Date: January 15th, 2018

From: Sagkeeng First Nation

To: Candida Cianci, Environmental Assessment Specialist
Canadian Nuclear Safety Commission

By email: cnsc.ea-ee.ccsn@canada.ca

Subject line: Sagkeeng Technical Submissions on CNL Whiteshell Lab EIS

CEAA Reference number: 80124

Comments:

Candida,

Pursuant to the extension granted to Sagkeeng by Clare Cattrysse, attached is a cover letter and associated documents for submission as Sagkeeng First Nation's comments on the technical review of CNL's EIS for its Whiteshell Laboratory in situ decommissioning plan. Sagkeeng's technical review was comprehensive, and recommends specific changes and additional material that is required from CNL. CNSC should adopt Sagkeeng's recommendations without exception.

Please confirm receipt and acceptance of the attached documents. We look forward to discussing this, and more, with CNSC on February 2nd.

Yours Truly,

Corey Shefman

Corey Shefman
<Personal Information Redacted>

January 15, 2018

Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, Ont K1P 5S9

Attention: Candida Cianci, Environmental Assessment Specialist

Dear Ms. Cianci:

Re: Technical Review Comments of Sagkeeng First Nation on the In Situ Decommissioning Application of CNL for Whiteshell Reactor #1

Sagkeeng First Nation ("Sagkeeng") is an Aboriginal people within the meaning of the *Constitution Act, 1982*, an Indigenous People within the meaning of the *United Nations Declaration on the Rights of Indigenous Peoples* and has the capacity of a band under the *Indian Act*. Sagkeeng is a signatory to Treaty #1, and also has traditional and ancestral territory extending into Treaties 3 and 5. The people of Sagkeeng have lived on the Winnipeg River, within the vicinity of what is now known as the Whiteshell Nuclear Laboratory, since time immemorial.

Sagkeeng recently retained OKT and the Firelight Group to assist with its representation and review of Canadian Nuclear Labs' ("CNL") application for a license to decommission the Whiteshell nuclear reactor *in situ* ("ISD"). The Firelight Group has conducted a thorough, independent technical review of CNL's Environmental Impact Statement ("EIS") on behalf of Sagkeeng. Expert reviewers included Alistair MacDonald, Trefor Smith and Tony Brown, information on the specific expertise of these reviewers is available upon request.

There are two attachments to this cover letter:

1. An excel file including two spreadsheets

   (a) The first spreadsheet with 37 numbered comments on the EIS; and

   (b) The second spreadsheet (labelled Appendix 1) outlining a *general* framework for rights-based assessment. A more specific, step-by-step process must be produced on a case by case basis.

2. A technical memo outlining specific concerns that Sagkeeng has with the lack of consideration of psycho-social impacts associated with nuclear waste disposal in the EIS.

To be clear, Sagkeeng expects to have its recommendations from this cover letter and in the attachments adopted and for the Crown (including its agents in CNSC and AECL) to get serious about consulting with us on this project which carries such high risks for Sagkeeng's well-being and way of life on the land.

Fundamental amongst Sagkeeng's concerns about CNL's proposal to decommission the Whiteshell Reactor *in situ* is that the plan doesn't solve the problem of radioactivity, it merely foists the problem on to future generations. The fact that the duration of the risk far outlasts the planned design life of ISD is absolutely unacceptable. It is anathema to Sagkeeng that the risk and impact of these decisions will be forced onto future generations. Sagkeeng lived and exercised its traditional practices in the area around the Whiteshell Lab long before the lab was there, and will continue to do so long after CNL is gone. It is Sagkeeng that bears the risk. Moreover, unlike other nuclear waste disposal solutions in Canada, no rigorous siting exercise was conducted to determine the best, and least impacting, site for the facility. The Whiteshell Lab was never built for long-term storage of nuclear waste, and rights-holders including Sagkeeng were never consulted about the possibility of long-term storage of radioactive materials.

