dread of accident in the future – a deep and fundamental connection will be severed. It will be a deadly blow to our cultural existence.⁵⁰

SON communities have real fears and concerns about the DGR Project. Some of those concerns deal with the interaction of the Project with other existing and future activities at the Bruce Nuclear site and how the DGR Project relates to existing and future nuclear waste management initiatives with the Territory. But, many of the concerns are with the DGR Project itself, and the harms and risks it poses to SON rights, interests and SON Traditional Territory.

It is not only a catastrophic accident or malfunction that would pose an existential threat to SON. Lesser impacts could have equally devastating effects. SON rely on their lands and waters for their economic and cultural well-being. This is most clearly demonstrated by their many-decades-long fight to preserve and rebuild their commercial fishery, and their reliance on a tourism-based economy. As will be explained below, the DGR Project threatens significant harm to these economies, and consequently, threatens to harm the ability of SON Territory to sustain its communities.

There is also significant concern that the development of the DGR Project, if not understood and accepted by the SON communities, would fundamentally alter their

⁴⁹ Linden, Report of the Ipperwash Inquiry, 2007, Volume 1, at p. 24.

⁵⁰ Kahgee Affidavit, at para. 46.

perception of their Traditional Territory, create anxiety and cleave their connection to the land and waters. “OPG has planned its Project to dispose of nuclear waste in our Territory forever. It will create permanent harms and risks for our Territory and people. It will forever change our Territory and become part of the stories of our land, our cosmology. But it is not a positive story.”⁵¹

SON people cannot go anywhere else—their identity is inextricably intertwined with place, and their future relies on the integrity of their territory and its continued ability to sustain SON economically and culturally. If the SON are forced to leave, or if their lands and water can no longer sustain them—spiritually, culturally or economically—they will cease to exist as a people.

⁵¹ Kahgee Affidavit, at para. 70.

3. THE DGR PROJECT AND ITS THREAT TO SON

3.1. Project Creates Significant Potential Threats to SON

SON and its communities have a fundamental and long-standing concern that the DGR Project poses a serious threat to their rights, interests and way of life. These concerns arise from the untested nature of the technology and the permanent changes the Project will bring to the Territory. There are concerns that OPG has not yet studied or understood many significant potential risks created by the Project and their impact on SON Rights and Territory. A principal concern remains that the DGR Project has not been understood in the context of existing nuclear issues at the Bruce Nuclear site, including its connection to the long-term management plan for spent fuel. Collectively, these concerns have resulted in a significant lack of confidence in the development process for the Project and an overall anxiety about the threats it poses to SON.

The deep worry and concern of the SON community is expressed succinctly by Councilor Paul Jones:

We do not yet know all the dangers this project proposes, and we do not believe that OPG or NWMO or anybody else does either. But we do know that there are critical concerns that have not been fully addressed by OPG, and some that have not even been considered by OPG in any meaningful way . . . All of these shortcomings have caused our people significant stress, anxiety and fear – we simply do not know what the dangers of this project are. We are being asked to trust OPG and its science, and take on all the risk that they are right that the DGR Project will not cause significant impacts to our environment, fishery and, ultimately, our way of life.⁵²

And as stated by Chief Kahgee, “OPG has planned its Project to dispose of nuclear waste in our Territory forever. It will create permanent harms and risks for our Territory and

⁵² Jones Affidavit, at para. 138.

people. It will forever change our Territory and become part of the stories of our land, our cosmology. But it is not a positive story.”⁵³

OPG is required under the under the terms of CEAA and the Guidelines to fully address these concerns, as well as the underlying issues about the potential adverse affects of the Project on the environment and SON rights. Under the Guidelines, OPG was required to fully identify, assess, evaluate and justify its conclusions on various key matters relating to SON interests and concerns:

- Potential impact of the project on any asserted or established Aboriginal rights, Aboriginal title and treaty rights, and the measures to prevent or mitigate those potential impacts, and how the concerns of the Aboriginal people will be addressed.⁵⁴
- Potential impacts of the Project on VECs, including:
 - The culture and way of life of the people using the area affected by the Project, and specifically the SON communities.⁵⁵
 - Socio-economic effects.⁵⁶
 - Effects on the physical, mental, and social well-being of workers, public and communities.⁵⁷
 - Effects on business activity, tourism, and property values⁵⁸
 - Effects on First Nations communities, Native Heritage and Cultural Resources, Traditional Uses of Lands and Resources⁵⁹
 - Wide ranging effects on the terrestrial and aquatic environments and animals⁶⁰

⁵³ Kahgee Affidavit, at para. 79.

⁵⁴ Guidelines for the Preparation of the Environmental Impact Statement for the Deep Geologic Repository for Low- and Intermediate-Level Radioactive Wastse, January 2009 (“EISG”), s. 2.2.

⁵⁵ EISG, ss. 2.6, 5.1.

⁵⁶ *Ibid.*, s. 9.3.

⁵⁷ *Ibid.*, s. 11.5.6.

⁵⁸ *Ibid.*, s. 9.3 (Table 1).

⁵⁹ *Ibid.*

- Potential adverse effects of the project on the ability of future generations of Aboriginal people to pursue traditional activities or lifestyle.⁶¹
- Description and potential impacts on commercial fisheries in the area.⁶²
- Description and potential impacts on lands, waters and resources of specific social, economic, archaeological, cultural or spiritual value to the Chippewas of Saugeen First Nation and the Chippewas of Nawash Unceded First Nation.⁶³
- Any concerns raised by Aboriginal people about the project or other past or present means of storing or disposing of nuclear waste, and regarding the cumulative effects of the project in combination with any other over these areas.⁶⁴

3.2. Stigma Effect from DGR Project

OPG is required, by operation of various sections of the Guidelines, to consider the potential stigma effect caused by the DGR Project. A “stigma effect” is defined by OPG as “the negative images attached to a neighborhood, community, other geographic area and its residents or to local products and services.”⁶⁵ Rather than discharge its obligations under the Guidelines, OPG has carried out a significantly inadequate stigma analysis, characterized by: a failure to address the voluminous international literature on stigma; a failure to consider, assess, analyze or apply lessons learned from two highly relevant case studies from proposed DGR projects at Yucca Mountain, Nevada, and Cumbria, England; and the conduct of inadequate and faulty surveys and polls aimed at determining the possibility of a stigma relating to the DGR Project. As a result of this, OPG comes to a completely unsupported and highly suspect conclusion that “there are no

⁶⁰ *Ibid.*

⁶¹ EISG, s. 10.

⁶² *Ibid.*, s. 10.2.2.

⁶³ *Ibid.*, 10.2.3.

⁶⁴ *Ibid.*, 11.5.3.

⁶⁵ OPG’s Deep Geologic Repository Project, Environmental Impact Statement, March 2011 (the “EIS”), at p. 7-180.

strong indications that the DGR Project would result in a stigma.”⁶⁶ Given the inadequacy of OPG’s work, and the inconsistency between its conclusion and international experience, this conclusion is not accepted by SON and should not be accepted by the Panel.

The available data and international experience also makes clear that stigma has strong potential to impact food and tourism-based economies, on which the SON economies are increasingly based. These critical potential impacts on SON Rights and interests are not addressed in OPG’s analysis and constitute a significant omission.

3.2.1. *Requirements under CEAA and Guidelines*

OPG’s obligation to identify, understand and address a potential stigma effect from the DGR Project stems from various guidelines on socio-economic effects. Section 11.5 of the EIS Guidelines deals with socio-economic effects on: the economy (11.5.1); land use and value (11.5.2); Aboriginal traditional land use (11.5.3); land-based transportation (11.5.4); navigable waters (11.5.5); human health (11.5.6); and physical and cultural heritage resources (11.5.7).

The Guidelines focus attention on those effects that could impact Aboriginal rights, specifically identifying the rights of SON. Section 11.5.3, dealing with Aboriginal traditional land use, provides as follows:

The EIS must identify any change that the project is likely to cause in the environment, and any effect of any such change on the use of lands and resources for traditional purposes by the Chippewas of Saugeen First Nation, the Chippewas of Nawash Unceded First Nations and any other Aboriginal group including, but not limited to, effects to hunting, trapping, fishing and gathering. For each effect, the EIS must specify where possible the particular area that may be affected. The EIS must identify any concerns raised by such Aboriginal people about the project or other past or present means of storing or disposing of

⁶⁶ EIS, s. 7.10.2.11.

nuclear waste, and regarding the cumulative effects of the project in combination with any other over these areas.⁶⁷

3.2.2. *OPG's Assessment and Conclusion on Potential Stigma Effects*

OPG acknowledges the foregoing requirements to carry out an assessment of stigma, and acknowledges the possibility of the Project creating stigma effect. In section 7.10.1.3 of the EIS, OPG states: “[t]he DGR Project as a whole (considering the likelihood of measurable changes in public attitudes and behaviours attributable to the DGR Project) may result in a measurable change to land use and community character through the potential attribution of a stigma.”

OPG concludes, however, that: “[n]otwithstanding the link between Inverhuron Provincial Park and the Bruce nuclear site in terms of their proximity, there are no strong indications that a “stigma” already exists. The results of interviews conducted . . . across the Local and Regional Study Areas support the conclusion that the Regional and Local Study Areas have not been stigmatized by the ongoing presence of the Bruce nuclear site.”⁶⁸ The EIS ultimately concludes “there are no strong indications that the DGR Project would result in a stigma.”⁶⁹

⁶⁷ EISG, s. 11.5.3.

⁶⁸ EIS, s. 7.10.2.5.

⁶⁹ EIS, s. 7.10.2.11.

3.2.3. *Stigma Effects from DGR Project have not been Adequately Assessed*

OPG's analysis of stigma is superficial, flawed, and totally inadequate.

First, OPG's definition of stigma, quoted above, entirely glosses the mechanisms by which stigmas arise and persist. A more fulsome definition of stigma is contained in our expert report⁷⁰:

Faced with multiple possible outcomes, people normally choose the alternative with the highest expected value: the alternative that, under the circumstances, has the greatest chance of yielding the greatest benefit.

For choices that are complex and technical, however, where potential outcomes are uncertain and difficult to understand, the ordinary decision-making process breaks down. When individuals can no longer process relevant information—either because it's unavailable or too complex—they substitute imperfect heuristics for rational thinking.

In the case of highly technical choices—including all choices involving nuclear technology—most people lack the time, resources, and technical expertise to evaluate the expected value of relevant costs and benefits. Instead, most people fall back on social norms, emotional ('gut') reactions, and third party—especially media—authority. When the sum of these imperfect heuristics is loud and negative, the result, over time, is stigma.⁷¹

Properly understood, then, a stigma effect is not just a “negative image attached to a neighborhood or community.” Rather, it is a predictable and very serious reaction to a source of uncertainty—especially, nuclear uncertainty:

[Nuclear] technology is difficult to understand and poses enormous risks, the consequences of which are disproportionately significant compared to potential benefits. Indeed, despite so much positive operating history for nuclear projects generally, recent research indicates that nuclear technology remains the subject of generalized fear, even dread:

⁷⁰ Daniel Charles Mussatti and John Greeves, “Stigma and the Deep Geologic Repository: Consequences for the Saugeen Ojibway Nation” (August 14, 2013) (“Stigma Report”).

⁷¹ *Ibid.*, at pp. 4-5.

Among various potentially hazardous facilities, nuclear related facilities have been considered some of the most dreadful to the general public. This is because nuclear facilities are regarded as highly involuntary, unknown, delayed, new [unproven], uncontrollable, and potentially fatal and catastrophic.⁷²

It is the conclusion of this report that the real reason nuclear projects are stigmatized is a generalized fear of catastrophic risks the public has no ability to prevent or control. OPG's discussion ignores this deeper basis for nuclear related stigma and evinces an inadequate understanding of the concept, which itself, undermines confidence in OPG's conclusions.

3.2.4. *OPG failed to Consider the Extensive International Literature on Stigma*

OPG's superficial understanding of stigma belies an even deeper problem: there is a massive international literature regarding stigma and nuclear facilities, none of which is mentioned in the EIS. In connection with the Yucca Mountain DGR project (discussed below), the U.S. government commissioned *three decades* of research, much of which involved the potential for nuclear stigma in Nevada (wherein Yucca Mountain is located). Indeed, it is difficult to overstate the volume of research available on stigma.⁷³

Unsurprisingly, the conclusions of this research are directly opposite OPG's conclusions:

The general conclusion of much of the [Yucca-related] research was that the presence of a nuclear waste repository was likely to stigmatize Nevada generally, and Las Vegas specifically, amongst potential visitors, investors, and

⁷² *Ibid.*, at pp. 6-7, including quotation from: Chung, Ji Bum; Kim, Hong-Kyu; 2009, "Competition, economic benefits, trust, and risk perception in siting a potentially hazardous facility," *Landscape and Urban Planning*, V91 pp. 8-16.

⁷³ *Ibid.*, at pp. 13-14: "Appendix N of the Yucca EIS is a paper by Robert E. O'Connor, "Are Fear and Stigmatization Likely, and How Do They Matter?". It describes the existing body of knowledge as "extensive" and cites a 1995 study by the Nuclear Waste Technical Review Board that found "80 or 90" highly reliable articles on risk perception. O'Connor's own paper has 56 citations. In 1990, researchers at the Argonne National Laboratory published an annotated bibliography of work dealing with the socioeconomic impacts of risk perception—mostly dealing with Yucca—containing 152 entries."

residents. The conclusion from almost three decades of research was that “people who associate nuclear images with Nevada tend to be less likely to want to vacation there [and] the waste facility might well lead to substantial economic losses for Nevada.”⁷⁴

OPG makes reference to virtually none of this work, in effect drawing conclusions about stigma without considering the experience of *anyone, anywhere, ever*. This is inappropriate, especially given OPG’s conclusion of minimal stigma is directly opposite the conclusion of almost all the research done on the subject.

3.2.5. Failure to Consider Relevant Case Studies: Yucca Mountain, Nevada and Cumbria, England

OPG’s EIS also fails to engage the two case studies most relevant to the proposed DGR: Cumbria County, England, and Yucca Mountain, Nevada, both of which DGR-type projects were abandoned amidst fears the facilities would stigmatize local economies—precisely what OPG says will not happen with its DGR Project. A third case study involves a local initiative by Bruce Power to recycle used steam generators, and suggests that activities around the Bruce Nuclear site are already the subject of stigma. All three case studies are discussed at some length below.

⁷⁴ *Ibid.*, at p. 13. The work summarized in this conclusion includes: Mushkatel, Alvin H. K. David Pijawka and Marilyn Dantico, 1990, “Risk-Induced Social Impacts: The Effects of the Proposed Nuclear Waste Repository on Residents of the Las Vegas Metropolitan Area,” for the State of Nevada Agency for Nuclear Projects Nuclear Waste Project Office, NWPO-SE-032-90; Easterling, Douglas and Howard Kunreuther, 1990, *The Vulnerability of the Convention Industry to the Siting of a High-Level Nuclear Waste Repository*, for the State of Nevada Agency for Nuclear Projects, Nuclear Waste Project Office, NWPO-SE-031-90., Metz, William C., 1992, “Perceived Risk and Nuclear Waste in Nevada; A Mixture Leading to Economic Doom?” Impact Assessment Bulletin, V10:N3, pp. 23-41, Metz, William C., 1994, “Potential Negative Impacts of Nuclear Activities on Local Economies: Rethinking the Issue,” Risk Analysis, V14:N5, pp. 763-770; Jenkins-Smith, Hank C., 1994, Stigma Models: Testing Hypotheses of how Images of Nevada Are Acquired and Values Are Attached to Them, prepared for Argonne National Laboratory, ANL/DIS/TM-17; Easterling, D., 1997, “The Vulnerability of the Nevada Visitor Economy to a Repository at Yucca Mountain,” Risk Analysis, V17, N5, pp. 647; Metz, William C., Tim Allison and David E. Clark, 1997, “Does Utility Spent Nuclear Fuel Storage Affect Local Property Values?” Radwaste Magazine, May 1997, pp. 27-33; Gregory, Robin S., and Therese A. Satterfield, 2002, “Beyond Perception: The Experience of Risk and Stigma in Community Contexts,” Risk Analysis, V22:N2, pp. 347-358.

Cumbria County, England:⁷⁵ In 2008, England’s Managing Radioactive Waste Safely process identified West Cumbria as a potential host community for a spent nuclear fuel repository. Cumbria is a rural county in Northwest England, on the coast of the Irish Sea, and has a number of striking similarities with Kincardine and the Study Area used in the EIS:

- The town of West Cumbria is the host community for the Sellafield nuclear processing site, an offshoot of the original nuclear reactor site at Windscale, which latter is being decommissioned.
- The nuclear presence in West Cumbria is long established and local opinion of the nuclear power plant is favorable.
- West Cumbria already hosts a low-level nuclear waste repository, at Drigg, in addition to the waste facility at the Sellafield site.
- Cumbria County is rural, its economy comprised of three main elements:
 - A £1 billion tourism industry employing over 36,000 and serving visitors to the Irish Sea, the Isle of Man, numerous natural attractions, holiday parks, and the Lake District National Park. (The latter is England’s largest national park, receiving approximately 16 million visitors annually and more than 23 million day visitors.);
 - Direct and indirect economic activity related to the nuclear site (over 10,000 direct workers at the site plus support workers in the city of Carlisle); and
 - BAE Systems Submarine Solutions, one of England’s most important naval shipbuilders.

Much like the Study Area, and SON Traditional Territory, over half of Cumbria County is designated as a national park or an “Area of Outstanding National Beauty,” and the

⁷⁵ For the full discussion of Cumbria, including all relevant citations, see: Stigma Report, pp. 9-11.

Lake District specifically is being considered for UNESCO World Heritage designation.⁷⁶

Initially, the hosting offer was supported by local officials, unions and the Labour Party, all of whom had a vested interest in the site's development, especially as the global economic downturn dampened local growth. Moreover, because most of the U.K.'s high-level nuclear waste is already stored at Sellafield, local council approval seemed likely.⁷⁷

In November 2012, however, shortly before the council's vote, the U.K.'s National Audit Office ("N.A.O.") disclosed "significant risk to people and the environment" from deterioration at existing nuclear waste storage facilities. Coupled with rising disapproval amongst people without an economic link to the Sellafield site, the announcement prompted a series of public protests. Opposition to the repository mounted over the next eight weeks.⁷⁸

Opposition to the repository called the plan "short-sighted" and run by local councils that received financial compensation in exchange for their support. Especially relevant to OPG's proposed DGR, much of the Cumbrian opposition came from the local tourist industry. Like the Bruce region, and the Saugeen Peninsula, the Lake District is widely associated with conservation, wildlife management, pristine wild areas and environmentally friendly tourist opportunities. In this context, the proposed repository risked irremediable stigma. "We have 15 million people coming to the park every year, and the prospect of having the world's largest nuclear waste dump could make that considerably less," said Bill Jefferson, Chairman of the Lake District National Park.

⁷⁶ The Bruce Peninsula is part of a UNESCO World Biosphere Reserve encompassing the entire Niagara Escarpment: <http://www.escarpment.org/biosphere/designation/index.php>.

⁷⁷ Stigma Report, at p. 10.

⁷⁸ The details are listed in the Stigma Report, at pp. 10-11.

There are growing and increasingly widespread concerns that a repository below the national park or indeed a perception of such a proposal would not be in the long-term interests of the Lake District, its farming and resident communities and visitor economy. Evidence suggests a potential risk to the Lake District's brand image, and on communities that rely on this brand. The lengthy process, necessary for considering such a facility, could exacerbate this risk. While we do not know what precise impacts a repository under the national park would have on its special qualities, I am concerned such a proposal could adversely affect the Lake District's brand image, its national and international standing, reputation and integrity, prejudicing the delivery of the vision to the detriment of the Cumbrian tourism economy and our statutory responsibilities.⁷⁹

Fear of potential stigma ultimately resulted in West Cumbria and nearby districts being withdrawn from consideration in the Managing Radioactive Waste Safely process.

Yucca Mountain, Nevada:⁸⁰ In 1982, the U.S. Congress, through the *Nuclear Waste Policy Act* (“*NWPA*”), authorized the Department of Energy to identify, construct, and begin operation of a permanent underground repository for high-level radioactive waste by the mid-1990s. The *NWPA* provided funding to candidate states for socioeconomic and environmental assessments of a repository's potential impacts.

A primary contender for the repository was Yucca Mountain, Nevada, approximately 160 kilometres northwest of Las Vegas. The proposed repository was actually approved by the U.S. Congress in 2002 but then terminated—in 2010, for “political reasons”—notwithstanding over US\$12 billion invested in the project to that date.

More than two dozen surveys of residents in Nevada (directly affected by nuclear stigma), Arizona and California (highly probable tourists), national populations (possible, long distance tourists) and organizations (users of convention facilities), disclosed respondents had extremely negative associations with nuclear waste. Other surveys indicated a repository would make nearby places “less desirable” for both tourism and

⁷⁹ Stigma Report, at p. 11.

⁸⁰ For a full discussion of Yucca, including all relevant citations, please see: Stigma Report, at pp. 12-14.

investment, suggesting proximity of 50 or even 100 miles would alter decisions. Still other research concluded that “our society’s strong response to mishaps involving nuclear power and nuclear wastes” ensured that nuclear incidents anywhere in the world were widely disseminated, brought to public attention, and thereby contributed to respondent perceptions.