As Sagkeeng has made clear to CNSC and CNL in previous meetings, also chief among their concerns is the manner and rationale by which CNL chose ISD. It is clear that there are numerous flaws with the approach used to select the preferred ISD alternative, identified in detail in Sagkeeng comments #4 through #20. Among the most significant gaps:

1. Sagkeeng was not given an opportunity to participate in the process;

2. The assessment methodology was skewed towards the selection of the ISD alternative. For example, excessive emphasis was placed on the avoidance of occupational and transportation risks that can be effectively mitigated, while at the same time giving insufficient attention to long-term impacts to people and the environment; and

3. The Proponent did not adhere to Section 4.2 of the CNSC Guidelines, which require a full and proper assessment of effects of all alternative means to undertake the Project. Only an inadequate, primarily qualitative, assessment was undertaken of the other three alternatives considered.

Given these and other flaws, it is strongly recommended that the CNSC find the EIS inadequate and issue instructions to the Proponent requiring it to convene meaningful engagement with Sagkeeng and other affected parties in a full and proper alternatives assessment process.

Sagkeeng also highlights comments 2, 3, 27, 29, 31, and 33-36, which identify CNL's failure to adhere to both federal requirements, and best practice for assessment of impacts on traditional use of lands and resources by Indigenous peoples, including a lack of any data collection, meaningful consultation with Sagkeeng on the issue of their land uses, land of consideration of past and desired future uses, and overall inadequate consideration of this required assessment pursuant to *CEAA, 2012* s. 5(1)(c).

The near total absence of Indigenous Traditional Knowledge and traditional use information in the EIS, alongside the lack of meaningful engagement with Sagkeeng in establishing a baseline or conducting an effects assessment (or even considering Sagkeeng VC's), is indicative of Sagkeeng's overall concerns with the EIS. The manner in which this EIS was completed is not in keeping with the expectations for acceptable practice established by the Crown in its 'Interim Principles' document issued in January 2016, or in its commitments to better incorporate Indigenous interests into the EA process in the 2016-2017 EA process review.

While Sagkeeng's technical comments are described at length in the attached excel document, key points which are of great concern to Sagkeeng in the EIS include:

- Sagkeeng did not consent to the construction of a nuclear research facility on its traditional lands, nor does it consent to the disposal of radioactive wastes from that facility on its lands. Even the Proponent's weak and inadequate consultation report identifies that our members and leadership have expressed alarm at the new idea to keep the radioactive wastes onsite; nonetheless and without a compelling argument, they have ignored these concerns and plan to do just that.

- Key elements of the proposed facility have a design life of only 300 years. In contrast, Sagkeeng and other indigenous peoples have used the lands surrounding the Whiteshell Laboratories for thousands of years. This land use continues today and will extend far into the future, long after the proposed radioactive waste containment will have failed. When this occurs, hazardous radioactive wastes will be dispersed in the environment, causing impacts to land, water, traditional foods and people. These impacts will last for thousands of years. These are the fundamental truths of this plan, which represents a backslide from the previously approved plan to remove these dangers from our territory, a plan which has been changed without meaningful Crown consultation, and was hatched by a Proponent whose motives are unclear to us.

- Sagkeeng has and will continue to work on the basis that the Government of Canada is responsible for cleaning up the hazardous wastes at the Whiteshell site, regardless of any contractual relationships it may have entered into with CNEA or other parties. In this regard, Canada cannot waive its fiduciary duties to: a) honour its prior commitment to remove the radioactive wastes from Sagkeeng lands; and b) ensure Indigenous interests and Aboriginal and Treaty rights are fully considered and protected. The current application fails to meet both of these requirements. This is inconsistent with the federal government's repeated overtures that it is committed to meaningful reconciliation with indigenous peoples.