Surveys also found that a repository would change visitation choices and that a nuclear waste repository would inflict greater stigma than a prison, nuclear reactor or hazardous waste incinerator. A separate study of residents of Clark County (Las Vegas’ home county) disclosed fears that a nuclear waste repository would reduce business investment in the area.

Again, the conclusions of the Yucca-related research are directly opposite what OPG concludes re DGR-related stigma:

The general conclusion of much of the *NWPA*-funded research was that the presence of a nuclear waste repository was likely to stigmatize Nevada generally, and Las Vegas specifically, amongst potential visitors, investors, and residents. The conclusion from almost three decades of research was that “people who associate nuclear images with Nevada tend to be less likely to want to vacation there [and] the waste facility might well lead to substantial economic losses for Nevada.”⁸¹

By failing to consider the two most recent and apposite examples of DGR-type projects—both of which faltered on concerns of potential stigma—OPG’s conclusions on stigma cannot be considered reliable nor useful. There is no good reason to omit a fulsome consideration of these highly relevant case studies, and OPG has offered no justification for the omission.

⁸¹ *Ibid.*, at p. 13.

Bruce Nuclear:⁸² In 2010, Bruce Nuclear sought a license from the CNSC to transport 16 decommissioned steam generators to a recycling facility in Sweden. The generators would follow a route through the Great Lakes and St. Lawrence River. Each generator would contain just four grams of radioactive material and Bruce Power was explicit that the risks involved were minimal, almost infinitesimal:

If the very unlikely scenario occurred where the ship sank and the vessels were somehow breached, the very low levels of radiation would be diluted even further by the large volume of water and would result in a level of radiation that we believe would not even be measurable.⁸³

Notwithstanding the clear communication of minimal actual risk, the proposal faced enormous public opposition. Public hearings on the license application heard from 77 interveners, including opposition from mayors, U.S. senators, First Nations communities, residents and environmental groups. Over 60 NGOs called for the proposal to be deferred pending a full environmental impact assessment. While the CNSC ultimately issued a license in February 2011 (citing negligible risks to human and environmental safety), Bruce Nuclear still declined to proceed with the shipment, instead allowing the license to expire (in February 2012).

The foregoing discussion makes clear that OPG reaches conclusions about DGR-related stigma without considering the experience of *anyone, anywhere, ever*—OPG even ignores the experience from its own facility. Even a cursory review of the literature on nuclear-related stigma makes clear that OPG’s conclusion in respect of the DGR Project is directly contrary to virtually all international experience. OPG has made no effort to acknowledge or explain this discrepancy.

⁸² For a full discussion of the steam generator issue, including all relevant citations, please see: Stigma Report, at pp. 14-15.

⁸³ Toronto Star, July 11, 2010, at: http://www.thestar.com/news/ontario/2010/07/11/critics_slam_proposal_to_ship_nuclear_waste_through_lake_ontario.html. The article’s lead is telling: “The Bruce Nuclear Generating Station plans to ship 1,760 tonnes of radiation-laced steel through Lake Ontario...”.

3.2.6. *OPG Performed Flawed Survey Work in Support of its Conclusions*

The reason OPG's conclusions on stigma differ so significantly from international experience is likely that OPG based its conclusions on survey research that is inadequate on its face, and demonstrably fails to meet standards set in the EIS Guidelines.⁸⁴ As described in the Stigma Report: a central flaw in OPG's survey work is the use of biased samples. Much of OPG's survey data reflects the opinion of people predisposed to favour the DGR, either because they experience a "halo effect" or have a vested interest in the local nuclear industry.

3.2.6.1. *Surveying Wrong Populations*

Instead of assessing, and discovering minimal stigma, OPG's surveyors measured the cognitive bias known as *halo effect*: the tendency for an impression created in one area to influence opinion in another area.⁸⁵ A relevant example from the Yucca Mountain research:

In contrast to what one might expect, individuals living directly adjacent to Yucca Mountain (in the town of Beatty) are *more* accepting of the repository than are those living further away, [a function of] geographic variation in the expectation of risk and benefits.⁸⁶

Halo effects are well documented in the risk perception literature, especially in connection with property value effects at weapons facilities and nuclear power plants.⁸⁷ Yet OPG makes no effort to consider, much less control for this bias in its work:

Halo effects undermine OPG's survey results because the EIS surveyed individuals *within* the RSA and LSA. (That is, there was no attempt to control for, or otherwise segregate respondents based on geographic location.) To assess potential stigma, which is imposed from *outside* the stigmatized community, surveyors should have polled individuals *who did not live in the study areas*.

⁸⁴ For a summary of OPG's data collection procedures, please see: Stigma Report, at p. 17.

⁸⁵ Stigma Report, at p. 18.

⁸⁶ *Ibid.*, quoting: Easterling, Douglas and Howard Kunreuther, 1995, *The Dilemma of Siting a High-Level Nuclear Waste Repository*, Kluwer Academic Publishers, Boston (emphasis added).

⁸⁷ *Ibid.*, p. 18.

One would expect individuals with a long experience of close proximity to nuclear power—and especially an economic tie to OPG—to have more favorable impressions of nuclear programs than those with no experience of, or ties to, nuclear energy.⁸⁸

A related problem is that most of the people in the Local Study Area, and a significant number of people in the Regional Study Area, either work for the local nuclear power plant or have a relative, friend or neighbor who works there.⁸⁹ In other words, a significant portion of people surveyed by OPG has a vested interest in the success of the local nuclear industry, clearly confounding OPG’s survey results.

There is Canadian case study evidence that directly contradicts OPG’s work on this point:⁹⁰

Researchers in Saskatchewan surveyed residents in three towns and an affected First Nation about their attitudes towards a potential nuclear waste repository. Critically, the company that would manage the proposed repository did not dominate the economy in the surveyed areas.

The results indicated “overall support for the proposed nuclear waste repository was low. Close to three-quarters of the sample (73%) indicated they would vote against the repository in a referendum, whereas only 10% indicated that they would vote in favor”. This conclusion is almost perfectly opposite OPG’s findings, that “PAR [public attitude research] results indicate that 9% of Local Study Area residents and 10% of Regional Study Area residents reported that

⁸⁸ *Ibid.*, at p. 19. A related problem is that perceptions of nuclear *power* are more positive than nuclear *waste*: “The valences attached to images of nuclear power and nuclear waste show considerable variation [...] Images of a nuclear waste repository had valences that were significantly more negative [than those for a nuclear power plant]. (Jenkins-Smith, Hank C., 1994, *Stigma Models: Testing Hypotheses of how Images of Nevada Are Acquired and Values Are Attached to Them*, prepared for Argonne National Laboratory, ANL/DIS/TM-17.) Alternatively, halo effects resulting from Bruce Nuclear’s existing *temporary* storage of nuclear waste may not attend its storage of nuclear waste *permanently*. There’s no evidence OPG controlled for these sorts of confounding effects.

⁸⁹ Rubenstrunk, Rebecca L., 2012, “Assessing Contention: Understanding Nuclear Waste Storage Opposition in the U.S. and Canada,” Master of Public Policy Thesis, Oregon State University, submitted 23 May 2012.

⁹⁰ Stigma Report, at p. 20, citing: Hine, Donald W.; G Craig Summers, Mark Prystupa, and Antoinette McKenzie-Richer, 1997, “Public Opposition to a Proposed Nuclear Waste Repository in Canada: An Investigation of Cultural and Economic Effects,” *Risk Analysis*, V17:N3, pp. 293-302. (The towns of Massey, Kirkland Lake, and Sudbury, and the Waterhen First Nation Reservation at Meadow Lake.)

they might experience reduced feelings of personal health and safety as a result of the DGR project.”

The Saskatchewan research also found “respondents consistently rated benefits as less important and less likely to occur than costs. For importance ratings, the highest rated benefit (improved local economy) was rated lower than the lowest rated cost (sabotage).” Again, this conclusion is opposite OPG’s conclusion that “the vast majority of residents look forward to the employment and other financial benefits associated with the DGR Project”.

3.2.6.2. *Biased Survey Questions*

OPG also designed and used flawed survey questions. When surveying local property owners, OPG’s questionnaire featured a lengthy preamble that placed OPG, nuclear power, and the proposed DGR in a highly favorable light. The text appeared on the questionnaire in substantially similar form to what is recreated below: boldface type in a bright green box.⁹¹

At the Bruce Nuclear site, Ontario Power Generation (OPG) has been safely managing radioactive waste from Ontario’s nuclear generating stations for over 30 years.

At present, the Western Waste Management Facility (WWMF) at the Bruce Nuclear site provides processing and interim storage for all of the low and intermediate level radioactive wastes produced by OPG’s nuclear generating stations. Currently, wastes are processed and stored in above-ground buildings.

The Bruce Nuclear Site and the proposed DGR site is your neighbour. AECOM would like to understand whether this site currently affects you and your use and enjoyment of your property, and if so, how.

⁹¹ Ontario Power Generation’s Deep Geologic Repository For Low & Intermediate Level Waste: Socio-economic Environment Technical Support Document, NWMO DGR-TR-2011- 08, March 2011, prepared by AECOM Canada Ltd. (the “OPG TSD”), at p. 7 of 14 of the Site Neighbor Survey, Appendix C.

For surveys of visitors to Inverhuron and MacGregor Point Provincial Parks, a very lengthy and positively skewed preamble was read to respondents prior to each interview.⁹²

This preamble conditioned positive responses to subsequent questions. The preambles deploy positive images (“OPG has been safely managing radioactive waste . . . for over 30 years”, and the proposed DGR “is your neighbor”); allude to government oversight (the CNSC) and support for the proposed DGR (by the Municipality of Kincardine); and offer assurances that nuclear waste storage technology is “very safe”.⁹³ The preambles also include language that emphasizes nuclear waste is already stored at the BNS, further assuaging potential respondent concerns. The preambles are patently biased in favour of the proposed DGR and, critically, provide respondents with information that actual visitors to, outside consumers of local products of, or investors in, the Bruce Peninsula

⁹² To wit: “Ontario Power Generation currently stores low and intermediate level radioactive wastes produced by all of Ontario’s nuclear generating stations at its Western Waste Management Facility on the Bruce Nuclear site in the Municipality of Kincardine. This existing facility is regulated by the Canadian Nuclear Safety Commission and has been operating safely for more than 30 years. Low level waste includes such materials as rags, clothing, and floor sweepings that have become slightly contaminated during routine maintenance. They can be safely handled without radiation protection. Intermediate level waste includes used reactor core components, retube parts, and resins and filters used to keep reactor water systems clean. It requires shielding to protect workers during handling. Wastes are stored in above-ground buildings and structures, and also within in-ground structures. These storage methods, while very safe, are considered to be interim only, until a long term management facility is implemented. Ontario Power Generation’s proposal, which is supported by the Municipality of Kincardine, for the long term management of low and intermediate level radioactive waste is a Deep Geologic Repository on the Bruce Nuclear site near the Western Waste Management Facility.

“A Deep Geologic Repository for low and intermediate waste only would involve the management of the waste in rooms built into the rock approximately 680 metres underground on the Bruce Nuclear site. Ontario Power Generation is undertaking geoscientific characterization and safety studies, along with an Environmental Assessment for the Deep Geologic Repository project. The Environmental Impact Statement and site preparation and construction licensing support documentation will be reviewed by a Joint Review Panel. This proposed DGR will not store used nuclear fuel.” (*Ibid.*, at p. 2 of the Inverhuron and MacGregor Point Provincial Park Tourist/Day User Survey, Appendix C.)

⁹³ Note that it’s irrelevant whether the surveys’ draftsperson intended any of these implications. This is one reason survey language is extremely difficult to get right, and why reliable surveys are tested on a sample group, revised, then re-tested, before being deployed on the survey’s target population. Neither the EIS nor TSD discloses any of this preparatory work.

region will not have—the very populations in which a stigma will arise. Responses to such biased survey questions must be treated as unreliable.

3.2.6.3. *Inadequate Survey Size and Geographical Scope*

OPG also utilized inadequate sample sizes for some of its surveys. Its survey of just 51 visitors to Inverhuron Provincial Park purports to represent the DGR-related opinions of the park's 65,000 annual visitors.⁹⁴ (In 2009, 65,383 people visited the park.) A sample size of 51 out of a population of 65,383 people yields a 99% confidence level with an 18 percent margin of error. (That is, 99% of the time a sampled response will be within 18 percentage points (plus or minus) of the population's response.) This is patently inadequate for *any* kind of conclusion. For results accurate to within five percentage points (plus or minus)—the baseline for statistical reliability—OPG should have surveyed 659 independent visitors, or *thirteen times* the number of visitors actually surveyed.⁹⁵

OPG's survey results for MacGregor Point Provincial Park are similarly deficient: surveying just 51 of the park's 107,000 annual visitors⁹⁶ (106,668 in 2009) yields, again, a 99% confidence level with an 18 percent margin of error (plus or minus). For results accurate to within five percentage points (plus or minus), OPG should have surveyed 662 independent visitors.⁹⁷

OPG also deployed an overly narrow scope in considering the areas and activities potentially stigmatized.⁹⁸ No attempt was made to expand the EIS's geographic scope to account for prevailing currents in and around the Saugeen Peninsula—which effectively

⁹⁴ OPG TSD, at p. 79.

⁹⁵ Stigma Report, at p. 24.

⁹⁶ EIS, at p. 6-258.

⁹⁷ Stigma Report, at pp. 24-25.

⁹⁸ Stigma Report, pp. 27-30.

link the Bruce Nuclear Site to at least the western edge of the whole Peninsula region—nor for the Peninsula’s inclusion in the UNESCO World Biosphere Reserve encompassing the entire Niagara Escarpment. OPG also made no attempt to consider the full range of tourist activity in the Peninsula—activity that’s diverse and year-round—instead surveying tourists on a single date in just two parks.

3.2.6.4. *Unsubstantiated Methodology*

OPG was required, under the EIS Guidelines, to provide a full and transparent documentary and methodological bases for its findings and conclusions. Section 2.6 of the Guidelines explains the required level of detail in the EIS:

Assumptions made must be clearly identified and justified. All data, models and studies must be documented so that the analyses are transparent and reproducible. All data collection methods must be specified. . . . All conclusions must be substantiated.⁹⁹

In a number of instances, however, OPG’s survey practices and methodology are not explained or justified with a level of detail or transparency that allows for third party scrutiny, review or confirmation. For example, in the course of a review commissioned by SON, it was discovered that there is no public record of OPG’s representatives or agents attending Inverhuron or McGregor Point Provincial Parks on the date indicated in the EIS, and that too few tourists were recorded in the parks on those days for OPG to collect the survey data it purports to have collected.¹⁰⁰ Without full and transparent documentation of surveys conducted, it is not possible to assess their validity or credibility.

The foregoing discussion makes clear that OPG has chosen to ignore international experience relating to potential stigma effects and nuclear facilities, and DGR Projects in particular. It has instead relied on a handful of surveys whose methodological errors

⁹⁹ EISG, s. 2.6.

¹⁰⁰ Stigma Report, at pp. 25-26.

render them useless. Given the evidentiary record before it, there is absolutely no basis on which the Panel could conclude that the potential stigma effects of the DGR Project, or their significance, have been properly assessed or understood.

3.2.7. Stigma Effects will Cause Serious Adverse Impacts to SON Fishery and Tourism Economy

3.2.7.1. The SON Fishery

There is a very high risk that the DGR Project-related stigma will have serious adverse impacts on SON's commercial fishery and tourism-based economy. As explained in Section 2 above, these impacts are not only economic, but have a far deeper cultural significance. Moreover, these two economies are key current drivers of the overall SON economies and how the SON people have come to rely on their Territory in a modern context. Any adverse impacts to these economies threaten, fundamentally, SON's ability to sustain itself economically and culturally from its Territory.

Under the EIS Guidelines it was incumbent on OPG to identify and assess potential impacts on SON Rights—this includes potential impacts to SON rights from stigma effects. Section 11.5.3 of the Guidelines states:

The EIS must identify any change that the project is likely to cause in the environment, and any effect of any such change on the use of lands and resources for traditional purposes by the Chippewas of Saugeen First Nation, the Chippewas of Nawash Unceded First Nations and any other Aboriginal group including, but not limited to, effects to hunting, trapping, fishing and gathering. For each effect, the EIS must specify where possible the particular area that may be affected. The EIS must identify any concerns raised by such Aboriginal people about the project or other past or present means of storing or disposing of nuclear waste, and regarding the cumulative effects of the project in combination with any other over these areas.¹⁰¹

¹⁰¹ EISG, s. 11.5.3.

As OPG concluded that there was no strong indication of a stigma effect, there is consequently no discussion of the potential for stigma related impacts on the SON fishery. This is a critical and fundamental oversight.

As explained in the Stigma Report, there is significant research, which is not referenced at all by OPG, indicating that food products are easily stigmatized and that food stigma develops rapidly, is durable, susceptible to media hype, and resistant to rational refutation.¹⁰²

An obvious example is the British experience of Mad Cow Disease (*bovine spongiform encephalopathy*, or BSE). On 20 March, 1996, the British Health Secretary announced the deaths of ten young adults from Creutzfeldt-Jacob Disease and “the possibility of a link” between CJD and BSE—dubbed Mad Cow Disease after the media ran footage of afflicted cows—after which pathologists theorized a connection between BSE and the use of rendered offal (entrails, hoofs, scrap and discarded meat products; a kind of “industrial cannibalism”).¹⁰³ On March 25, 1996—just five days later—the European Union banned all British beef imports, and by month’s end 4.5 million cattle were destroyed as Japan joined the ban on British beef.

Canada’s experience with BSE cost its beef industry C\$18 million per day in lost exports and price reductions.¹⁰⁴ Researchers studying the British experience described how the stigma developed:

[T]he expert community determined that the (estimated) probabilities of hazard from eating beef were low. Despite this, public concerns remained high, perhaps

¹⁰² Stigma Report, at pp. 33-40.

¹⁰³ Stigma Report, at pp. 33-34; here, citing: Powell, Douglas, 2001 "Mad Cow Disease and the Stigmatization of British Beef," in *Risk, Media, and Stigma: Understanding Public Challenges to Modern Science and Technology*, J. Flynn, P. Slovic and H. Kunreuther, eds., pp. 31-40. Sterling, V.A., Earthscan Publishing Ltd., London. <http://www.foodsafety.ksu.edu/course/videos/fsriskanal/bsestig.pdf>.

¹⁰⁴ *Ibid.*, citing: Forge, Frédéric, 2005, “Mad Cow Disease and Canada’s Cattle Industry,” 12 July 2005, Science and Technology Division, Jean-Denis Fréchette, Principal, Economics Division, Parliament of Canada, PRB 03-01E.

because of media coverage of the consequences of, rather than the probabilities of, contracting [the disease].¹⁰⁵

Affidavit evidence explains that SON's fishery has suffered decades of degradation due to government policy, legislation and action, as well as preferential use by non-aboriginal fishermen. In the last 20 years, however, SON has undertaken legal and political action to have its rights to a commercial fishery recognized and protected, which has resulted in negotiated agreements with government to achieve these goals. SON now has the legal foundation to restore its fishery as the central feature of SON's culture and economy.¹⁰⁶

The DGR Project is a clear threat to the existing and future SON commercial fishery: a contaminated fishery—actual or perceived—is worthless, the significance of which is two-fold. First, SON's fishery has significant potential for growth and profitability tied to consumer demand for sustainable, locally harvested food products. While SON's fisherman currently sell primarily “in the round,” the lowest commercial value, potential increases in value have been recognized by SON and the Government of Ontario, who have jointly created an economic and capacity working group tasked with developing a vertically integrated and expanded SON fishery. The proposed DGR threatens not just resale but even the investment required to rebuild the fishery in the first place. DGR-related stigma is a clear threat to the development of profitable, viable, commercial fishery.¹⁰⁷

Second, SON have a long history of interdependency with their waters and fishery that is not easily understood by a Western conception of economy. The ancestors of the SON were in many ways defined by their relationship to the water and their fishery. It was considered an economy in the sense that SON has always relied on fishing to live and

¹⁰⁵ *Ibid.*, citing: Smith, Denis and Jo McCloskey, 1998, "Risk Communication and the Social Amplification of Risk," *Public Money and Management*, October-December, pp. 41-50.

¹⁰⁶ See generally the Jones Affidavit.

¹⁰⁷ See generally the Jones Affidavit, especially at paras. 89 *et seq.*

make a living. SON have always fished to feed their families, and to make money to acquire goods to provide for their families.¹⁰⁸

DGR-related stigma associated with a traditional food item also threatens SON's cultural identity. Whitefish is central to many of SON's traditional practices, both collectively and individually. Celebrations of all kinds center on gathering, preparing, and consuming meals for social as well as symbolic purposes, with the whitefish being a traditional food in these circumstances. Subsistence fishing is also the primary means by which SON preserves and transmits important elements of individual member identity; how the membership relates over time to its territory and so to itself as a community. A stigmatized fishery could destroy this aspect of SON's traditional way of living.

The DGR Project poses a clear threat to SON's commercial fishery, yet these potential impacts have not been addressed at all by OPG in the EIS. Consequently, there is no evidence before this Panel on a potentially serious adverse effect on a variety of listed VECs, as well as a serious potential adverse impact on a proven SON Treaty right. Given this key deficiency in the record, it would be unjustified for the Panel to conclude that the DGR Project will cause no serious adverse affects.

As will be described below, there are other legal consequences that could flow from OPG's decision to move forward with the DGR Project prior to understanding the full consequences of the DGR Project on SON Rights relating to its fishery. These consequences flow from legal obligations under the common law and by specific agreement between SON and the Government of Ontario.¹⁰⁹

¹⁰⁸ See generally the Jones Affidavit, especially s. II.

¹⁰⁹ Section 4.2, *supra*.

3.2.7.2. *The SON Tourism Economy*

There is also very high risk that the DGR Project-related stigma will have serious adverse impacts on SON's tourism-based economy. As with SON's fishery, these impacts are not only economic but have a far deeper cultural significance. SON's tourist business is currently a core economic resource, a primary way the SON people have come to rely on their Territory in a modern context.

Significant and compelling research and case study evidence—again, not addressed at all by OPG—makes clear the threat posed by the DGR Project to SON's tourist economy. As detailed in the Stigma Report:¹¹⁰ nuclear facilities, especially nuclear waste facilities, stigmatize the surrounding area;¹¹¹ people do not visit places they believe may cause them harm;¹¹² and research indicates the least acceptable industrial facility to have built near one's home is a nuclear waste facility.¹¹³ Specifically, while 35 to 40 percent of people would live near a nuclear power plant, just 25 to 30 percent of people would live near a nuclear waste facility.¹¹⁴

Additional research and specific case studies are detailed in the Stigma Report,¹¹⁵ the sum of which is that the proposed DGR represents a clear threat to tourism in the Bruce Peninsula generally and SON's cottage leasing business specifically, in just the same way that *rejected* DGR projects in Cumbria County and Yucca Mountain threatened local tourist economies.¹¹⁶

¹¹⁰ Stigma Paper, at pp. 46-51.

¹¹¹ Jenkins-Smith, Hank C., 1994, Stigma Models: Testing Hypotheses of how Images of Nevada Are Acquired and Values Are Attached to Them, prepared for Argonne National Laboratory, ANL/DIS/TM-17.

¹¹² Intuitively, at least, this avoidance tendency will be strongest for families, significant because so many of the Bruce Peninsula's tourist attractions are family-oriented.

¹¹³ Lindell, Michael K. and Timothy C. Earle, 1983, "How Close Is Close Enough: Public Perceptions of the Risks of Industrial Facilities," Risk Analysis, V3:N4, PP. 245-253.

¹¹⁴ *Ibid.*

¹¹⁵ Stigma Report, at pp. 46-52.

¹¹⁶ Discussed *supra*.

Notwithstanding the clear threat of DGR-related stigma, OPG has made no attempt to adequately identify, investigate or understand these potential impacts, including on SON's tourism-based business. The potential consequences to SON from impacts are set out in Section 2.4 above.

Again, given the evidentiary record before it, there is absolutely no basis on which the Panel could conclude that the potential stigma effects of the DGR Project, or their impact on SON's fishery or tourism-based economies, have been properly assessed or understood. This is a fundamental and fatal deficiency in OPG's application, and on this basis alone, the Panel should conclude that it cannot make a recommendation for approval at this time.

3.3. Impact on Fish, Fish Populations and Habitat

As explained in section 2, the SON fishery is a critical component of the SON identity and economy. It depends fundamentally on the underlying resource—the water, fish and fish habitat of Lake Huron and Georgian Bay. As explained in the affidavit of Paul Jones, SON has made enormous efforts to ensure the protection of this resource, including legal challenges, participation in regulatory proceedings, agreements with government and through the sponsorship of academic and technical study.¹¹⁷

OPG is required to assess the potential impacts of the DGR Project on the aquatic environment.¹¹⁸ Significant questions and concerns emerge, however, from OPG's *Deep Geological Repository for Low & Intermediate Level Waste Aquatic Environmental Technical Support Document* (the "TSD"). A summary of these concerns is provided in the attached as Table 1: OPG's DGR Aquatic Environment Technical Support

¹¹⁷ Jones Affidavit, especially s. II.3 *et seq.*

¹¹⁸ EISG, s. 11.4.5.

Document—Extractions and Questions. SON submits that these are questions that have not yet been adequately addressed by OPG and must be addressed prior to any conclusion being made about the potential impacts of the Project on the aquatic environment.

Two concerns that are especially relevant for SON involve the Stormwater Management Pond (“SMP”) and, its potential siting on MacPherson Bay. The Stormwater Management Pond is first mentioned (with the exception of maps) on page 64 of the TSD, in describing how the discharge of the SMP will impact MacPherson Bay. In its review of the DGR Project,¹¹⁹ CNSC recommended that the SMP be sufficiently large before construction begins, because insufficient sizing will only be discovered after an overflow spill that might cause adverse environmental impacts. CNSC also stated that the 100-year storm design appears to be too low considering the operating length of the DGR Project.¹²⁰

In addition to these issues acknowledged by CNSC, there are other key questions that must be addressed concerning the SMP. For example, it is unclear whether discharge is being treated before it enters the SMP and subsequently MacPherson Bay. Although the TSD states that SMP discharge water will be sampled and compared against predetermined criteria, the TSD report does not investigate any anticipated changes or effects to surface water quality following the creation of this pond. It is also unclear from the analysis how the waste is being treated, what the anticipated effects are, as well as a list of any possible contaminant or chemical of concern should be provided. Additionally, greater analysis is required on the effects of discharge entering MacPherson Bay. Finally, the TSD does not provide any description of what measures will be taken to prevent seepage/leakage of discharge into groundwater. A description of the SMP design must be provided.

¹¹⁹ 13-P1.3 CNSC Panel Member Document—Environment Impact Statement and Supporting Documentation.

¹²⁰ *Ibid.*, p. 68.

OPG has also made a significant and unsupported conclusion about MacPherson Bay. Throughout the TSD, MacPherson Bay is characterized as a site of poor habitat quality, unsuitable for the selected VECs, and the site that will receive the greatest amount of stress from the DGR project. This site, however, is home to at least 14 species of fish—the same number of species as the ‘good quality’ habitat site of Stream C. One reason the TSD deems MacPherson Bay a poor habitat is that the exposed nearshore is swept out by wave action, allowing coarse substrate to persist and fine sand to be transported. It is coarse substrate, though, that makes good nursing habitat for ecologically, economically and culturally vital species like lake whitefish, meaning that these features of MacPherson Bay actually make it a “good quality” habitat.¹²¹ Damage to the Bay is likely to impact productive fish habitat, the consequences of which have not been assessed.

3.4. Geology, Construction and Long-Term Performance

During the initial phases of the application for the construction of the proposed DGR, SON expressed numerous concerns regarding the adequacy of the site characterization by OPG. SON submitted numerous information requests to the Panel, many of which were not ultimately forwarded to OPG for response.

In response to ongoing concerns from SON and others, OPG has committed to performing further geological and geotechnical verification and monitoring activities during construction to confirm parameter values used in design and construction safety considerations and to permit verification of long-term performance assessments (the “Geoscientific Verification Plan” or “GSV”). Much of the specifics, detailed methodology and acceptance criteria for the GSV, however, remain to be defined. And, CNSC has indicated the current GSV lacks sufficient detail, which detail must be provided before the time of implementation.

¹²¹ Hayes, D. B., P. C. Ferreri, and W. W. Taylor. 1996. Linking fish habitat to their population dynamics. *Can. J. Fish. Aquat. Sci.* 53:383-390. (At p. 387: “Freeberg (1985) found that egg survival in an ice-free year in Grand Traverse Bay, Michigan, was highest at a depth of 1.5 m where coarse substrate predominated, and was nearly zero at other depths where the substrate was finer.”)

It is inappropriate to recommend approval of the DGR Project in the absence of a sufficiently detailed GSV. The nature of the proposed DGR—permanent storage of radioactive waste—places a substantial premium on careful, thorough and prospective analysis. OPG has had ample time to develop an adequate GSV but has failed to do so. Recommending approval of the DGR Project on the assumption that an adequate GSV will be provided in the future would be highly imprudent. It deprives the Panel, public and SON the opportunity to assess and have confidence in the critical site characterization work, and related staged decision-making, that will be carried out during the implementation of the Project.¹²²

A detailed discussion of the GSV's inadequacies and recommended inclusions is provided in the Geoscience Report.¹²³ Some of the more critical inclusions are:

- Detail regarding the specific timing, amounts and locations of various testing and geological observations that will be made during the construction phase of the proposed DGR.
- Detailed geologic mapping of the glacial overburden and excavation and shafts to confirm that conditions meet the assumptions made in the limited exploratory phase of the project. (Since OPG's model-driven analysis is highly dependent upon its assumptions regarding the nature and behavior of the *in situ* properties of the rock and its structures, especially any and all faults and fractures, validation of the *in situ* geology is extremely critical to all of the geohydrology assumptions and their resultant dose calculations.)

¹²² As will be explained in Section 4 below, the nature of the DGR Project requires adherence to higher standards of precaution and adaptive phased management based approach, which requires processes that will ensure public confidence in process and proponents.

¹²³ Robert Jackson and Richard Khulthau, "Geoscience Characterization Issues Raised by SON Regarding OPG's Proposed Geoscientific Verification Plan for the Deep Geologic Repository for Low & Intermediate Level Waste" (August 7, 2013) (the "Geoscience Report").

- Detailed program of Excavation Damage Zone testing and measurement in the shafts during the construction phase and prior to the emplacement of the shaft seals, including details on how representative hydraulic conductivities will be obtained in the EDZ (including number, location and methods employed for testing the EDZ's permeability).
- Full scale testing and analysis program to assure no combined effects of shaft seal failure and other failure modes such as fault movement of excessive joint development and movement.
- Detailed testing program for the performance of the various materials that will be used to seal the shaft, designed to demonstrate the long-term performance of these materials over the stratigraphic column in which they will be emplaced.

SON submits that the development and delivery of an adequate GSV is a basic and fundamental requirement of the Guidelines, and until such time as this is provided the Panel should not recommend the Project for approval.

3.5. Transportation Issues

OPG has taken the position that under the terms of the EIS Guidelines, matters relating to the transportation of nuclear wastes need not be considered as part of this review. SON strongly disagrees.¹²⁴

SON has consistently taken the position that the continued and increased transportation of nuclear wastes through its Territory is a critical factor in assessing the safety and acceptability of the DGR Project, and specifically, in assessing potential impacts of the

¹²⁴ OPG has not addressed the matter in any substantive way, but provides only a superficial statement in response to a stakeholder question respecting transportation issues. OPG states that "OPG has safely transported wastes for nearly 40 years under transport licenses issued by Transport Canada. The DGR Project will result in no changes to the volumes, means or routes for transport. The DGR Project, as indicated in the EIS Guidelines, includes only transfer of wastes at the DGR Project site. (EIS, at p. 2-18)

Project on SON Rights and interests. Any assessment of the Project that fails to consider these matters is fundamentally incomplete.

SON has raised concerns about transportation issues for many years in its engagement with OPG and through submissions to CNSC regulatory proceedings.¹²⁵ OPG has documented SON concerns about the transportation of wastes into its Territory in the EIS.¹²⁶ OPG ought to have included consideration of these matters as a requirement of CEAA and the guidelines, as well as based on proper expectations of an enhanced and precautionary development approach as explained in section 4 below.

Under the Guidelines, OPG was required to address any concerns raised by Aboriginal people about the project or other past or present means of storing or disposing of nuclear waste, and regarding the cumulative effects of the project in combination with any other over these areas.¹²⁷

It was incumbent on OPG to not only identify SON concerns with regard to transportation issues, but to address those concern. OPG has failed to do so. It was not acceptable for OPG to have ignored SON concerns and all questions relating to transportation on the basis of its existing transportation licenses. Such an approach shields from public and regulatory scrutiny OPG's statement that "volumes, means and routes" for transportation will not change. It does not address potential changes resulting from the DGR Project respecting: the guaranteed continuation of waste transportation to the site and through SON territory, increased possibility of terrorist attack due to the heightened profile and public awareness of the Project, effects of increased uses of existing transportation due to population growth over the very long term, and importantly, the cumulative effects of transportation of wastes to the DGR Project with other future nuclear waste management projects in the area.

¹²⁵ See generally the Kahgee Affidavit.

¹²⁶ EIS, s. 2-18.

¹²⁷ EISG, s. 11.5.3.

Additionally, SON has submitted, and continues to take the position that a project for the long-term management of spent nuclear fuel (the “HLW DGR Project”) ought properly to have been included in the cumulative effects analysis of the DGR Project. A proper cumulative effects assessment in this case would need to seriously and transparently consider the cumulative effects of the continued and increased transportation of low and intermediate level nuclear wastes *in combination* with the transportation of spent nuclear fuel over the same roads and through the same areas. These are novel and critical concerns, and are materially different from the transportation issues relating to the WWMF facility alone.

Without full information and analysis relating to the increased and continuing transportation issues from the DGR Project alone, and those resulting from the DGR Project in combination with a future HLW DGR Project, the totality of potential adverse impacts of from the Project cannot be known.

3.6. Connection Between the DGR and the HLW DGR

SON has consistently taken the position that CEAA, and the Guidelines require that a future project for the long-term management of used nuclear fuel be part of the cumulative effects analysis of the DGR Project review. The potential impacts of the DGR Project being constructed in SON territory cannot be considered in isolation. Rather, any review of the DGR Project must also include consideration of the construction of—and impacts flowing from—the HLW DGR also being constructed in SON territory. The failure to consider the cumulative effects of these two projects being co-located at or near the Bruce Nuclear site constitutes a fundamental deficiency.

There can be no doubt that making SON territory the home for most or all of Canada’s radioactive nuclear wastes would have an incalculably detrimental impact on SON’s Rights and interests.

3.6.1. *Panel Decision Respecting the Consideration of the HLW DGR Project*

SON has already raised this issue with the Panel in these proceedings. SON explained the interconnectedness of these two repositories to the Panel at length in its submissions of August 9, 2012, December 21, 2012 and February 25, 2013 (“SON’s Cumulative Effects Submissions”).¹²⁸ In these submissions, SON asked the Panel to direct OPG to amend its EIS to include full consideration, data and analysis of the possibility that the HLW Project will be developed within the Study Area.

The Panel declined SON’s request.¹²⁹ Based on the information it had before it, the Panel concluded that, at the time of its decision, it could not conclude that the construction of an HLW DGR Project in SON territory was such a certainty that it was a project “that will be carried out.” In its decision, the Panel relied on its express conclusion that because “Kincardine is not one of the 21 communities that have expressed interest [in hosting an HLW project] . . . [t]herefore, the Municipality of Kincardine, the Bruce Nuclear Site and the Local Study Area of the DGR Project cannot be considered as a potential location of an APM project.” The Panel went on to conclude that “the Panel is of the opinion that OPG, as part of the DGR environmental assessment, must consider the effects of the removal of the nuclear fuel wastes outside of the Bruce Nuclear Site and outside the Study Area”. (emphasis added)

With respect, this reasoning does not address the issue that must be decided. First, the Guidelines require consideration of any project that is within the Study Area,¹³⁰ which is far broader than the site, or local study area. That Kincardine has not yet entered the site selection process is irrelevant as all five of the other municipalities within the Study Area have entered the siting process. Second, the Panel had before it no evidence, or

¹²⁸ Attached as Exhibit “H” to the Kahgee Affidavit.

¹²⁹ *Ibid.*

¹³⁰ EISG, at s. 14.

confirmation from NWMO, that Kincardine could no longer enter the siting process or be considered as a potential site for the HLW DGR.

The Panel has permitted OPG to “have its cake and eat it too.” Despite significant and growing evidence of the likelihood that the HLW DGR Project will be located within the Study Area, the Panel has taken the position that OPG can consider the removal of spent fuel waste from the Study Area and ignore the possibility that spent fuel will be permanently disposed within the Study Area. In fact, the Panel in its decision concluded that OPG “must consider the effects of the removal of the nuclear fuel wastes . . . outside the Study Area.” This conclusion is completely unsupported by the evidence and has the effect of materially skewing the cumulative effects analysis.

OPG has been allowed to claim the benefit of an ameliorative cumulative effect in the Study Area—a net reduction in radiation and radioactivity¹³¹—without ever addressing the numerous significant adverse environmental effects that would result from the co-location of the DGR Project and a HLW DGR Project—the two most significant nuclear waste management projects in Canada’s history—within the same area.

3.6.2. *The HLW DGR Project Amplifies Risks and Harms to SON*

As explained in detail in SON’s Cumulative Effects Submissions, OPG was required to consider the HLW DGR Project under the terms of the Guidelines. This was critical considering the potential impacts of the DGR Project on SON Rights, alone and in combination with other nuclear waste management projects. As stated at 11.5.3 of the Guidelines: “[t]he EIS must identify any concerns raised by such Aboriginal people about the project or other past or present means of storing or disposing of nuclear waste, and

¹³¹ OPG states at page 10-37 of the EIS: “[a]t some point in the future, used fuel and decommissioning wastes will be transferred to a long-term repository. The DGR is not for the long-term management of used fuel; therefore, the repository will be located off-site. Any dose will be solely from the transport of used fuel, and as the used fuel is transferred off-site, will result in net reduction of dose.”

regarding the cumulative effects of the project in combination with any other over these areas.”

OPG has failed to consider, and has deprived the Panel, SON and the public the opportunity to consider, the many critical adverse environmental effects arising from the co-location of the DGR Project and a HLW DGR Project within the Study Area. As explained at paragraphs 70 to 74 of SON’s August 9 Submission, the DGR Project itself is a first-of-kind project that poses unique and untested challenges. These challenges are compounded, and significantly magnified, if the DGR Project is co-located with an HLW Project. The inclusion of an HLW DGR Project as a cumulative effect project will require significant new data, study and analysis, including (i) assessment of radiation effects from normal operations, transportation and accidents and malfunctions, (ii) accidents and malfunctions probability scenarios, effects and response; (iii) operational considerations resulting from increased intensification and demand on resources; (iv) socio-economic effects, including public perception, stigma effects and social acceptance; (v) transportation issues relating to increased intensification and unique issues regarding transportation of fuel wastes; and (vi) technical feasibility considerations relating to co-location.

An HLW DGR Project would cause impacts identical in kind, and to the same VECs, as the DGR Project, but with a greater magnitude given the nature of the nuclear wastes and the cumulative effect of the two projects.

A critical omission involves potential stigma effects from the DGR Project. As explained above, OPG recognizes that a stigma effect may result from the development of the DGR Project, which it defines as “negative images attached to a neighborhood, community, other geographic area and its residents or to local products and services.”¹³² OPG, however, has included a fundamentally inadequate assessment of potential stigma effect

¹³² EIS, at p. 7-180

from the DGR Project, and has not at all considered a cumulative stigma effect from the DGR Project in combination with the HLW DGR Project.

Further, there is already evidence of an existing confusion and confounding of the two projects in the media and among the public. OPG has acknowledged the emergence of an increased number of NGO's and citizen's groups expressing concerns about the DGR Project and its connection to a HLW Project. OPG states in its report that "[m]any stakeholder opponents have expressed concerns that if OPG's DGR for low and intermediate level waste is successful, it will pave the way in Bruce County for NWMO's Adaptive Phased Management approach for used nuclear fuel."¹³³

This is already creating stigma effects that will adversely affect SON Rights.

3.7. Harm to SON Identity, Spirituality and Connection to Territory

It was explained above that SON cultural and spiritual identity is defined by its connection to the lands and waters of its territory. SON people cannot go anywhere else – their identity is tied up with their territory, and their future relies on the integrity of their territory and its continued ability to sustain SON spiritually and culturally, as well as economically. The statements of Chief Kahgee, and Councilor Paul Jones, and the stories they recount about the beliefs and fears of their people can be simply captured: “[w]e have no other place to go. And if our people start to fear developments in the Territory, if we become anxious about the safety of our lands and waters, if we develop a dread of accident in the future – a deep and fundamental connection will be severed. It will be a deadly blow to our cultural existence.”¹³⁴

¹³³ Ontario Power Generation's Written Submission for the Joint Review Panel's Socio-Economic Technical Information Session March 20, 2013, under cover letter dated February 21, 2013, page 18.

¹³⁴ Kahgee Affidavit, at para. 46.

These are not simply the “views” of SON. As the Aboriginal people of the land, this is the foundation of their culture, connection to the land and identity as a people. As Chief Kahgee explains in his affidavit, this is part of the fundamental right of his people to be sustained as Aboriginal Peoples by the lands, waters and resources of their territory and to maintain their culture and way of life.¹³⁵

Under the Guidelines, OPG was required to: address potential impact of the project on SON Rights;¹³⁶ assesses potential impacts on lands, waters and resources of specific social, cultural or spiritual value to SON;¹³⁷ assess impacts on the culture and way of life of the SON communities;¹³⁸ recognize and address the views of SON regarding perceived changes attributed to the project;¹³⁹ assess potential effects of the Project on the physical, mental and social well-being of SON;¹⁴⁰ and assess potential adverse effects of the project on the ability of future generations of Aboriginal people to pursue traditional activities or lifestyle.¹⁴¹

OPG has acknowledged and recognized the fundamental importance of the connection between the land and SON identity. In its EIS, OPG states that “of particular relevance to the DGR Project EA is the traditional Ojibway spiritual worldview which, according to Usher’s traditional knowledge categorization, would constitute the foundation of the SON knowledge system.

The traditional Ojibway spiritual worldview is that the physical world, including the rock of the earth, is the first order of creation upon which the other orders of creation – the plant world, the animal world and the human world – depend for sustenance and existence.¹⁴²

¹³⁵ Kahgee Affidavit.

¹³⁶ EISG, s. 2.2.

¹³⁷ EISG, s. 10.2.3.

¹³⁸ EISG, ss. 2.6, 5.1.

¹³⁹ EISG, s. 11.1.

¹⁴⁰ EISG, s. 11.5.6.

¹⁴¹ EISG, s. 10.

¹⁴² EIS s 6.9.2.2.

OPG acknowledges that the DGR Project could be incompatible with the Aboriginal world view: the presence of the DGR Project, which directly affects this first order of creation (i.e. the rock of the earth) may have special meaning to some Aboriginal peoples and therefore, may be seen by some Aboriginal people as incompatible with their world view, affecting how Aboriginal people value the plants and animals that they harvest for traditional purposes.”¹⁴³

OPG has even documented that SON had raised these concerns with OPG during their early engagement, that is, the appropriateness of placing waste in Mother Earth.¹⁴⁴

While OPG acknowledges these concerns, it does not address them. There is no indication that OPG took these concerns or worries into consideration as needing further assessment, mitigation or accommodation. The conclusion that the Project would not have any serious residual impacts on aboriginal interests demonstrates that the concerns expressed by SON members about the harms the Project could cause to their spiritual view of the land, or their cultural identity with the land were not considered by OPG as determinative, meaningful or serious.

This is unacceptable. However, while OPG was and is required to fully address these SON concerns, OPG cannot be expected to do so unilaterally. SON submits that the only way to appropriately address these matters is through full collaboration with the SON communities. Only the SON communities can identify how these matters ought to properly be resolved. It is not for OPG, or this Panel, to make final assessments on the significance of the potential harms of the DGR Project to SON cultural and spiritual connection to their territory, or whether those harms have or can be mitigated.

¹⁴³ EIS, at p. 7-134.

¹⁴⁴ EIS, at p. 2-17.

4. OPG HAS NOT DEMONSTRATED THE TECHNICAL OR SOCIAL SAFETY OF THE DGR PROJECT

As explained above, there are critical technical, socio-economic and cumulative effects questions regarding the potential impacts of the DGR Project that have not been addressed by OPG. On this basis alone, the application before the Panel remains incomplete and is thus an insufficient basis for the Panel to recommend the approval of the Project.

Given the serious issues presented by the DGR Project—its threat of serious and permanent harms to SON rights and interests; OPG’s inclusion of long-lived, highly radioactive intermediate level wastes; and the DGR’s connection to a future project for the disposal of Canada’s spent nuclear fuel waste—OPG was required to demonstrate not only the technical safety but also its “social safety.”¹⁴⁵

OPG has failed to demonstrate compliance with CEAA requirements and Canadian and international nuclear waste management policy, standards and guidelines with respect to the siting and development of the DGR Project, and has consequently failed to demonstrate public confidence and support for the DGR—what has been called the “social safety” of a project.¹⁴⁶ Moreover, due to the inevitable and serious impacts of the Project on SON rights and interests, there are additional obligations owed to SON by OPG under Canadian and international law and through specific legal commitments made to SON by agreement.¹⁴⁷

OPG has now recognized that SON confidence and support is a condition precedent to the construction of the Project. In a letter to SON dated August 7, 2013, OPG committed to SON that it will not move ahead with the construction of the DGR Project until the

¹⁴⁵ Discussed in s. 4.2 below.

¹⁴⁶ See e.g., the Seaborn Panel Report.

¹⁴⁷ Discussed below in Section 4.2.3.

SON communities are supportive of the Project.¹⁴⁸ This is a significant commitment, and one for which OPG is to be commended. It is only through this commitment from OPG to SON, and the implementation of a process between SON and OPG to address SON community concerns and determine community support of the Project, that the legal obligations set out above can be met and the DGR Project could be recommended for approval. This has not yet occurred, and this Panel should not approve the Project until it has.

4.1. Nature and Characteristics of DGR Project and its Risks

There are several characteristics of the Project that make it incumbent on OPG to demonstrate social safety. These characteristics include: (i) OPG has elected to include within the waste inventory for the Project intermediate level radioactive wastes, including very long-lived intermediate level wastes; (ii) a real and demonstrable connection between OPG's DGR Project and a future project for the disposal of Canada's spent nuclear fuel wastes; and (iii) the prospect that the Project will cause serious and permanent harm and risks to SON rights and interests. These characteristics demand a much more robust demonstration of social safety than has, as yet, been undertaken.

4.1.1. Inclusion of Long-Lived Intermediate Level Nuclear Wastes

OPG has proposed that its DGR Project will include both low- and intermediate-level radioactive waste ("LLW" and "ILW", respectively), including categories of ILW that are extremely long-lived. This decision, which was not adequately explained or justified by OPG, raise serious unanswered questions about how the Project ought to be planned and designed. The inclusion of long-lived ILW required OPG to adopt a planning, design and management process that met the highest recognized standards of precaution and

¹⁴⁸ Mitchell Letter.

adaptive phased management, as well as other requirements of Canadian and international law.¹⁴⁹ This was not done.

Consistent with international practice, OPG has defined LLW to include predominantly radionuclides whose half-lives are short. The amounts of longer-lived radionuclides permitted in LLW are required to be sufficiently low that containment and isolation of the waste is required for only a few hundred years.¹⁵⁰ This means, quite simply, that within a few hundred years essentially all LLW decays to a point that it no longer represents a human or environmental hazard.

OPG has included in its waste inventory for the Project ILW whose constituents include radionuclides with half-lives ranging from hundreds to millions of times longer than LLW radionuclides. ILW categories to be included in the DGR Project include ion exchange resins, irradiated core components, filters and filter elements, all of which typically require special remote handling during placement. It also includes highly radioactive reactor components and a high level of long-lived radionuclides, potentially including transuranic nuclides that will not decay to safe levels during the time for which institutional controls can be relied upon. Because of the high level, and very long duration, of radioactivity of these elements, ILW requires much more robust and rigorous containment and biosphere isolation, similar to what is required for High Level Waste (*i.e.*, used fuel).¹⁵¹

The significant differences between LLW and ILW, and the difference in the technical and social challenges associated with the management of each, have caused most countries to separate LLW and ILW for the purposes of developing long-term waste management plans. This is also the reason that, to date, there is only one operating

¹⁴⁹ Discussed below at Sections 4.2.2 and 4.2.3.

¹⁵⁰ IAEA General Safety Guide GSG-1, Classification of Radioactive Waste, Vienna 2009) and according to OPG's own classification criteria (OPG Panel Submission 13-P1.1A, at p.5.

¹⁵¹ *Ibid.*

facility for the long-term management of ILW, the Western Isolation Pilot Plant (“WIPP”) facility in New Mexico.

Most countries either segregate ILW from LLW or segregate long-lived from short-lived ILW. With the exception of WIPP, disposal routes for long-lived ILW do not currently exist. With few exceptions, the planned disposal route for long-lived ILW is separate from those for other classes of radioactive waste. In some cases, long-lived ILW and HLW/used fuel are expected to be disposed of in a common repository.

Some international examples include:

- France has surface facilities licensed for short-lived wastes only. Long-lived wastes, including both ILW and HLW, are destined for deep geologic repository disposal.¹⁵²
- The safety case for the Sweden Final Repository (“SFR”) limits the total amount of long-lived radionuclides it can handle, so it is essentially for short-lived waste only. Long-lived ILW will have to be disposed of in a deep geologic repository.¹⁵³
- Finland separates long-lived and short-lived waste. The existing near-surface disposal is only licensed for short-lived wastes.¹⁵⁴
- In the US, non-defense ILW known as “greater than class C” (“GTCC”) waste has no disposal route available. Federal regulation¹⁵⁵ requires that commercial ILW, specifically GTCC waste, must be separated from LLW. GTCC waste is expected to be included with HLW in a geologic repository. The U.S. Department of Energy has conducted an extensive outreach effort in its effort to manage GTCC-like waste in the U.S. A number of sites are under consideration and extensive

¹⁵² French National Plan for the Management of Radioactive Materials and Waste, Paris 2012.

¹⁵³ SKB TR-10-63, RD&D Programme 2010, Stockholm.

¹⁵⁴ OPG response to JRP IR 08-336.

¹⁵⁵ U.S. NRC Regulation 10 CFR Part 61.

stakeholder interactions have been held to get adequate input on alternative site location issues.¹⁵⁶

- The U.K. has designated HLW and ILW to be placed in a Geologic Disposal Facility, with the site to be selected following a voluntarism and partnership approach.¹⁵⁷
- Switzerland plans to dispose of used fuel, HLW and long-lived ILW together in a deep geological repository. LLW and short-lived ILW are to be disposed of in a separate geological repository.¹⁵⁸

It is critical to note that, due to the technical and social challenges associated with long-term management of ILW, very few ILW facilities have been licensed worldwide. The WIPP facility in New Mexico is the only currently operating example.¹⁵⁹

OPG was not required to design its Project to include both LLW and ILW, including long-lived ILW. OPG only chose to include ILW as part of the Project once Kincardine decided to proceed by way of deep rock repository. It was open to OPG to segregate ILW from the Project, as had been the original intention, and include it in a future management project. OPG elected not to do so.

¹⁵⁶ The draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375-D) was published in February, 2011.

¹⁵⁷ White Paper on Managing Radioactive Waste Safely, DEFRA, 2008.

¹⁵⁸ NEA-5568, Safety of Disposal of Spent Fuel, HLW and Long-lived ILW in Switzerland: An International Peer Review, Paris 2004.

¹⁵⁹ The Asse Salt mine in Germany was licensed to dispose of transuranic waste but was closed due to technical problems that were unforeseen at time of initial licensing. For the Asse site, issues of site stability and groundwater migration/transport only surfaced after years of operation. Germany has passed a new law that mandates starting a new search for a repository site for high-level waste “from scratch” and is in the process of removing its ILW waste from a failed geologic disposal site at Asse. See generally: <http://www.neimagazine.com/news/newsgermany-passes-new-law-on-repository-selection>; and http://www.endlager-asse.de/EN/1_Home/home_node.html. The Asse II experience is also discussed in the Stigma Report, at pp. 50-51.

Once OPG decided to include long-lived ILW in the current DGR Project, it raised a new set of significant risks and management challenges. These challenges are essentially identical to those faced in the management of HLW. This made it incumbent on OPG to take the same measures recognized internationally and by Canada to ensure the proper, precautionary and adaptive management of those wastes. Specifically, OPG's inclusion of long-lived ILW as part of its DGR Project requires OPG to plan, develop and operate the DGR Project under principles of adaptive phased management, including the demonstration of social safety. This position is consistent with international experience and practice, and Canada's own regulatory and policy history regarding long-lived nuclear wastes.

The Adaptive Phased Management ("APM") approach has been recognized and adopted by Canada and other countries as the accepted approach for the long-term management of long-lived nuclear wastes.¹⁶⁰ It is noteworthy that other recent attempts to site repositories for long-lived nuclear wastes have failed, based largely on social acceptance problems—in particular, the failure to adequately consider alternate sites, to demonstrate public confidence and social acceptance, and to consider key socio-economic impacts, such as stigma effects. Examples are discussed elsewhere in these submissions, including Yucca Mountain, Nevada and Cumbria County, U.K. (see Section 3.2 above).

Notwithstanding this international experience, OPG failed to fully apply the principles of APM to this DGR Project.

¹⁶⁰ *Report of the Nuclear Fuel Waste Management and Disposal Concept Environmental Assessment Panel*, Nuclear Fuel Waste Disposal Concept Environmental Assessment Panel (February 1998) (the "Seaborn Panel Report"); NWMO Final Study Report: Choosing a Way Forward (2005); The USA Blue Ribbon Commission report (Blue Ribbon Commission on America's Nuclear Future: Report to the Secretary of Energy, Washington 2012) and internationally (NEA-5296, Learning and Adapting to Societal Requirements for Radioactive Waste Management, Paris 2004; NEA-4429, Stepwise Approach to Decision Making for Long-term Radioactive Waste Management, Paris 2004). The BRC recommendations included a new, consent-based approach to siting future nuclear waste management facilities. The OECD-NEA's most recent collective statement on geological disposal of radioactive waste recognizes the importance of implementing forms of public involvement addressing enhanced dialogue among all parties concerned and embracing a broader, more realistic approach to learning and decision-making in society as compared with past practices (NEA-7082, Geological Disposal of Radioactive Waste: National Commitment, Local and Regional Involvement, Paris 2012).

4.1.2. *Connection Between DGR Project and HLW DGR Project*

The connection between the DGR Project and the NWMO-led project to site and build a deep geologic repository for Canada's spent nuclear fuel, discussed above, required OPG to adopt a more robust and transparent approach to the development of its Project than it has taken.

As described in section 3.6 above, there is a real and demonstrable connection between the DGR Project and the HLW DGR project. Further, and as explained in previous SON submissions,¹⁶¹ the DGR Project will act to induce the HLW DGR Project and significantly increase the likelihood of an HLW DGR Project being developed within the Study Area and thus in SON Traditional Territory.¹⁶² If the DGR DGR Project is approved and constructed, it will greatly increase the likelihood that the HLW Project will be constructed at the Bruce Nuclear site, or elsewhere within the Study Area.

¹⁶¹ Attached as Exhibit "H" to the Kahgee Affidavit (specifically, paras 38 and 39 of the August 9, 2012 submissions). Additionally, if the DGR Project is approved and constructed, it will greatly increase the likelihood that the HLW DGR Project will be constructed at the Bruce Nuclear site, or elsewhere within the Study Area:

(a) As indicated above in paragraph 34, a requirement of the Site Selection process, and the Adaptive Phased Management more generally, is the development of site specific data for a potential site. There is an additional requirement that the HLW DGR Project be built in a staged and incremental way, with continuous learning and site specific knowledge development. The development and operation of the DGR Project will act to satisfy these requirements for a potential HLW DGR Project site at or proximate to the Bruce Nuclear site, and within the Study Area.

(b) Successful development and operation of the DGR Project will allow the NWMO to argue that it has demonstrated, with a very high degree of certainty, the technical suitability of the site and the ability to build and construct DGR facilities on site.

(c) Successful development and operation of the DGR Project will permit the development and demonstration of key operational processes and favourable conditions, including:

- (i) Transportation of wastes from Ontario nuclear facilities to site;
- (ii) Processing of accepted nuclear wastes at site and internment in repository facilities; and
- (iii) Local community acceptance.

¹⁶² *Ibid.* The DGR Project will become a "pilot project" for the HLW Project, allowing the NWMO to meet the requirements of Adaptive Phased Management by generating extensive site specific data and developing and demonstrating operational processes, including transportation of nuclear wastes, processing and internment of wastes in the repository. The construction of the DGR Project will also continue the building—or manufacturing—of "local community acceptance."

The connection between the DGR project and the HLW Project requires a more careful, precautionary and adaptive phased management-based approach. This is because: (1) the cumulative effect of the two projects compound and magnify the impacts of the DGR Project; (2) public confusion between, and confounding of, the two projects itself is already causing impacts; and (3) public confidence in public and private agencies responsible for the implementation of nuclear fuel management projects is undermined by failing to apply APM.

As described above, the possibility of the two projects being co-located at or near the Bruce site dramatically increases the impacts from the DGR Project and amplifies the possibility of adverse environmental affects, as well as impacts to the rights and interest of SON. An HLW DGR Project would cause impacts identical in kind, and to the same VECs, as the DGR Project, but with an immeasurably greater magnitude given the nature of the nuclear wastes and the cumulative effect of the two projects. When a potential future project will have similar effects to the project under review, it warrants a far greater standard of care in the development of the Project, including a demonstrable acceptance by the affected communities of the long term effects and risks.

There is already evidence of negative effects resulting from the combined impact of the DGR Project and an HLW DGR Project. As explained above, there is existing confusion and confounding of the two projects in the media and among the public. OPG has acknowledged this.¹⁶³ This confusion itself stands to amplify existing or future stigma that will have significant and detrimental impacts on SON's commercial fishery and tourism-based economies. SON community members have already expressed concern and anxiety about the connection between the two DGR projects, which itself threatens the SON people's connection to the land and their identity.¹⁶⁴

¹⁶³ Ontario Power Generation's Written Submission for the Joint Review Panel's Socio-Economic Technical Information Session March 20, 2013, under cover letter dated February 21, 2013, at p. 18.

¹⁶⁴ See generally the Kahgee Affidavit and the Jones Affidavit.

The public, and SON, see a connection between the DGR Project and an HLW Project and assume they are related. In these circumstances, the responsible agencies or institutions must act appropriately and transparently in order to address concerns, or risk undermining their credibility. A critical concern identified in the Seaborn Panel Report, and confirmed by the NWMO in its 2005 Final Study Report, is the need to for the public to have confidence in the institutions responsible for nuclear waste management.¹⁶⁵

OPG, NWMO as well as CNSC, and the Panel itself, have all taken a position that there is no connection between the two projects and have refused to address public concerns in this regard.¹⁶⁶ This is inconsistent with the principles set out in the Seaborn Panel Report, and adopted by Canada through its acceptance of NWMO's 2005 NWMO Final Report. OPG, NWMO and CNSC's approach can only lead to an erosion of public confidence in those institutions.

All of these factors required OPG to have taken a more precautionary, and adaptive phased management based, approach to the planning, siting and ongoing development of the DGR Project.

4.1.3. DGR Project Causes Serious and Permanent Harm and Risk to SON Rights and Interests

It is no exaggeration to say that the DGR Project stands to change the SON territory forever, and thus stands to fundamentally alter the future course of the SON people within their Traditional Territory. As explained in section 3.2 above, there is a very strong likelihood that the DGR Project will induce a stigma that will have broad and

¹⁶⁵ Seaborn Panel Report; *Choosing a Way Forward: The Future of Management of Canada's Used Nuclear Fuel, Final Study*, Nuclear Waste Management Organization (November 2005) at 44 ("NWMO 2005").

¹⁶⁶ Please see paragraphs 37 – 40 of SON's submissions of February 25, 2013, for a review of the positions taken by OPG and NWMO in response to public questions regarding the connection between the DGR Project and the HLW DGR Project

potentially fundamental adverse affects on SON, including irreparable stigmatization of SON's commercial fishery and tourism-based economy. Such impacts strike at the heart of the SON economy and culture, and undermine SON's proven Aboriginal and treaty rights.

The DGR Project will also cause increased anxiety among the SON community members and act to sever their deep connection to the land and identity with the land. The DGR Project stands to become a permanent and painfully negative part of the SON cosmology. There are also significant unknown risks and unanswered questions regarding the construction, operation and long-term performance of the DGR Project. This creates both an immediate and permanent risk from the Project that will be borne by the SON communities forever. These are generational risks.

Both CEAA and the Guidelines required that, in these circumstances, OPG adopt a more robust and precautionary and approach than was taken. There is near universal consensus that where a proponent or government plans to construct a nuclear waste facility in the territory of an Aboriginal people, those people must consent. As the Seaborn Panel concluded:

Any approach to managing nuclear waste that involves lands inhabited, claimed or used by Aboriginal people will affect them in particularly acute ways. Aboriginal people rely on the land for sustenance and hold deep beliefs about humankind's relationship with and responsibility for the natural environment. Hence their active involvement, consent and co-operation are essential throughout all phases, from acceptance of the concept through its implementation.¹⁶⁷

The requirement of consent stems from a fundamental recognition of the seriousness of the impacts such a development will have on the rights, well being and future of Aboriginal peoples. This is a core principle in all adaptive phased management

¹⁶⁷ Seaborn Panel Report, s. 5.3(d) (emphasis added).

approaches: that those most affected be given the right to understand fully and clearly accept the risks and harms of the Project. The consent of SON has not yet been given.

4.2. OPG Required to Demonstrate Social Safety

As explained above, the nature and characteristics of the DGR Project require a demonstration of not only the Project's technical safety but also its social safety. OPG was required to demonstrate this through adherence to a proper, precautionary and adaptive phased management-based approach. Further, due to the inevitable and serious impacts of the Project on SON rights and interests, there are additional obligations owed to SON by OPG under Canadian and international law, and pursuant to specific legal commitments made to SON by agreement.

4.2.1. Requirements Under CEAA and the Guidelines

4.2.1.1. Precautionary Approach

The EIS Guidelines state that a central purpose of the environmental assessment is “to ensure that projects are considered in a careful and precautionary manner before authorities take action in connection with them, in order to ensure that such project do not cause significant adverse environmental effects.”¹⁶⁸ The “Precautionary Principle” requires the decision-maker to take a cautionary approach, or to err on the side of caution, especially where there is a large degree of uncertainty or high risk.¹⁶⁹

As explained above, the DGR Project presents a large degree of uncertainty with respect to both unstudied potential effects and unpredictable performance. Given the nature of the DGR Project, and the unprecedented time-scale on which it is expected to perform, there is extremely high risk of significant adverse environmental effects, especially to

¹⁶⁸ EISG, s. 2.1.

¹⁶⁹ EISG, s. 2.5 (emphasis added).

SON's people and their future generations. It is in precisely these circumstances that OPG, this Panel and the ultimate decision makers are required to take a precautionary approach and "err on the side of caution."

The Guidelines refer specifically to the *Framework for the Application of Precaution in Science-based Decision Making About Risk*, which sets out guiding principles for the application of precaution to decision making in areas of federal regulatory activity. The Guidelines state that the proponent must:

- Demonstrate that all aspects of the project have been examined and planned in a careful and precautionary manner in order to ensure that they do not cause serious or irreversible damage to the environment and/or the human health of current or future generations;
- Outline and justify the assumptions made about the effects of all aspects of the project and the approaches to minimize these effects;
- Alternative means of carrying out the Project are evaluated and compared in light of risk avoidance, adaptive management capacity and preparation for surprise;
- That in designing and operating the project, priority has been and will be given to strategies that avoid the creation of adverse impacts;
- That contingency plans explicitly address accidents, malfunctions and malevolent acts and include risk assessments and evaluations of the degree of uncertainty;
- Identify an proposed follow-up and monitoring activities, particularly in areas where scientific uncertainty exists in the prediction of effects; and,
- Present public views on the acceptability of all of the above.¹⁷⁰

The framework for the *Application of Precaution in Science-Based Decision Making About Risk* aligns well with other adaptive management principles and frameworks, particularly those that have been adopted and applied by Canada in the context of nuclear waste management.

¹⁷⁰ EISG, s. 2.5.

4.2.1.2. OPG has Acknowledged the Applicability of Social Safety Requirements

OPG has tacitly acknowledged the applicability of social safety, precautionary principles and principles of adaptive phased management to this Project through the description of its development work in the EIS. For example, OPG has introduced concepts of social acceptance and, specifically, the concept of the “willing host community.” OPG states in as part of its Project Justification, that “[t]he proposed DGR Project site was chosen because it holds two attributes that, based on international experience, are essential for the successful development of a long-term waste management facility: technical suitability, in this case geology that offers multiple natural barriers to safely isolate and contain the waste for tens of thousands of years and beyond; and an informed and willing host community.”¹⁷¹

As discussed below, the concept of “willing host community” is a core concept of all adaptive phased management approaches and is the ultimate demonstration of an affected community’s acceptance and consent to the harms and risks of a project. In the Canadian context, this concept is adopted in the Seaborn Panel Report and the NWMO 2005 Final Study. There is no requirement in CEAA or the Guidelines, however, that required OPG to apply the concept of “willing host community” to the DGR Project. Nevertheless, OPG has conceded that Project required a robust and precautionary approach, even under the requirements of CEAA and the Guidelines, which required this demonstration of public confidence and acceptance. By this concession, and by importing the concept of “willing host community” into the development and management approach for the DGR Project, OPG properly engaged the broader principles of precaution and Canadian and international standards for the management of long-lived nuclear wastes.

¹⁷¹ EIS, at p.3-1.

By invoking the core concept of adaptive phased management, however, OPG was obligated to not only reference those principles but to follow them. OPG was required to apply, in a fully transparent and justified way, the concept of “willing host community:” including, a demonstration and justified assessment of which community or communities should be considered “hosts,” a full assessment and justification of the treatment of other non-host “affected communities,” a credible demonstration that the community is “informed,” and finally a credible demonstration that the community is “willing.” This by definition, and consistent with the principle as described in both the Seaborn Panel Report and the NWMO 2005 Final Study, engages broader concepts of public confidence, evidence of wider public support and demonstration of affected Aboriginal community support.

To permit OPG to gratuitously reference or superficially apply the concept of “willing host community” without requiring the concept’s full application would gut the concept and set a dangerous precedent for its application in future processes—in particular, the HLW DGR siting process. This in turn, would seriously undermine public confidence in that process.

4.2.2. Requirements under Canadian and International Nuclear Waste Management Policy, Standards and Guidelines

The APM approach has been recognized not only in Canada but has been adopted by many other nuclear countries as the appropriate and necessary mechanism for the management of long-lived radioactive wastes.¹⁷² The principles of APM as described in various domestic and international instruments are remarkably consistent and contain several key characteristics, including: commitment to systematic learning, flexibility, reversibility, transparency, auditability, integrity and responsiveness to stakeholders

¹⁷² Blue Ribbon Commission on America’s Nuclear Future: Report to the Secretary of Energy, Washington 2012) and internationally (NEA-5296, Learning and Adapting to Societal Requirements for Radioactive Waste Management, Paris 2004; NEA-4429, Stepwise Approach to Decision Making for Long-term Radioactive Waste Management, Paris 2004.

concerns.¹⁷³ Central to APM principles is the concept of a consensus-based approach to siting future nuclear waste management facilities.¹⁷⁴

In 2005, the NWMO issued its advice document to the government of Canada setting out its intention to follow an adaptive phased management approach leading to the development of a deep geological repository for spent nuclear fuel wastes. That document set out key principles of the APM approach, the hallmarks of which are:

- Commitment to seeking an informed, willing host community.
- Agreement from the preferred site community, and other communities of interest most directly impacted, to proceed with further studies, analyses, environmental assessment and licensing process.¹⁷⁵
- Open, inclusive and fair process to allow everyone with an interest to have their views heard and taken into account.
- Ensure, in accordance with the doctrine of informed consent, that those who could be exposed to harm or risk of harm (or other losses or limitations) are fully informed and willing to accept what is proposed for them.
- Act in accordance with the precautionary principle.
- Special attention and responsibility to potentially impacted Aboriginal communities.¹⁷⁶
- Host community must lead the development of a strategy to manage changes introduced by hosting the facility.
- Host community can determine its own process for demonstrating willingness.¹⁷⁷

¹⁷³ See NEA-7082, 2012.

¹⁷⁴ See BRC and The OECD-NEA's most recent collective statement on geological disposal of radioactive waste recognizes the importance of implementing forms of public involvement addressing enhanced dialogue among all parties concerned and embracing a broader, more realistic approach to learning and decision-making in society as compared with past practices (NEA-7082, Geological Disposal of Radioactive Waste: National Commitment, Local and Regional Involvement, Paris 2012).

¹⁷⁵ NWMO 2005, table 13-1, at p. 272.

¹⁷⁶ NWMO 2005, at 40 – 42, 225.

¹⁷⁷ NWMO 2005, at p. 229.

- Potentially impacted communities must be involved in the iterative determination of risk and safety assessment throughout the implementation process; that requires their involvement at a fundamental level of decision-making.¹⁷⁸
- Multiple decision points to determine whether to proceed to subsequent stages in which impacted communities are involved in decision-making process and their agreement is secured.¹⁷⁹

The principles that will determine whether a management approach can be considered “acceptable,” are even more succinctly stated in the conclusion of the Seaborn Panel, which report gave rise to NWMO and its mandate. The Seaborn Panel’s report concludes that to be acceptable, a concept must:

1. have broad public support;
2. be safe from both a technical and social perspective;
3. have been developed within a sound ethical and social assessment framework;
4. have the support of Aboriginal people;
5. be selected after comparison with risks, costs and benefits of other options;
and
6. be advanced by a stable and trustworthy proponent and overseen by a trustworthy regulator.¹⁸⁰

Given the nature of the DGR Project and its serious and permanent harm and risk to SON Rights and interests, OPG was required to apply these principles to the development of the DGR Project. OPG has failed to meet these requirements.

¹⁷⁸ NWMO 2005 at p. 249.

¹⁷⁹ NWMO 2005, 270, also table 13-1, at 272.

¹⁸⁰ Seaborn Panel Report, s. 4.3

4.2.3. *Legal Obligations to SON Under Law and Agreement*

4.2.3.1. *Obligations Under Canadian and International Law*

As detailed at length in this submission, the potential impact of the DGR Project on SON's rights may be profound. No Aboriginal people in Canada has ever been confronted with the idea of a repository for radioactive nuclear waste being constructed in the heart of its Traditional Territory. The Project would entomb dangerously radioactive materials in the heart of SON's Territory, materials that have the potential to remain dangerous for many thousands of years. For a proponent to undertake such a project, and for the Crown to authorize such a project, the highest levels of consultation and accommodation of SON's rights and interests are required. The level of accommodation required demands that the project not proceed unless and until SON has given its consent to the construction of the DGR in SON Territory.

It is well-established law in Canada that the Crown, or agents of the Crown, must consult with Aboriginal peoples whenever they are contemplating undertaking action that may impair or infringe the Aboriginal peoples' rights. Where appropriate, the contemplated infringement gives rise to a duty to accommodate the Aboriginal peoples' rights, and, where the infringement is sufficiently significant, the duty to accommodate may require the full consent of the Aboriginal people. As explained by the Supreme Court of Canada, "[t]he nature and scope of the duty of consultation will vary with the circumstances . . . [i]n most cases, [the duty] will be significantly deeper than mere consultation. Some cases may even require the full consent of an Aboriginal nation."¹⁸¹

As explained in this submission, the potential negative consequences for the construction of the DGR Project in SON territory are incalculable. The permanent disposal of nuclear wastes in the heart of SON territory is not a minor or transient issue for SON rights, but

¹⁸¹ *Delgamuikw v. British Columbia* [1997] 3 S.C.R. 1010, at para. 168.

rather, has the potential to detrimentally—and permanently—infringe SON’s rights in its Traditional Territory.

The need for SON consent is affirmed by the *United Nations Declaration on the Rights of Indigenous Peoples*, which states at Articles 32(1) and 32(2) that “[i]ndigenous people have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources [and s]tates shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.” The Government of Canada officially endorsed the *Declaration* on November 12, 2010.

The proponent OPG has now recognized this, and has expressly affirmed SON’s right to be a decision maker through its letter of August 7, 2013, in which OPG assured SON that “OPG will not move forward with the construction of a deep geologic repository for low and intermediate level nuclear waste until the SON community is supportive of the project.”¹⁸² OPG is to be commended for this recognition of SON rights and for its commitment to ensuring that the DGR Project does not go ahead without SON consent. This approach by OPG provides a model for any and all future nuclear activities that may be contemplated for SON territory.

It is incumbent on the Panel to affirm the commitment made by OPG and recognize in its report that an undertaking of this gravity requires the consent of the impacted Aboriginal people before it can move forward.

¹⁸² Mitchell Letter.

4.2.4. *Obligations Under Agreements between SON and Ontario*

OPG, as an agent of the Government of Ontario, and correlatively, the Government of Ontario as the sole shareholder of OPG, were required to act in accordance with specific obligations made to SON under legal agreements entered into between SON and the Government of Ontario.

4.2.4.1. *Obligations Under the SON - Ontario Fishing Agreement (2013)*

As described in Section 2 above, and in detail in the affidavit of Paul Jones,¹⁸³ SON recently signed a final substantive Agreement with Ontario (MNR). The Agreement incorporates and implements the commitments and obligations contained in the August 2011 Framework Agreement. The Agreement contains key provisions and commitments with respect to the protection of SON rights relating to its commercial fishery, as well as measures aimed at protecting the resource and instituting mechanisms to rebuild a vertically integrated and economically viable SON commercial fishery.¹⁸⁴

Both the Framework Agreement and the substantive Agreement are based on principles of mutual respect created through a willingness to act in good faith and in a manner respectful of each other and mutual participation in implementing mechanisms that achieve further participation by both parties in decisions about commercial fishing in the waters. The agreement is based on a government-to-government relationship in which SON decision makers would sit directly with MNR decision makers.

Given the strong possibility that the DGR Project will cause serious adverse impacts to the SON commercial fishery, the Government of Ontario is acting contrary to the objectives of the substantive Agreement by permitting OPG to carry out the DGR Project without a full understanding of the impacts that Project could have on the SON

¹⁸³ Jones Affidavit, at para. 85 *et seq.*

¹⁸⁴ *Ibid.*

commercial fishery and without demonstrating a willingness by the SON communities to accept those risks and harms.

4.2.4.2. Obligations under the MEI Agreement (2010)

In January 2010, SON and the Minister of Energy and Infrastructure on behalf of the Government of Ontario entered into the MEI Agreement respecting renewable energy development and related developments and matters within the SON territory.¹⁸⁵ The MEI Agreement contains a number of provisions that anticipate and require consultation and engagement processes between SON and Ontario relating to energy development project initiatives. Some of these provisions require such a consultation process in relation to the DGR Project.

Specifically, as explained above in section 2, the MEI Agreement calls for a study, the NCVS, of SON's historical, current and future uses of its Traditional Territory for, *inter alia*, cultural, spiritual, sustenance and commercial harvesting and economic purposes.¹⁸⁶ The agreement states that NCVS will be a basis for engagement between SON and governments, planners and proponents on future energy related projects. It is incumbent on Ontario and OPG, with SON, to take the results of the NCVS into consideration as part of the planning and decision-making process for the DGR Project.

The MEI Agreement also makes specific reference to nuclear issues within SON territory. It obliges Ontario to be a party to consultation and accommodation process with SON and other parties, including OPG and NWMO, focused on the resolution of SON concerns about the history, current operations and future of the Bruce Nuclear site. The agreement specifically references a process to address the future of nuclear projects and facilities in the Anishnaabekiing (the SON Territory):

¹⁸⁵ MEI Agreement.

¹⁸⁶ MEI Agreement, s. 24 *et seq.*

33. SON has expressed concern about the history, current operations and future of the Bruce Nuclear site. The Parties agree that the resolution of these issues is complex and will require the participation of multiple parties, including SON, Ontario, Canada, Bruce Power, Ontario Power Generation and the Nuclear Waste Management Organization based on their respective authorities and roles.

34. The Parties recognize that a consultation and accommodation process is the appropriate mechanism for addressing the future of nuclear projects and facilities in Anishnaabekiing and that the process may include consideration of concerns relating to existing projects.

35. The Minister agrees to be a party to a consultation and accommodation process established between SON, Canada and other federal agencies around the future of nuclear projects and facilities in Anishnaabekiing, focused on those matters for which Ontario has jurisdiction, responsibilities or a role in decision-making.¹⁸⁷

The current decisions being made in connection with the DGR Project, and more broadly, strategic level decisions about nuclear waste management issues within SON territory, are precisely the matters that are contemplated in MEI Agreement. Consequently, these decisions must be part of an appropriate consultation and accommodation process, consistent with this the MEI Agreement, the common law and the honour of the Crown.

4.3. OPG Failed to Demonstrate Social Safety

As explained above, it is not enough for OPG to demonstrate the technical safety of the Project. OPG must also establish the Project's "social safety"—that is, SON and others must have confidence in the quality and completeness of the technical assessment and be satisfied that that the level of scientific certainty is sufficient for it to accept the permanent risk associated with the Project. OPG could only do this through compliance with Canadian and international legal frameworks, standards and guidelines that articulate the principles of a precautionary, adaptive phased management based approach. These principles required, at a minimum, that OPG demonstrate: (1) that it had performed a credible assessment of alternative means of carrying out the project, including the

¹⁸⁷ MEI Agreement, ss. 33-35.

consideration of alternative sites for the Project; and (2) demonstration of SON community and wider public confidence and support for the Project.

As will be explained below, OPG has failed to meet these requirements. In the case of an analysis of alternatives, especially alternatives that would materially reduce the risk to SON, OPG has admitted it carried out no work at all to assess alternative sites, while its assessment of alternative means was materially flawed. OPG has not provided any credible demonstration of SON community or wider public confidence and support for the Project.

At this time, the SON communities do not have sufficient confidence in the completeness of the scientific and technical assessments of the DGR Project, and do not have confidence that potential risks are fully understood and that those risks can be mitigated.

From the perspective of SON, OPG has not demonstrated either the technical safety of the DGR Project or the social safety of the DGR Project. Consequently, at this time, OPG does not have the support of SON for the DGR Project. OPG has committed to SON that it will not proceed with construction of the DGR Project until the SON communities are supportive of the Project. SON submits that only through this commitment, and its implementation, can OPG demonstrate the requisite social safety and acceptance of the Project.

4.3.1. *OPG's Alternatives Analysis*

OPG has failed to meet a critical and basic requirement of CEAA and the Guidelines regarding the identification and assessment of alternative means of carrying out the Project and the justification of its preferred approach. An alternatives analysis is required to address alternative means, and specifically, alternative sites for the Project under consideration. The significance of OPG's failure in this regard is magnified because of unique characteristics of the DGR Project, and its significant potential harm to SON

Rights. The failure of OPG to consider the alternative means, and site, for the Project has been a continued and particular concern to SON.

4.3.1.1. Requirement to Assess Alternatives

Sections 7.2 and 7.3 of the EIS Guidelines require OPG to consider Alternatives to the Project and Alternative Means of Carrying out the Project, respectively. Section 7.2 requires the EIS to describe and consider functionally different ways to meet the Project's need and achieve the Project's purpose. Section 7.3 requires the EIS to identify and describe alternative means to carry out the Project that are technically and economically feasible.

In addition to the requirements above, section 2.5 of the Guidelines require that alternatives are considered in a particular way to ensure compliance with precautionary principles. It requires that (1) alternative means of carrying out the Project are evaluated and compared in light of risk avoidance, adaptive management capacity and preparation for surprise, and (2) [the EIS must] present public views on the acceptability of . . . the above. As explained above, under adaptive phased management principles, the consideration of alternative sites, and a demonstration of a "willing host community" are of central importance.¹⁸⁸

OPG has failed to meet even the basic requirements of identifying and evaluating alternative means of carrying out the project, presenting public opinion on those alternatives and justifying its choice of a preferred option.

¹⁸⁸ EISG, s. 2.5.

4.3.1.2. *OPG's Alternative Means Analysis was Deficient*

OPG retained Golder Associates to perform an Independent Assessment Study (“IAS”) for the DGR Project.¹⁸⁹ The purpose of the IAS was to determine the best technological storage alternative for low- and intermediate-level waste at the Bruce Nuclear site from among the following alternatives: status quo; enhanced processing and storage (above ground); surface concrete vaults; deep rock vault (*i.e.*, the proposed DGR). Golder Associates prepared its IAS in February 2004.

As noted above, sections 7.2 and 7.3 of the Guidelines specifically require that an alternative means analysis be based on fully supported and documented evidence that the evaluation is performed to a high level of detail. The Guidelines explicitly require OPG to explain how criteria were developed for evaluating alternatives, provide reasons for rejecting alternatives, and identify the preferred alternative based on environmental, economic and technical benefits and costs. The analysis must allow the Panel to compare the chosen project and its alternatives. The methodology used in the preparation of the IAS (subsequently incorporated into the EIS) raises serious issues, and falls far short of the requirements set out in the Guidelines.

Most fundamentally, Golder failed to perform a quality cost estimate consistent with widely recognized international standards.¹⁹⁰ There are cost estimating guidance documents available in Canada and internationally regarding cost-benefit analyses for project approvals. Instead of following any of these best practices, Golder (and subsequently OPG) simply provided a bottom-line cost for each alternative without any

¹⁸⁹ This section summarizes the findings of the report by John Greeves and Richard Ferch, “Critique of the OPG EIS and Golder Associates Independent Assessment Study” (August 7, 2013) (the “IAS Report”).

¹⁹⁰ IAS Report, s. 4.

supporting documentation, explanation of assumptions or methodology, or discussion of limitations.¹⁹¹ Specific deficiencies include:

- Failure to provide detailed substantiation of design, pre-construction, licensing and approvals costs
- Failure to provide detailed description of the cost basis for decommissioning design/plan cost estimate, nor selection of preferred design
- Failure to address Aboriginal concerns and cost issues (partly a function of the identified study area specifically excluding SON reserves, notwithstanding the Bruce Nuclear Site is within SON's Traditional Territory)
- Failure to indicate cost estimating methodology

In preparing the EIS alternative cost estimates (and related schedule), three different organizations were used to develop estimates: Golder (for the proposed DGR); SGN (for enhanced processing and storage); and OPG (for status quo and WWMF operations). Absent supporting documentation for any of the estimates, however, it is impossible to verify whether the estimates provided are comparable or even reliable.

More generally, the Golder IAS claims to be based on a number of detailed background studies relating to the long-term management of low- and intermediate-level waste, but provides no references to any of these specific studies.¹⁹² Indeed, Golder's cost estimate is prepared without providing any references whatsoever.

Golder's IAS also contains numerous deficiencies with respect to the EIS Guidelines for providing a cost estimate, notwithstanding OPG uses the IAS as the basis for its EIS submissions. These deficiencies are listed in detail in an attached report¹⁹³, but some of the more significant include:

¹⁹¹ IAS Report, at p. 14.

¹⁹² IAS Report, s. 5.3.5.

¹⁹³ IAS Report, s. 5.3.

- Failure to document how scientific, engineering, traditional and other knowledge was used to reach its conclusions of the DGR preference
- Failure to provide supporting documentation to ensure its results were transparent and reproducible
- Failed to provide a quantitative risk analysis to address uncertainty, reliability and sensitivity in cost models for each of the four alternatives
- No evidence that the “best available information and methods to the highest standards and relevant subject area” were used in any analyses to justify conclusions
- Per Section 7.2 of the Guidelines, no detailed analyses of costs of alternatives described the functionally different ways to meet the Project’s needs and purpose from the perspective of the proponent
- With respect to the DGR alternatives within OPG’s control, no reasons given for rejecting alternatives as technically unfeasible.¹⁹⁴

In EIS Table 3.3.7-1 (excerpted below), OPG provides a summary of results for Golder’s IAS, estimating total expenditures for the life of each alternative. Neither OPG nor Golder, however, provide any support or documentation for the cost estimates; the costs are only for low-level waste storage; the costs reflect only construction and lifetime operating costs (not facility design, licensing, site preparations, and stakeholder considerations); and no cost provision was included for dealing with intermediate-level waste. Moreover, neither OPG nor Golder considers cost data from similar facilities operating elsewhere in the world (including Sweden, Finland, New Mexico and Spain),

¹⁹⁴ The main technical reason for choosing deep geological disposal over the other alternatives appeared to be the unsuitability of those other alternatives for disposal of long-lived ILW. In other words, the decision to co-locate LLW and ILW effectively pre-determined the outcome of the comparison of alternatives. The two alternatives most commonly followed internationally, namely: (1) the option of near-surface disposal of LLW while retaining long-lived ILW in storage waiting for an alternative disposal route for ILW; and (2) the option of co-locating long-lived ILW with used fuel instead of with LLW; were not included among the alternatives considered.

notwithstanding substantially higher costs at all these facilities, in some case many tens of times higher.¹⁹⁵

Table 3.3.3-1

Parameter	Status Quo	Enhanced Processing and Storage	Surface Concrete Vaults	Deep Rock Vault
Total Expenditure	\$648 million	\$776 million	\$923 million	\$927 million

Overall, the errors and omissions in Golder’s IAS—all of which are incorporated without revision or explanation into OPG’s EIS—represent a total and irremediable failure to meet the Guidelines for Alternatives Assessment. Deficiencies such as these raise serious questions about the quality and reliability of the foundational assessment work relied upon by OPG in connection with the proposed DGR Project.¹⁹⁶

4.3.1.3. OPG’s Failure to Assess any Alternative Site

OPG, as part of its alternative means assessment, was specifically required to consider alternative sites for the DGR Project. Section 7.3 of the Guidelines requires the EIS to identify and describe alternative means to carry out the project that are technically and economically feasible. Specifically, section 7.3 states (emphasis added):

To the extent that these alternative means are feasible for the proponent, this may include, but are not limited to, the following:

¹⁹⁵ IAS Report, s. 7.2.

¹⁹⁶ Note that a Joint Review Panel has recently encountered a similarly deficient alternatives analysis and recommended that additional, independent work be completed before the project could move forward. The JRP for the Lower Churchill Hydroelectric Generation Project in Newfoundland and Labrador (CEAA ref. no. 07-05-6178), proposed by Nalcor Energy, identified “many outstanding issues” in Nalcor’s alternatives analysis, including Nalcor’s cost estimates, and found Nalcor’s alternatives analysis to be “inadequate”. In response, the JRP recommended an independent analysis of project alternatives before governments make their decision on the project. (Recommendation 4.2 in the Nalcor JRP Report, dated August 2011.)

- Alternatives to “natural” containment (*i.e.*, engineered barrier);
- Alternative storage systems;
- Timing options for various components and phases of the project;
- Construction methods;
- Layout and design of the DGR;
- Siting of the DGR in a different location within the existing site;
- **Siting of the DGR in a location outside the existing site;** and
- Reduction at source.

Notwithstanding, OPG declined to consider an alternative site for the proposed DGR Project. The EIS purports to discuss alternative sites in s. 3.4.2.1, which OPG titles “Choice of Site—On and Off of the Bruce Nuclear Site”. Nowhere in this section, however, nor anywhere else in the EIS, does OPG discuss siting the DGR Project in a location outside the existing site.

The Panel recognized this omission and specifically asked OPG to provide information about its consideration of alternative sites.¹⁹⁷ OPG’s response,¹⁹⁸ states that OPG did not consider any specific alternative (or “greenfield”) sites. Rather, OPG looked “conceptually at the alternative of locating the DGR Project on the Bruce nuclear site versus seeking a greenfield site off the Bruce nuclear site.”¹⁹⁹

OPG then states, “The assessment of on-site versus off-site locations considered the cost, worker health, public health and safety, technical feasibility, and effects on the environment including social and economic effects.”²⁰⁰ The response cannot be accepted. It is not coherent to claim a conceptual assessment of factors like “cost” or

¹⁹⁷ Information Request EIS-02-40.

¹⁹⁸ Document #523, dated June 1, 2012.

¹⁹⁹ *Ibid.*, p. 19.

²⁰⁰ *Ibid.*

“technical feasibility”—assessment of these factors requires the identification, assessment and comparison with a specific greenfield site. It is simply not credible to compare a conceptual assessment with the *actual assessments* of cost and technical feasibility for the Bruce Nuclear site location. A further problem with OPG’s response is that it was required under the Guidelines to identify and assess public views with regard to its alternative means and site assessment.²⁰¹ OPG does not provide any documentation suggesting compliance with this requirement of the Guidelines as part of its “conceptual” assessment of alternative sites.

Contrary to its current position made in response to Panel information requests, OPG admits specifically in its EIS document that it did not consider alternative sites. OPG states clearly that it “did not actively solicit other potential host communities or undertake geoscientific studies at other sites. The feasibility studies for the Independent Assessment Study . . . were a very public process and during this process, no other municipalities approached OPG seeking to be considered as a potential host for a long-term L&ILW facility.”²⁰² In other words, OPG did not consider alternative sites because no alternative sites actively sought out OPG for consideration.

On its face, OPG’s justification for its failure to consider alternative sites for the DGR Project are wholly inconsistent with the requirements of the Guidelines. Moreover, and as explained elsewhere in this submission, the significance of this Project, including the disposal of long-lived intermediate wastes, its connection to a future HLW DGR Project and its potential serious impacts on SON rights, obliged OPG to perform a serious, credible and transparent alternate site analysis. Instead, OPG has relied entirely on a decision made by the council of the Municipality of Kincardine as justification for its

²⁰¹ EISG, s. 2.5.

²⁰² Document #523, dated June 1, 2012, at p. 21.

choice of location for this landmark project and, ultimately, its decision to move ahead with the Project.²⁰³

4.3.1.4. Impact of OPG's Failure to Consider Alternatives on SON Rights and Interests

OPG was required to appropriately and credibly consider alternative means to carrying out the Project. OPG failed to do so. This is particularly problematic from the perspective of SON: by failing to consider an alternate site for the Project outside of the Study Area, and outside of SON territory, OPG has compounded the risks and harms faced by the SON communities from current operations at the Bruce Nuclear site and foreclosed any opportunity to materially reduce those risks and harm in the future. In essence, OPG has entrenched and made permanent the harms faced by the SON communities due to historical decisions to place the Western Waste Management Facility within SON territory, a historical decision made without any consultation with SON.

The Guidelines required OPG to give particular consideration to the interests of SON in its alternatives analysis. Section 2.3 of the EIS Guidelines explicitly recognizes “[t]raditional knowledge, which is rooted in the traditional life of Aboriginal people, has an important contribution to make to an environmental assessment.” Traditional knowledge may “contribute to project siting and design, identification of issues, the evaluation of potential effects, and their significance, the effectiveness of proposed

²⁰³ As required by principles of adaptive phased management and precaution, a search for alternatives ought to have been based on discussions with a range of potential host sites. No such discussions occurred, and no public dialog respecting the long term management of long-lived ILW in Canada has occurred, so it is impossible to know what the results of such a discussion might have been. However, it is at least conceivable that wide-ranging consultations might have led to a social consensus that disposal of Ontario's long-lived radioactive wastes in the Great Lakes basin was undesirable, given that there are other alternative locations within the province. In this connection it is interesting to note that in the UK in January 2013, Cumbria county council voted against continuing the search for a geological disposal site in the county, despite an initial positive vote in the prospective host municipality. See *e.g.*, European-level Guidelines for the Inclusive Governance of Radioactive Waste Management, COWAM In Practice, coordinated by Mutadis, Paris 2010: http://cowam.com/IMG/pdf_CIP-EUG_version_finale_telechargeable.pdf; and <http://eandt.theiet.org/news/2013/jan/nuclaer-waste.cfm>. The Cumbria example is discussed further in these submissions and in an attached report.

mitigation, cumulative impacts, and the consideration of follow-up and monitoring programs.”²⁰⁴ Section 2.4 of the EIS Guidelines requires consideration of sustainability and intergenerational fairness—seeking to meet the needs of the current generation without compromising the ability of future generations to meet their own needs.²⁰⁵ Related to this, the risks and impacts of the DGR Project cannot be considered in isolation from the existing and historical risks and impacts from the nuclear facilities on site. This is recognized in section 11.5.3: “[t]he EIS must identify any concerns raised by such Aboriginal people about the project or other past or present means of storing or disposing of nuclear waste, and regarding the cumulative effects of the project in combination with any other over these areas.”²⁰⁶

SON has consistently questioned OPG’s alternative means assessment, and in particular, questioned its failure to consider alternate sites outside SON territory. This is acknowledged and documented in the EIS.²⁰⁷ Further, SON has consistently questioned the decision to proceed with the DGR Project without addressing the existing legacy of nuclear facilities at the Bruce Nuclear site and the historical decisions that led to it.²⁰⁸

The decisions by government and proponents in the 1960’s to develop a nuclear facility at Douglas Point, in SON Territory, and the decision to site the Western Waste Management Facility on the same site in 1974,²⁰⁹ were unilateral decisions made without any regard for the rights and interests of SON. These decisions have created a legacy of challenges and impacts on SON Rights and interests that are not yet well understood. Until very recently, the siting and development of the DGR Project stood as a continuation of this historical record of exclusion of SON from the most critical decisions

²⁰⁴ EISG, s. 2.3.

²⁰⁵ EISG, s. 2.4.

²⁰⁶ EISG, s. 11.5.3.

²⁰⁷ Discussed above, the section “OPG failed to consider any alternative site”.

²⁰⁸ See *e.g.*, the Kahgee Affidavit.

²⁰⁹ At the time called the Radioactive Waste Operations Site 2 (RWOS 2).

facing its Territory. Now, with the commitment from OPG that it will not proceed with the DGR Project without the support of the SON communities, SON is hopeful that this shameful legacy will finally come to an end.

4.3.2. *OPG Failed to Demonstrate SON or Public Support*

As explained above, given the nature of the DGR Project, OPG was required to credibly demonstrate SON and wider public confidence and support for its Project. This follows from the requirements of CEAA and the Guidelines, as well as Canadian and international policy, standards and guidelines respecting the management of long-lived radioactive wastes. Further, special obligations are owed to SON under the constitution, the common law duty to consult, international declaration and specific legal commitments made in agreement between SON and the Government of Ontario.

4.3.2.1. *OPG's Multiple Failures Have Undermined Confidence*

SON communities do not currently have confidence in OPG's assessment of the potential impacts and risks of the DGR Project, including those associated with its construction, operation and long-term performance. This is so for the following reasons:

- OPG's failure to fully address key technical concerns regarding the construction, operation and long-term performance of the DGR Project;
- Failure to consider significant vectors of harm to SON Rights and interests, *e.g.* stigma effects;
- Failure to credibly explain and address in transparent way the connection between DGR Project and a future HLW DGR;
- Failure to undertake any credible alternatives analysis; and
- The resulting failure to engage SON in a process to consider alternatives and mitigation strategies for harms and risks.

These multiple failures have undermined the confidence of the SON communities in OPG's assessment of the safety of the DGR Project, and its assessment of the harms and

risks to SON Rights, interests and way of life. This represents a barrier to SON communities providing their acceptance or support of the Project at this time. There is evidence that these failures have also acted to undermine a broader public confidence in the DGR Project, and that this lack of confidence has now extended to other agencies and institutions responsible for nuclear waste management in Canada, including NWMO and CNSC.

These are precisely the dangers warned of in the Seaborn Panel report, and were the basis of the requirement for demonstrable public support and demonstration of social safety.

4.3.2.2. No Credible Demonstration of Support

As explained above, OPG set out to demonstrate public support for the DGR Project, and the existence in Kincardine of a “willing host community.” To demonstrate community support for the DGR Project, OPG relies on a community poll conducted by Kincardine Council.²¹⁰ The question posed to respondents was: “[D]o you support the establishment of a facility for the long-term management of low and intermediate level waste at the Western Waste Management Facility?” The results, based on a response rate of just 71%, were as follows:

- Yes: 60%
- No: 22%
- Neutral: 13%
- Don’t know/refused to answer: 5%

OPG characterized the poll results as “positive”²¹¹ and elsewhere claimed that “Over 85% of respondents indicated that a long-term management facility would not cause them to

²¹⁰ EIS, s. 2.2.1.5.

²¹¹ EIS, s. 2.2.1.5.

move from the community or change their behaviors regarding their recreational activities.”²¹² OPG’s characterization of these results is simply wrong: 60% positive on a 71% response rate is, at best, inconclusive. The DGR Project contemplates permanent storage of nuclear waste: far greater support is required to show meaningful community support.

More importantly, the question posed to respondents is far too vague to yield reliable, useful results. The question makes no mention of: nuclear waste, the DGR Project, where specifically the waste will be stored or that the waste storage will be permanent. Indeed, the poll on which OPG bases its entire demonstration of community support for the DGR Project contains no information whatsoever about the DGR Project.

Rather than broad public support, there is now substantial and growing evidence of strong opposition to the DGR Project.²¹³ OPG has not attempted to understand or incorporate this evidence into its assessment or conclusion of support for the DGR Project. Nor has OPG sought to perform subsequent polls, surveys or votes as a means to credibly demonstrate wider public support for its Project.

²¹² OPG EIS, s. 3.3.6.1.

²¹³ See SON’s Cumulative Effects Submissions, February 26, 2013, at paras. 39 and 41.

5. OPG's COMMITMENT TO SON AND THE FUNCTION OF THE EA

The DGR Project stands to cause profoundly negative impacts to the rights and interests of SON, including to their means of livelihood, their spiritual and cultural identity and their deep connection to their Traditional Territory. The Project threatens to undermine the constitutionally protected Aboriginal and treaty rights of SON.

The negative impacts of the DGR Project on SON Rights and interests are potentially extensive, poorly understood and cannot be easily mitigated. Many cannot be mitigated at all, and would simply have to be accepted. For reasons set out in these submissions, SON submits the evidentiary record is incomplete and insufficient for the Panel to make a recommendation for approval of the Project at this time.

Further, the Guidelines, the governing law, and the Crown's obligation to SON imposed a heavy burden on OPG, the Panel and the Crown to develop, review and implement this Project in a manner that takes full account of—and accommodates—SON rights and interests. For this reason, the Project cannot be ultimately approved or constructed without the demonstrable support of the SON communities.

OPG does not, at this time, have the support of the SON communities for the construction its DGR Project in SON Territory. For many years, SON has maintained its position that SON consent is required before the DGR Project can proceed. SON repeatedly sought assurances from OPG and others in this respect.²¹⁴ For many years, those requested assurances were not forthcoming.

To its great credit, OPG has now taken steps to affirmatively recognize the need to obtain the support of the SON communities before proceeding with construction of the DGR. On August 7, 2013, Chiefs Chegahno and Kahgee of SON received a letter from Tom

²¹⁴ See letter correspondence attached as Exhibit "H" to the Kahgee Affidavit.

Mitchell, President of OPG.²¹⁵ That letter states, *inter alia*, that “OPG will not move forward with the construction of a deep geologic repository for low and intermediate level nuclear waste until the SON community is supportive of the project.”²¹⁶

The commitment by OPG is properly understood as an interim accommodation measure. It will ensure that the SON communities have the opportunity to fully understand the DGR Project, the risks involved and how the DGR may impact SON rights and interest in their Traditional Territory. Once those issues are fully understood, the SON communities will be able to make an informed decision about whether they support the construction of a DGR in their Traditional Territory. This is a critical step by OPG, and a model for how future decisions with respect to SON Territory should be made. The letter also commits OPG to work with SON to identify and resolve legacy issues respecting the Bruce Nuclear site, another significant concern of SON that is discussed elsewhere in this submission. Together, these two commitments are the foundation for OPG and SON to work together to reconcile long-standing issues respecting the Bruce Nuclear site and create appropriate mechanisms for future decision-making.

The commitment by OPG to SON gives new function to the analysis and conclusions reached by this Panel. The August 7 letter states that “[t]he determination of the SON’s support shall include diligent efforts by OPG and the SON for the good faith, informed resolution of any impacts on the SON’s aboriginal and treaty rights *identified in the environmental assessment of this project* or project impacts otherwise agreed to through the ongoing engagement between SON and OPG.”²¹⁷ It is the expectation of SON that the findings of this Panel will form part of the evidentiary and technical foundation for the upcoming community-based process to identify, understand and resolve issues. As stipulated in the JRP Agreement,²¹⁸ the Panel’s report will also serve a similar function—

²¹⁵ Mitchell Letter.

²¹⁶ *Ibid.*

²¹⁷ *Ibid.* (emphasis added).

²¹⁸ JRP Agreement.

to create part of the evidentiary foundation—for future consultation processes between SON and the Crown with respect to the Project.

SON welcomes the positive and necessary development that OPG's commitment to SON represents. But the letter is only the first step on a long road. SON community support will only be demonstrated through the development and implementation of a process that can: (i) fully identify potential harms and risks of the Project to SON Rights and interests; (ii) give SON communities confidence in the assessment of such harms and risk; (iii) develop appropriate mitigation strategies and demonstrate SON community acceptance of harms and risk that cannot be mitigated; (iv) address issues resulting from the DGR Project within a larger context of existing and future nuclear projects within SON Territory; and (v) ultimately, demonstrate SON community support for the Project.

SON and OPG must now build on the commitment to work together on a new model for decision-making in SON Territory, and work to define the nature and scope of a process that could lead to a clear demonstration of support for the Project by the SON communities. This will not be a quick, or easy process. SON and OPG must be permitted the opportunity to undertake this fully complete this process.

THIS SUBMISSION IS BY:

SAUGEEN OJIBWAY NATIONS

Chippewas of Saugeen First Nation
RR #1
Southampton, ON N0H 2L0

Chippewas of Nawash Unceded First Nation
RR #5
Warton, ON N0H 2T0

Alex Monem
amonem@pstlaw.ca

Nuri G. Frame
nframe@pstlaw.ca

Pape Salter Teillet, Barristers & Solicitors
546 Euclid Avenue
Toronto, ON M6G 2T2
Phone: 416 -916-2989
Fax: 416-916-3726

Counsel for Saugeen Ojibway Nations

CEAA Registry Reference No. 06-05-17520

**Submissions of the Saugeen Ojibway Nation—Hearings for Deep
Geologic Repository Project for Low and Intermediate Level
Radioactive Waste—CEAA Ref. No. 06-05-17520**

**August 16, 2013
Toronto, Ontario**

TABLE OF CONTENTS

1. OVERVIEW	5
2. SON RIGHTS AND INTERESTS IN THE STUDY AREA	7
2.1. SON Are the People of the Anishnabekiing	7
2.1.1. SON’s Treaties and Relationship with the Crown	8
2.1.2. Recognition of SON Rights in the JRP Agreement	10
2.2. SON Culture and Identity Depend on Connection to Territory	11
2.2.1. Historic Relationship of SON to Their Territory	11
2.2.2. Recent Developments and the MEI Agreement	12
2.3. SON Commercial and Sustenance Fishery	13
2.4. SON Tourism and Recreational Use Economy	21
2.5. SON’s Future Depends on Health and Productivity of Territory	24
3. THE DGR PROJECT AND ITS THREAT TO SON	27
3.1. Project Creates Significant Potential Threats to SON	27
3.2. Stigma Effect from DGR Project	29
3.2.1. Requirements under CEAA and Guidelines	30
3.2.2. OPG’s Assessment and Conclusion on Potential Stigma Effects	31
3.2.3. Stigma Effects from DGR Project have not been Adequately Assessed	32
3.2.4. OPG failed to Consider the Extensive International Literature on Stigma	33
3.2.5. Failure to Consider Relevant Case Studies: Yucca Mountain, Nevada and Cumbria, England	34
3.2.6. OPG Performed Flawed Survey Work in Support of its Conclusions	40
3.2.6.1. Surveying Wrong Populations	40
3.2.6.2. Biased Survey Questions	42
3.2.6.3. Inadequate Survey Size and Geographical Scope	44
3.2.6.4. Unsubstantiated Methodology	45

3.2.7.	Stigma Effects will Cause Serious Adverse Impacts to SON Fishery and Tourism Economy.....	46
3.2.7.1.	The SON Fishery	46
3.2.7.2.	The SON Tourism Economy	50
3.3.	Impact on Fish, Fish Populations and Habitat	51
3.4.	Geology, Construction and Long-Term Performance	53
3.5.	Transportation Issues	55
3.6.	Connection Between the DGR and the HLW DGR.....	57
3.6.1.	Panel Decision Respecting the Consideration of the HLW DGR Project ...	58
3.6.2.	The HLW DGR Project Amplifies Risks and Harms to SON.....	59
3.7.	Harm to SON Identity, Spirituality and Connection to Territory	61
4.	OPG HAS NOT DEMONSTRATED THE TECHNICAL OR SOCIAL SAFETY OF THE DGR PROJECT.....	64
4.1.	Nature and Characteristics of DGR Project and its Risks.....	65
4.1.1.	Inclusion of Long-Lived Intermediate Level Nuclear Wastes.....	65
4.1.2.	Connection Between DGR Project and HLW DGR Project.....	70
4.1.3.	DGR Project Causes Serious and Permanent Harm and Risk to SON Rights and Interests.....	72
4.2.	OPG Required to Demonstrate Social Safety	74
4.2.1.	Requirements Under CEAA and the Guidelines	74
4.2.1.1.	Precautionary Approach.....	74
4.2.1.2.	OPG has Acknowledged the Applicability of Social Safety Requirements	76
4.2.2.	Requirements under Canadian and International Nuclear Waste Management Policy, Standards and Guidelines.....	77
4.2.3.	Legal Obligations to SON Under Law and Agreement.....	80
4.2.3.1.	Obligations Under Canadian and International Law	80
4.2.4.	Obligations Under Agreements between SON and Ontario	82
4.2.4.1.	Obligations Under the SON - Ontario Fishing Agreement (2013).....	82
4.2.4.2.	Obligations under the MEI Agreement (2010).....	83

4.3.	OPG Failed to Demonstrate Social Safety	84
4.3.1.	OPG’s Alternatives Analysis	85
4.3.1.1.	Requirement to Assess Alternatives	86
4.3.1.2.	OPG’s Alternative Means Analysis was Deficient	87
4.3.1.3.	OPG’s Failure to Assess any Alternative Site	90
4.3.1.4.	Impact of OPG’s Failure to Consider Alternatives on SON Rights and Interests	93
4.3.2.	OPG Failed to Demonstrate SON or Public Support.....	95
4.3.2.1.	OPG’s Multiple Failures Have Undermined Confidence	95
4.3.2.2.	No Credible Demonstration of Support	96
5.	OPG’s COMMITMENT TO SON AND THE FUNCTION OF THE EA.....	98

1. OVERVIEW

The Saugeen Ojibway Nations (“SON”) are the Aboriginal people of the Bruce region, which they know as the Anishnaabekiing. SON have asserted and proven Aboriginal and Treaty rights throughout their Traditional Territory and continue to rely on this territory for their economic, cultural and spiritual survival. SON’s Traditional Territory, including their large reserves, is also the basis of significant and growing commercial fishing and tourism economies. Since time immemorial, SON’s identity, well-being and very existence has relied on the lands and waters of the Anishnaabekiing, and it continues to do so to this day.

Ontario Power Generation Inc. (“OPG”) has proposed to build a deep geologic repository for the permanent disposal of low and intermediate level nuclear wastes (“DGR Project” or “Project”) at the Bruce Nuclear site, in the heart SON’s Traditional Territory. SON has consistently expressed a fundamental and abiding concern that the DGR Project poses a grave threat to its peoples’ rights, interests and way of life. Concerns arise from the untested nature of the technology being used and the permanent—and irreversible—changes the Project will bring to SON Traditional Territory.

SON has particular concerns that OPG has not yet studied or understood many significant potential risks created by the Project and their impact on SON rights and Traditional Territory, including the strong potential for stigma impacts to their fishery and tourism-based economies. Another principal concern remains that the DGR Project has not been understood in the context of existing nuclear issues at the Bruce Nuclear site, including its connection to the long-term management plan for spent nuclear fuel. These concerns have resulted in a significant lack of confidence in the development process for the Project and an overall anxiety about the threat it poses to the SON people.

OPG was obligated to fully identify and address these issues under the terms of the *Canadian Environmental Assessment Act* (“CEAA”) and the Environmental Impact

Statement Guidelines (“the Guidelines”) for the Project. OPG has failed to adequately identify, understand and address these concerns. Consequently, the evidentiary record before the Panel is incomplete and provides an insufficient basis on which to recommend approval of the Project at this time.

Further, because of the unique characteristics of the Project—including OPG’s inclusion of long-lived intermediate level wastes, its connection to a future project for disposal of spent nuclear fuel and its potential for serious adverse affects on SON rights—OPG was required to plan for, site and develop its Project using a precautionary and adaptive phased management based approach. This required OPG to demonstrate, among other things, a robust and credible alternative means analysis and a demonstration of public confidence and support for its Project. Due to the potential for significant impacts on SON rights, and the special obligations owed to SON under law and by agreement, OPG was required to demonstrate SON community confidence, acceptance and ultimately support for the Project.

OPG has now recognized this requirement and has committed to SON that it will not proceed with construction of the DGR Project until such time as the SON community is supportive of the Project. This commitment was made by letter, dated August 7, 2013, from OPG President Tom Mitchell to the SON Chiefs.¹ SON commends OPG for taking this positive and necessary step. Only through the fulfillment of this commitment and the implementation of a process between SON and OPG to fully identify and address SON community concerns, leading to a clear demonstration of support by the SON communities, can the DGR Project be approved and proceed to licensing, and ultimately construction.

¹ Letter from Tom Mitchell (President, Ontario Power Generation) to Chief Arlene Chegahno (Chippewas of Nawash Unceded First Nation) and Chief Randall Kahgee (Saugeen First Nation), August 7, 2013 (“Mitchell Letter”).

2. SON RIGHTS AND INTERESTS IN THE STUDY AREA

2.1. *SON Are the People of the Anishnabekiing*

SON is comprised of the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation. The lands that comprise SON Traditional Territory extend east from Lake Huron to the Nottawasaga River and south from the northern tip of the Saugeen Peninsula (also known as the Bruce Peninsula) to the Maitland River system, eleven miles south of Goderich. The waters that comprise SON Traditional Territory are the waters surrounding these lands and include the lakebed of Lake Huron from the shore to the international boundary with the United States and the lakebed of Georgian Bay to halfway across the Bay.² Various agreements with the Government of Ontario and with public and private industry proponents have expressly acknowledged these lands and waters as comprising SON's Traditional Territory.³ The SON communities occupy large, unceded communal lands (reserves) bordering Lake Huron and Georgian Bay and SON also has exclusive use of a large hunting reserve in the northern part of the Saugeen Peninsula.

SON and their ancestors have occupied these lands since time immemorial. As set forth in the affidavit of Chief Randall Kahgee, “[t]he undisputed historical evidence . . . establishe[s] that for centuries prior to the arrival of European settlers, the Saugeen Ojibway had occupied a vast area of what is now southwestern Ontario, encompassing all of what was known as the Saugeen, now the Bruce Peninsula, and including the area south of Georgian Bay and extending west to the eastern shore of Lake Huron.”⁴

² The SON Traditional Territory map is appended to the MEI Agreement between SON and the Ministry of Energy and Infrastructure in Right of Ontario, signed January 2010 (the “MEI Agreement”). It is also included as part of the EIS as figure 6.9.2-1.

³ For example, the MEI Agreement and the Agreement to Establish a Joint Review Panel for the Deep Geologic Repository Project by Ontario Power Generation Inc. within the Municipality of Kincardine, Ontario, dated December 2008 (the “JRP Agreement”).

⁴ *R. v. Jones and Nadjivon*, [1993] 3 C.N.L.R. 182 at para. 44, including the area south of Georgian Bay and extending west to the eastern shore of Lake Huron.”

SON's Aboriginal and Treaty rights entitle them to be sustained by the lands, waters and resources of their Traditional Territory. SON has the right to protect and preserve their Traditional Territory to ensure that it will be able to sustain their future generations.

SON assert that their rights include, but are not limited to:

- The right to continue to be a distinct people living within their Traditional Territory;
- The right to maintain their culture, language and way of life;
- The right to be sustained by the lands, waters and resources of their Traditional Territory;
- The right to the exclusive use and occupation of their communal lands;
- The right to continued use of all of their Traditional Territory;
- The right to harvest for sustenance, cultural and livelihood purposes;
- The right to be meaningfully involved in decisions that will affect their Traditional Territory so that they can protect their way of life for many generations to come; and
- The right to be the stewards of their Traditional Territory.⁵

2.1.1. *SON's Treaties and Relationship with the Crown*

SON have signed numerous treaties with the Crown. These treaties are foundational promises and commitments that created a sacred and enduring relationship between SON and the Crown that exists to this day. These treaties are solemn agreements that allow others to share the use of SON lands while protecting and preserving SON rights to use and rely on those lands for all time and in the way they always have.

Notable among the treaties and commitments made by the Crown to SON is the Royal Proclamation of 1763. The Proclamation was a promise by the Crown (in the person King George III) to protect Aboriginal lands, including SON territory, from encroachment by non-Aboriginal settlers.⁶ The Proclamation was issued at a time when Aboriginal people held the balance of power in the Great Lakes region, and clearly

⁵ Affidavit of Randall Kahgee, August 15, 2013 ("Kahgee Affidavit"), at para. 50.

⁶ Royal Proclamation of 1763 (attached as Exhibit "B" to the Kahgee Affidavit).

recognized Aboriginal ownership of their traditional territory as a pre-existing interest that co-existed with any assertion of Crown “sovereignty.”

In 1764, Crown representatives met with more than 1,500 Anishnabek Chiefs and warriors at Niagara Falls, including the leaders of what would become SON. The Royal Proclamation was explained as a fundamental commitment to treat Aboriginal peoples with honour and justice. It was stated that the Crown only required the “eastern corner” of the Great Lakes, and that the Anishnabek would flourish with the British as their allies. These commitments—called the Treaty of Niagara—were entered into as an agreement between equals and sealed by the delivery of two wampum belts.⁷

After the Treaty of Niagara, SON ancestors signed a number of other major treaties with the Crown. In these treaties the Crown recognized SON rights throughout their Traditional Territory and set aside large unceded communal lands for their exclusive use and occupation. Of particular significance are Treaties 45½ and 72. Treaty 45½ was signed in 1836 under the threat of ever increasing encroachment by non-Aboriginal settlers and the government’s professed inability to prevent it. SON ancestors agreed to a surrender of 1.5 million acres of their lands south of the Saugeen Peninsula in return for, among other things, a promise by the Crown that it would protect the Saugeen Peninsula and surrounding islands and fisheries from further encroachment. This promise was not kept. In 1854, Treaty 72 was entered into under similar circumstances of encroachment on SON territory by settlers and was again signed in return for the same promises by the Crown to protect what remained of SON land. Pursuant to Treaty 72—the validity of which has been questioned by SON in a pending lawsuit—the majority of land on the Saugeen Peninsula was surrendered, with the exception of SON Communal lands.

⁷ Treaty of Niagara, 1764 (attached as Exhibit “B” to the Kahgee Affidavit).

2.1.2. *Recognition of SON Rights in the JRP Agreement*

In the JRP Agreement, the constituting agreement for these proceedings, the rights and central role of SON are acknowledged. The preamble to the JRP Agreement states:

Whereas the Project would be carried out within the area that the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation (collectively referred to as the SON) identify as Anishnaabekiing, the specified territory they identify that they have traditionally used and occupied;

Whereas the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation have expressed concerns that the Project might adversely affect potential or established Aboriginal rights, title or Treaty rights they assert in that area;

Whereas the Minister and the Commission acknowledge that a duty to consult arises when the Crown has knowledge, real or constructive, of the potential existence of Aboriginal rights, title or Treaty rights and contemplates conduct that might adversely affect it;

Whereas an environmental review of the Project by a Joint Review Panel is an important source of information about effects the Project may have on the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation's potential or established Aboriginal rights, title or Treaty rights, and would therefore support ongoing consultations between the Crown and the Chippewas of Nawash Unceded First Nation and the Chippewas of Saugeen First Nation related to the Project.⁸

The JRP Agreement's recognition of the centrality of SON rights to this review process could not be more clear. Additionally, the mandate of the JRP, as described in the JRP Agreement, specifically identifies the rights of SON:

4.1 The JRP shall conduct the Review in accordance with the Terms of Reference attached as an Appendix to this JRP Agreement in a manner that:

- a) Discharges the requirements set out in the CEAA;
- b) Permits it to obtain the information and evidence required for it to consider the License Application under the NSCA; and,
- c) Permits it to obtain information and evidence about the adverse effects the project may have on potential or established Aboriginal rights, title or treaty

⁸ JRP Agreement, Preamble.

rights as identified to the JRP by SON and enables it to bring any such information and evidence to the attention of the Minister of the Environment and the Responsible Authorities for the Project in support of consultation between the Crown and SON.⁹

2.2. SON Culture and Identity Depend on Connection to Territory

2.2.1. Historic Relationship of SON to Their Territory

SON continue to rely extensively on their Traditional Territory for survival spiritually, culturally and economically. As explained by Chief Randall Kahgee:

Our identity as an Aboriginal people grows out of our relationship and connection to our territory. Our people have a fundamental and unbroken connection to our Territory, and we continue to depend on our lands for our survival economically and spiritually. We continue to define ourselves as a people through our connection to our lands.¹⁰

This explanation from Chief Kahgee aptly summarizes the deep, and abiding, connection of the people of the Saugeen Ojibway Nations to the Traditional Territory in which they have lived, and continue to live, since time immemorial. Chief Kahgee went on to explain that:

We use and occupy the Anishinaabe-aki now as our ancestors did, in a variety of ways and for many purposes, including hunting, fishing and gathering for sustenance, healing, cultural and trade purposes. It is the source of our identity as Aboriginal peoples, and the base for our cultural activities and spiritual ceremonies. We rely on its resources to support ourselves economically. We continue to exercise governance functions and stewardship, in order to protect the territory and ensure its ongoing ability to sustain our People.¹¹

In short, SON has maintained its culture, use and reliance on its Traditional Territory for millennia. This connection has been maintained notwithstanding centuries of

⁹ *Ibid.*, s. 4.1.

¹⁰ Kahgee Affidavit, at para. 21.

¹¹ Kahgee Affidavit, at para. 26.

encroachment by non-Aboriginal settlers and centuries of government action (and inaction) intended to impair and degrade SON's relationship to its Traditional Territory.¹²

2.2.2. *Recent Developments and the MEI Agreement*

After decades of having SON rights and interests in its Traditional Territory ignored or undermined by government, the Government of Ontario has at last begun to take affirmative steps to recognize and enhance the rights of SON in its Traditional Territory. In 2010, SON and the Government of Ontario committed to carrying out a first-of-its-kind study to understand and document SON historical, ongoing and future uses of land within SON Traditional Territory. This unprecedented study—called the “Natural and Cultural Values Study” (“NCVS”)—is a collaborative project between SON and the Government of Ontario. The commitment to undertake the Natural and Cultural Values Study is enshrined within the MEI Agreement,¹³ an agreement between SON and Ontario Ministry of Energy and Infrastructure, signed in January 2010, setting out a number of protection and accommodation measures relating to energy development initiatives within SON Traditional Territory.

This Natural and Cultural Values Study will include research into and analysis of historical, current and future aspects of:

- SON uses of land, water and resources with the area for spiritual and cultural purposes;
- SON harvesting for both traditional and sustenance purposes, and commercial purposes;
- Other economic purposes consistent with SON's historical reliance on the territory to support its culture;
- Existing measures of environmental protection such as protected lands, wetlands; and
- Natural heritage features.¹⁴

¹² See generally the Kahgee Affidavit and the Affidavit of Paul Jones, August 15, 2013 (the “Jones Affidavit”).

¹³ MEI Agreement, attached as Exhibit “C” to the Kahgee Affidavit.

¹⁴ *Ibid.*, ss. 24-27.

The Government of Ontario and SON have committed that the results of the NCVS will inform future consultations and decision-making processes between SON, government, energy planners and energy developers, with respect to, *inter alia*, future energy projects, future transmission expansion in SON Traditional Territory and potential energy development in the waters of SON Traditional Territory.¹⁵

SON and Ontario have engaged researchers from the University of Guelph to carry out preliminary scoping work for the NCVS. A draft proposal is now before the parties. Ontario and SON are still in discussions about securing the appropriate funding, which Ontario is committed to providing under the terms of the MEI Agreement. SON expects that substantive work on the study will begin soon once administrative issues are finalized.

The MEI Agreement, and the NCVS required thereunder, demonstrates a clear recognition by the Government of Ontario of the deep, abiding and profound relationship of SON's people to their Traditional Territory and of the need to protect, preserve and enhance that relationship. The as-yet-uncompleted NCVS further demonstrates that many questions about SON's rights and traditional land use remain unanswered and demonstrates the need to minimize activities in SON Traditional Territory until those rights and uses are more fully explored, explained and understood.

2.3. SON Commercial and Sustenance Fishery

SON have a proven and exclusive Treaty right to a commercial fishery in the waters of Georgian Bay and Lake Huron, within SON Traditional Territory, including all the waters in and around the Study Area and a significant area adjacent to the Study Area. SON and their ancestors have been fishing these waters for sustenance and as the basis of

¹⁵ *Ibid.*, at ss. 28-35.

trade and commerce for many hundreds of generations, and they continue to do so today. This fact has been recognized by the courts and by the Crown.

The EIS describes the SON sustenance and commercial fishery at section 6.9.8. As noted in the affidavit of Councilor Paul Jones of Nawash, however, the description of the SON fishery in the EIS is fundamentally inadequate and without the necessary historical or contemporary context. As explained by Councilor Jones:

I have read OPG's description of our fishery. That description tells a stark and sad story—of a small and diminishing fishery. Maybe it is even intended to imply that this fishery is not worth protecting, or could easily be compensated for if lost. It is typical attempt to understand and quantify a fundamental part of our culture in terms of western science and economy.

But OPG's understanding of our fishery is impoverished. It fails to describe or understand the central role of our fishery in our culture and our economy. It fails to lay out the historical context which explains the current state of our fishery. It fails to tell the story of the hardships and constant struggles our people have faced to protect our right to fish. And it fails tell the story of the victories we have won in the courts and at the negotiating table, and the new future we have committed to with Ontario to restore our fishery to its central place in our culture and economy.¹⁶

As explained by Councilor Jones, the SON commercial fishery had been decimated as a result of several factors, including (i) overuse of fish stocks in Lake Huron and Georgian Bay by non-Aboriginal fishers, (ii) government action and (iii) exclusionary legislation. SON fishers were consistently, and systematically, prevented from exercising their rights and carrying out an economic activity that had sustained SON people for countless generations. Councilor Jones states:

For our ancestors and our Chiefs, the preservation of our fishery has always been a constant and singular concern. Commencing in the mid 1830s, the Province of Upper Canada sought the surrender of the Saugeen Territory. Even at this early stage, our people could see the growing threat to our use and reliance on the fishery posed by European encroachment. It was this encroachment and the

¹⁶ Jones Affidavit, at paras. 16-17.

long series of Crown actions and inactions in response that was the beginning of erosion of our rights and our fishery, notwithstanding promises to the contrary.¹⁷

The affidavit of Councilor Paul Jones sets out a very detailed account of SON's historical fight to have its rights and resource protected. Justice Fairgrieve, in the *R v. Jones and Nadjiwon* case, described the effect of the governmental legislative history to exclude and separate the SON from their fishery as follows:

What the evidence disclosed was a relentless, incremental restriction and regulation of the admitted aboriginal right, despite continuing protests, petitions, objections and resistance by the defendants' band. Much of the conflict appeared to have its source in the apparently inadvertent failure of the first Fishery Act to make any special provision for the treatment of native fisheries or existing treaty rights. The evidence documented as well a protracted intragovernmental policy clash between Fisheries and Indian Affairs. The former generally prevailed, and the fisheries came under increasingly stricter controls.¹⁸

By the end of the 1980s, SON communities were consistently excluded from the waters of their Traditional Territories and were being prosecuted for merely attempting to exercise their rights.¹⁹ October 13, 1989, Ross Forgrave, a Wiarton Justice of the Peace, forced eleven Nawash fishermen, including the Nawash Chief and elders, to stand for 45 minutes as he lectured them about fishing in excess of the meager Ministry of Natural Resources ("MNR") quota. He portrayed them as thieves, greedily taking too many fish. He imposed fines totaling \$32,000 plus jail time (\$200 and 30 days for one fisherman, who caught 9 fish). Paul Jones recalls these fisherman being called "rapers and pillagers" for simply seeking to survive by fishing the waters of their Traditional Territory.

Councilor Jones explains that the community had tolerated their rights being ignored for long enough, and a group of fisherman approached SON Joint Council urging that, rather than being under the constant threat of charge and imprisonment, SON should resolve

¹⁷ Jones Affidavit, at para. 22.

¹⁸ *Jones and Nadjiwon*, at para. 60.

¹⁹ See generally the Jones Affidavit.

their rights once and for all.²⁰ In 1989, Chief Howard Jones and Francis Nadjiwon were charged with fishing without a license and the sale of lake trout in excess of that which was allocated to SON. Nawash Band Council made the decision to divert resources out of the very limited programs and services budget of the community to assist Chief Jones and Mr. Nadjiwon in their defence. The cost of the defending Chief Jones and Mr. Nadjiwon was almost \$500,000.

On April 26, 1993, Mr. Justice Fairgrieve of the Ontario Court of Justice issued the *R v. Jones and Nadjiwon* decision. This decision recognized SON's Aboriginal and treaty right to commercially fish within their Traditional Territory. As a direct result of this judicial affirmation of SON's fishing rights, a series of negotiated agreements between SON and the Government of Ontario were entered into.²¹ Councilor Jones explains that, "[o]ur position was simple: while we did not need an agreement to fish, an agreement would stabilize our relationship with the Crown and bring some peace to our communities. It would also help us rebuild our fishery, reversing years of damage."²²

On June 22, 2000, SON signed an agreement with MNR and Indian and Northern Affairs Canada ("INAC"). The specific terms of the agreement are confidential, but it contained the following key components:

- It more broadly defined the waters for SON fishing within their Traditional Territory, allowing for broader SON commercial fishery than what had been allocated under the previous licensing scheme employed by MNR;
- It ensured that the fishery would be protected by the application of sound science to the setting of safe harvest limits and that SON would be an active participant, and not a mere "stake-holder," in determining the quota that was allocated; and

²⁰ *Ibid.*

²¹ Jones Affidavit, at paras. 53-84. Among these were two "interim" agreements that SON negotiated with the Government of Ontario, which set out measures of protection for SON's fishing rights and measures aimed at protecting the resource.

²² Jones Affidavit, at para. 61.

- It provided for a mechanism by which SON could better assess the fishery by providing for the exchange of data between SON and MNR, and by securing a funding mechanism for this exchange of data.²³

While this agreement provided some measure of protection, it did not create mechanisms sufficient to allow SON to rebuild their commercial fishery in order to, as Councilor Jones says, “restore our fishery to the centerpiece of our culture.”²⁴

In April 2011, SON and Ontario began negotiations towards a substantive fishing agreement that would ensure enduring protection of both the SON right to fish and the resource itself. On August 27, 2011, SON and MNR executed a foundational Framework Agreement to assist the parties in negotiating a long-term substantive fishing agreement.²⁵ That agreement contained several important principles:

- A new relationship with a willingness to build a more positive and better future for the parties;
- Mutual respect created through a willingness to act in good faith and in a manner respectful of each other;
- Mutual participation in implementing mechanisms that achieve further participation by both parties in decisions about commercial fishing in the waters
- The agreement is based on a Government to Government relationship in which SON decision makers would sit directly with MNR decision makers; and
- It created a Governance Committee comprised of SON and Ontario leadership to implement the objectives, commitments and responsibilities set out in the framework agreement.²⁶

²³ Jones Affidavit, at para. 63.

²⁴ *Ibid.*, at para. 105.

²⁵ *Ibid.*, at paras. 75-81.

²⁶ *Ibid.*

The Framework Agreement also made commitments to deal with specific key issues, including:

- Mutual economic benefits;
- Capacity for SON to allow for reconciliation to continue;
- The mutual setting of safe harvest limits based on sound science and not the unilateral allocation of quota under a licensing regime;
- A commitment to study and address the impacts of MNR stocking programs in the waters of Lake Huron;
- The sustainability of the fishery and the waters that support it; and
- The engagement of the Federal Crown.²⁷

On January 24, 2013, SON signed a final substantive Agreement with Ontario (MNR). This Agreement incorporates and implements the commitments and obligations contained in the August 2011 Framework Agreement. It contains Schedules relating to (i) incorporation of the Framework Agreement (Schedule “A”); (ii) the waters covered by the agreement (Schedule “B”); (iii) fishing within the waters (Schedule “C”); (iv) total allowable catch and data exchange (Schedule “D”); and (v) a compliance protocol for SON and non-aboriginal fishers (Schedule “E”).²⁸ The Agreement also contains terms of reference for working groups on (i) Capacity and Economic Development; (ii) Expert facilitation for TAC Determination; and (iii) Expert Facilitation Regarding Fish Stocking.²⁹

Importantly, the January 2013 Agreement also contained provisions for SON and Ontario to work collaboratively to rebuild the SON fishery by creating a high value, vertically

²⁷ *Ibid.*

²⁸ *Ibid.*, at para. 85.

²⁹ *Ibid.*

integrated fishery with the aim of maximizing economic benefit to the SON communities.³⁰

The Capacity and Economic Development Working Group has been established as a collaborative effort between SON and Ontario to develop plans to derive greater economic benefits from the fishery through vertical integration.³¹ This will include efforts to identify and provide for: (i) equipment requirements of SON; (ii) cold storage needs; (iii) processing of fish; (iv) marketing of fish; (v) distribution of fish to the market; (vi) enhancement of revenue for SON processed fish; (vii) employment and training; (viii) costs necessary to address the capacity needs of SON in an economically viable and self-sustaining commercial fishery. In addition, the terms of reference for this Working Group require the identification of the necessary agencies (governmental and non-governmental) to support and implement the terms of reference, and the necessary capital required for implementation of the business plan by the Governance Committee.

Councilor Jones explains that the significance of these efforts and the Working Group is that:

[P]roperly implemented over the long term, this economic working group can restore our fishery, undoing the effects of our historical exclusion, and make it a center piece of our economy, as it once was . . . Our fishing agreements with Ontario set out the foundation for SON, working with Ontario, to rebuild our fishery from the decades' long history of destruction caused by encroachment by European settlers and government actions. This long process of rebuilding is now beginning. Under the 2013 Agreement, for the first time, we can and will restore the fishery to its rightful place within our economy so that it will no longer be the case that only a few fishermen can survive from fishing, but rather that many SON members will be support by our fishery, whether through catch, assessment, processing, marketing or distribution.³²

³⁰ *Ibid.*, at para. 89.

³¹ Jones Affidavit, at para. 94.

³² Jones Affidavit, at para. 92.

It must be noted that despite these recent efforts to rebuild the commercial fishery and maximize economic benefit, to the SON people the value of their fishery—even their commercial fishery—cannot be understood in simple economic terms. As Councilor Jones says, “the right for any SON member to go to the water to catch a fish to feed his or her family, or to make a living, is a right that cannot be assigned an economic value. Rather, it is fundamental to who we are as a people . . . [t]hese lands and waters are part of our belief system; they are not just ‘rights’ which are inalienable to our people. This is engrained in our prayers to the creator in regard to the spirits in the lands and waters.”³³

SON has undertaken enormous efforts politically and legally to protect its rights and the fishery itself. SON has intervened in almost every significant regulatory proceeding respecting industrial projects and plans that stood to affect the waters, fish or fish habitat of Lake Huron and Georgian Bay.³⁴

It is the view of SON that their commercial fishery is the basis of a renewed economy for their people and communities. They have fought many decades to protect their right and the resource. SON has just now created the conditions that will allow them to restore their fishery:

Our goal is to preserve our ability to live off our fishery, as our people always have. The fight for our inherent aboriginal and treaty rights has come at an enormous cost to our communities. But today, for the first time in our recent history, we believe we are on the road to rebuilding our fishery because of 150 years of work and a newly signed 2013 Substantive Fishing Agreement SON negotiated with the Province of Ontario. We are doing so primarily under the terms of that Agreement, while at the same time another arm of the Ontario government is seeking to bury nuclear waste within hundreds of meters from our waters and important spawning grounds.³⁵

³³ Jones Affidavit, at para. 20.

³⁴ See generally Jones Affidavit.

³⁵ Jones Affidavit, at para. 8.

SON communities have expressed a deep and persistent concern that the DGR Project threatens to undermine these efforts and threatens to fatally harm their commercial fishery:

[W]e believe, and have reason to believe, that the DGR could strike a fatal blow to our fishery. The burial of nuclear waste at the shore of Lake Huron will stigmatize our fishery, will increase development with our territory, and will ultimately increase stressors on the waters of Lake Huron to the detriment of our commercial fishery and our connection to the lands and waters. Should the Panel approve OPG's plan, and the DGR is built, the decision will be irreversible and will change our territory forever.³⁶

The mere possibility of the DGR Project may undermine SON efforts to attract investments needed to rebuild their fishery. As Councilor Jones says, "I worry that nobody will be willing to make these investments if they fear there will be no market at the end of the day if fish from Lake Huron become stigmatized as 'fish from the nuclear waste dump.'"³⁷

2.4. SON Tourism and Recreational Use Economy

SON's communal lands and Traditional Territory have developed over time to include a thriving recreational leasing and tourism economy. This economy has become a critical component of the SON economy, and stands to increase in absolute and relative importance into the future.

As discussed in the report on SON's tourism business,³⁸ Saugeen First Nation operates a profitable cottage leasing business, with over 1,200 cottages available on or near the shore of Lake Huron. Rental rates range between \$750 and \$1,250 per week. The business generates \$33 million in private incomes annually an additional \$7.4 million in revenues to Saugeen First Nation. Saugeen First Nation's cottage income represents

³⁶ Jones Affidavit, at para. 10.

³⁷ Jones Affidavit, at para. 99.

³⁸ Daniel Charles Mussatti, "SON and Tourism" (August 15, 2013) ("Tourism Report").

approximately 30 percent of SFN's annual budget. Many of the individual Saugeen members of who derive income from leasing activities have limited alternative income sources on the reserve.³⁹

In addition, the Saugeen communal lands contain the vast majority of what is referred to as Sauble Beach, one of the premier beach locations and tourism attractions in Ontario. This area draws hundreds of thousands of visitors each year, from which the SON community derives significant economic benefit. The Saugeen First Nation plan to continue to increase the value of this resource for the economic benefit of its members.⁴⁰

The Chippewas of Nawash have approximately 500 cottages for lease along the shore of the Georgian Bay, as well as the Cape Croker Indian Park camping grounds, which attracts between 3,000 and 4,000 visitors annually. The Nawash cottages rent for between \$650 and \$1,000 per week. Park rates range from \$30 to \$40 per night for campsites and cabins are \$65 per night. In 2012, the Park accommodated about 125 seasonal campers, 5,000 to 10,000 overnight campers and 1,000 to 2,000 weekly visitors. From all sources, the Nawash camping and leasing activities generated approximately \$1 million in income.⁴¹

As explained in the Tourism Report, the ongoing viability of the SON recreation and tourism economies is dependent on the unique natural characteristics of the Saugeen Peninsula and Lake Huron and Georgian Bay. These areas are still marked by exceptional natural beauty and diversity. The Saugeen Peninsula is home to two national parks, eight provincial parks, and four Federation of Ontario Naturalists Parks. Parks Canada describes the region as:

In the heart of a World Biosphere Reserve, the 'Bruce' is place of global significance. Thousands of visitors come each year to experience the massive,

³⁹ *Ibid.*, at p. 8.

⁴⁰ Kahgee Affidavit, at para. 22.

⁴¹ Tourism Report, at p. 8.

rugged cliffs of the park, inhabited by thousand year old cedar trees, overhanging the crystal clear waters of Georgian Bay. The park is comprised of an incredible array of habitats from rare limestone barrens to dense forests and clean lakes.⁴²

In 2010, almost 1.5 million people made visits to Bruce County and spent roughly \$169 million, including \$41 million on accommodation. The vast majority of these visitors are considered “eco-tourists,” meaning they are drawn by outdoor/nature-related amenities. Particularly relevant to the proposed DGR, visitors to the Saugeen Peninsula regularly rank water-centred activities as their primary reason for visiting (boating and fishing), underscoring the importance of Lake Huron’s pristine waters to the perceived value of visiting the Peninsula.⁴³

SON’s recreational and tourism based economy is already a critical component of the overall economic sustainability and well-being of the SON communities. It is a significant way in which the SON Territory supports and sustains the SON people. As Chief Kahgee states in his affidavit: “our Aboriginal and Treaty rights entitle us to be sustained as Aboriginal Peoples by the lands, waters and resources of our territory, and to protect our territory to ensure that it will be able to sustain us far into the future . . . [t]he rights recognized in our Treaties are not frozen or predetermined. They evolve to allow us to exercise our essential rights and practice our way of life as Aboriginal Peoples in a modern context.”⁴⁴ Consequently, a threat to the ongoing viability of the SON Territory to sustain an tourism based economy—*i.e.* as a result of adverse impacts from a DGR related stigma—would compromise SON’s ability to continue to be sustained by their Territory. This, in turn, would represent a profound impact on the SON as people. “If we

⁴² See Parks Canada/Bruce Peninsula National Park of Canada: <http://www.pc.gc.ca/eng/pn-np/on/bruce/index.aspx>. (August 14, 2013).

⁴³ Tourism Report, at pp. 1-3.

⁴⁴ Kahgee Affidavit, at paras. 48-49.

were every required to leave our Territory, if our lands and water could no longer sustain us, it would be the end of us as a people.”⁴⁵

2.5. SON’s Future Depends on Health and Productivity of Territory

The continued sustainability of SON is dependent on the lands and waters of their Traditional Territory. SON people define themselves through their place on the land and their connection to the land. Councillor Paul Jones recounts how his father explained the SON connection to their lands and waters:

My elders told me that our land is sacred to all the Ojibway. Aishinaabek surround the Great Lakes. I heard stories of how the Ojibway used to have their sacred ceremonies on the Bruce Peninsula. When they had their sacred ceremonies they could hear the heartbeat of the earth – the wave at Lake Huron against the Bruce Peninsula.⁴⁶

Chief Randall Kahgee explains, “[m]ost significantly, however, our people and communities rely on our Territory for our cultural identity—the Saugeen Ojibway people and our culture cannot be separated from this place.”⁴⁷ Chief Kahgee quotes Professor Darlene Johnston, a Nawash member, during her expert testimony at the Ipperwash Inquiry as saying: “for the Anishnaabeg, the Great Lakes region is more than geography. It is a spiritual landscape.”⁴⁸ During that inquiry, Professor Johnston spoke of the connection between SON people and the land:

Professor Johnston explained the connection between totemic identity and the soul that remains with the body. The Aboriginal people in the Great Lakes area have a totemic or clan system that is patrilineal. Children are born into the clan or dodaim of their father. The Anishnabek belong to clans such as the Beaver, Crane, and Caribou. They believe they derive from animals. In Aboriginal culture, there is an “interconnection... between people and animals” and “the

⁴⁵ *Ibid.*, at para. 46.

⁴⁶ Jones Affidavit, at para. 3.

⁴⁷ Kahgee Affidavit, at para. 44.

⁴⁸ *Ibid.*, at para. 45.

land.” The dodaim or totemic identity is inscribed on the grave posts rather than the personal name of the deceased.⁴⁹

The defining difference between the SON people and other residents of the Bruce area, is that for the SON, there is no other place to go. As Chief Kahgee says:

I have spent my whole life listening to my Elders. I have spent many many hours listening to my community as their Chief and I know this – if we were every required to leave our Territory, if our lands and water could no longer sustain us, it would be the end of us as a people. We have no other place to go. And if our people start to fear developments in the Territory, if we become anxious about the safety of our lands and waters, if we develop a dread of accident in the future – a deep and fundamental connection will be severed. It will be a deadly blow to our cultural existence.⁵⁰

SON communities have real fears and concerns about the DGR Project. Some of those concerns deal with the interaction of the Project with other existing and future activities at the Bruce Nuclear site and how the DGR Project relates to existing and future nuclear waste management initiatives with the Territory. But, many of the concerns are with the DGR Project itself, and the harms and risks it poses to SON rights, interests and SON Traditional Territory.

It is not only a catastrophic accident or malfunction that would pose an existential threat to SON. Lesser impacts could have equally devastating effects. SON rely on their lands and waters for their economic and cultural well-being. This is most clearly demonstrated by their many-decades-long fight to preserve and rebuild their commercial fishery, and their reliance on a tourism-based economy. As will be explained below, the DGR Project threatens significant harm to these economies, and consequently, threatens to harm the ability of SON Territory to sustain its communities.

There is also significant concern that the development of the DGR Project, if not understood and accepted by the SON communities, would fundamentally alter their

⁴⁹ Linden, Report of the Ipperwash Inquiry, 2007, Volume 1, at p. 24.

⁵⁰ Kahgee Affidavit, at para. 46.

perception of their Traditional Territory, create anxiety and cleave their connection to the land and waters. “OPG has planned its Project to dispose of nuclear waste in our Territory forever. It will create permanent harms and risks for our Territory and people. It will forever change our Territory and become part of the stories of our land, our cosmology. But it is not a positive story.”⁵¹

SON people cannot go anywhere else—their identity is inextricably intertwined with place, and their future relies on the integrity of their territory and its continued ability to sustain SON economically and culturally. If the SON are forced to leave, or if their lands and water can no longer sustain them—spiritually, culturally or economically—they will cease to exist as a people.

⁵¹ Kahgee Affidavit, at para. 70.

3. THE DGR PROJECT AND ITS THREAT TO SON

3.1. Project Creates Significant Potential Threats to SON

SON and its communities have a fundamental and long-standing concern that the DGR Project poses a serious threat to their rights, interests and way of life. These concerns arise from the untested nature of the technology and the permanent changes the Project will bring to the Territory. There are concerns that OPG has not yet studied or understood many significant potential risks created by the Project and their impact on SON Rights and Territory. A principal concern remains that the DGR Project has not been understood in the context of existing nuclear issues at the Bruce Nuclear site, including its connection to the long-term management plan for spent fuel. Collectively, these concerns have resulted in a significant lack of confidence in the development process for the Project and an overall anxiety about the threats it poses to SON.

The deep worry and concern of the SON community is expressed succinctly by Councilor Paul Jones:

We do not yet know all the dangers this project proposes, and we do not believe that OPG or NWMO or anybody else does either. But we do know that there are critical concerns that have not been fully addressed by OPG, and some that have not even been considered by OPG in any meaningful way . . . All of these shortcomings have caused our people significant stress, anxiety and fear – we simply do not know what the dangers of this project are. We are being asked to trust OPG and its science, and take on all the risk that they are right that the DGR Project will not cause significant impacts to our environment, fishery and, ultimately, our way of life.⁵²

And as stated by Chief Kahgee, “OPG has planned its Project to dispose of nuclear waste in our Territory forever. It will create permanent harms and risks for our Territory and

⁵² Jones Affidavit, at para. 138.

people. It will forever change our Territory and become part of the stories of our land, our cosmology. But it is not a positive story.”⁵³

OPG is required under the under the terms of CEAA and the Guidelines to fully address these concerns, as well as the underlying issues about the potential adverse affects of the Project on the environment and SON rights. Under the Guidelines, OPG was required to fully identify, assess, evaluate and justify its conclusions on various key matters relating to SON interests and concerns:

- Potential impact of the project on any asserted or established Aboriginal rights, Aboriginal title and treaty rights, and the measures to prevent or mitigate those potential impacts, and how the concerns of the Aboriginal people will be addressed.⁵⁴
- Potential impacts of the Project on VECs, including:
 - The culture and way of life of the people using the area affected by the Project, and specifically the SON communities.⁵⁵
 - Socio-economic effects.⁵⁶
 - Effects on the physical, mental, and social well-being of workers, public and communities.⁵⁷
 - Effects on business activity, tourism, and property values⁵⁸
 - Effects on First Nations communities, Native Heritage and Cultural Resources, Traditional Uses of Lands and Resources⁵⁹
 - Wide ranging effects on the terrestrial and aquatic environments and animals⁶⁰

⁵³ Kahgee Affidavit, at para. 79.

⁵⁴ Guidelines for the Preparation of the Environmental Impact Statement for the Deep Geologic Repository for Low- and Intermediate-Level Radioactive Wastse, January 2009 (“EISG”), s. 2.2.

⁵⁵ EISG, ss. 2.6, 5.1.

⁵⁶ *Ibid.*, s. 9.3.

⁵⁷ *Ibid.*, s. 11.5.6.

⁵⁸ *Ibid.*, s. 9.3 (Table 1).

⁵⁹ *Ibid.*

- Potential adverse effects of the project on the ability of future generations of Aboriginal people to pursue traditional activities or lifestyle.⁶¹
- Description and potential impacts on commercial fisheries in the area.⁶²
- Description and potential impacts on lands, waters and resources of specific social, economic, archaeological, cultural or spiritual value to the Chippewas of Saugeen First Nation and the Chippewas of Nawash Unceded First Nation.⁶³
- Any concerns raised by Aboriginal people about the project or other past or present means of storing or disposing of nuclear waste, and regarding the cumulative effects of the project in combination with any other over these areas.⁶⁴

3.2. Stigma Effect from DGR Project

OPG is required, by operation of various sections of the Guidelines, to consider the potential stigma effect caused by the DGR Project. A “stigma effect” is defined by OPG as “the negative images attached to a neighborhood, community, other geographic area and its residents or to local products and services.”⁶⁵ Rather than discharge its obligations under the Guidelines, OPG has carried out a significantly inadequate stigma analysis, characterized by: a failure to address the voluminous international literature on stigma; a failure to consider, assess, analyze or apply lessons learned from two highly relevant case studies from proposed DGR projects at Yucca Mountain, Nevada, and Cumbria, England; and the conduct of inadequate and faulty surveys and polls aimed at determining the possibility of a stigma relating to the DGR Project. As a result of this, OPG comes to a completely unsupported and highly suspect conclusion that “there are no

⁶⁰ *Ibid.*

⁶¹ EISG, s. 10.

⁶² *Ibid.*, s. 10.2.2.

⁶³ *Ibid.*, 10.2.3.

⁶⁴ *Ibid.*, 11.5.3.

⁶⁵ OPG’s Deep Geologic Repository Project, Environmental Impact Statement, March 2011 (the “EIS”), at p. 7-180.

strong indications that the DGR Project would result in a stigma.”⁶⁶ Given the inadequacy of OPG’s work, and the inconsistency between its conclusion and international experience, this conclusion is not accepted by SON and should not be accepted by the Panel.

The available data and international experience also makes clear that stigma has strong potential to impact food and tourism-based economies, on which the SON economies are increasingly based. These critical potential impacts on SON Rights and interests are not addressed in OPG’s analysis and constitute a significant omission.

3.2.1. *Requirements under CEAA and Guidelines*

OPG’s obligation to identify, understand and address a potential stigma effect from the DGR Project stems from various guidelines on socio-economic effects. Section 11.5 of the EIS Guidelines deals with socio-economic effects on: the economy (11.5.1); land use and value (11.5.2); Aboriginal traditional land use (11.5.3); land-based transportation (11.5.4); navigable waters (11.5.5); human health (11.5.6); and physical and cultural heritage resources (11.5.7).

The Guidelines focus attention on those effects that could impact Aboriginal rights, specifically identifying the rights of SON. Section 11.5.3, dealing with Aboriginal traditional land use, provides as follows:

The EIS must identify any change that the project is likely to cause in the environment, and any effect of any such change on the use of lands and resources for traditional purposes by the Chippewas of Saugeen First Nation, the Chippewas of Nawash Unceded First Nations and any other Aboriginal group including, but not limited to, effects to hunting, trapping, fishing and gathering. For each effect, the EIS must specify where possible the particular area that may be affected. The EIS must identify any concerns raised by such Aboriginal people about the project or other past or present means of storing or disposing of

⁶⁶ EIS, s. 7.10.2.11.