- Sagkeeng's required involvement and the expectations of Free, Prior and Informed Consent from Sagkeeng for this major strategic decision by the Crown, requires a much more serious commitment from the Crown to consultation. For example, we have received inadequate funding for participation in the EA. The low level of funding offered suggests a "notification" only level of consultation, in spite of our proximity to the

project and the seriousness of likely (**indeed, in the ISD approach – inevitable**) and possibly in perpetuity impacts to our Treaty rights.

The attached submission includes recommendations to address some of our concerns. However, we emphasize that Sagkeeng has not and will not provide recommendations to improve the ISD method, which was selected unilaterally by the applicant, without any meaningful engagement of our First Nation. We cannot consent to a method that leaves hazardous radioactive wastes on our lands in perpetuity, with the expectation that the containment will ultimately fail, thereby knowingly dispersing radioactivity throughout the local environment. In addition to being fundamentally flawed, ISD nullifies Canada's prior commitment to dispose WR-1 wastes at a purpose-built off-site facility.

In summary, Sagkeeng has considered and firmly rejects Canada's revised proposal for the management of radioactive wastes from WR-1. Instead, we advise Canada to honour its prior commitment to permanently remove hazardous radioactive wastes from our traditional lands.

Yours truly,

<Signature Redacted>

Corey Shefman

CS/AM

Appendix 2: Notes on the Implications of Potential Psycho-Social Impacts. Provided to Accompany Sagkeeng First Nation's Comments on the Draft Environmental Impact Statement for the In Situ Decommissioning of the Whiteshell Reactor-1 (Whiteshell ISD)

Introduction

For Sagkeeng First Nation, the draft Environmental Impact Statement (EIS) for the In Situ Decommissioning of the Whiteshell Reactor-1 (Whiteshell ISD) fails to address what impacts the material in situ will have:

a. In the community downstream;
b. for Winnipeg River users; and
c. in terrestrial areas around the facility.

Of particular concern, are the potential Psycho-Social impacts to Sagkeeng First Nation members. Given the amount of time and financial capacity provided, Sagkeeng First Nation has compiled very preliminary information on potential Psycho-Social Impacts based on a review of current literature. Further research is required to better understand potential impacts in a Sagkeeng First Nation context.

Potential Pyscho-Social Impacts

Overview

Taylor et al (1989; 1991) defines Psycho-Social effects as, "the complex of dysfunction, distress and disability which are manifested in a wide range of psychological and social outcomes in individuals and groups" and "may occur in conjunction with or independent of measurable physical effects (p. 441). Psycho-social effects may be present solely due to the presence of waste on the landscape regardless of whether the risk of contamination is low. Arquette et al. (2002) agrees that adverse health effects, "can and do occur even when there is no physical exposure to toxicants (p. 261).

In situations where potential contaminants are invisible or not easily detected by the senses, individuals will often experience even greater signs of chronic stress and fear of the unknown (Unger, Wandersman and Hallman 1992; Luginaah, Smith, Lockridge 2009). This is the case with fears concerning radiation and nuclear waste. According to the World Health Organization (2011):

> *"These reactions may be exacerbated in radiation emergencies because radiation cannot be perceived by the senses and most people either do not know or do not fully understand the terminology used to express the size of exposures and their potential effects. As a result, community-wide feelings of*

helplessness and vulnerability may arise. Those disasters with a high degree of uncertainty about potential future health effects are more psychologically traumatic than situations with more visible, immediate and predictable outcomes" (p. 90).

Slovic's (1993) risk perception research has found that generally most people view industrial technologies involving radiation (i.e., nuclear power) as high in risk, low in benefit, and unacceptable (p.4).

General Psycho-Social Impacts

Numerous Psycho-Social impacts have been recorded in relation to environmental hazards (i.e. nuclear waste) and include but are not limited to:

- General stress, anxiety, depression (Arquette et al. 2002; Brown (ed.) n.d.; Lima and Marques 2005; WHO 2011)
- Worries and perceptions of uncertainty regarding the natural environment also contribute to changes in behavior, lifestyle, diet, socio-cultural wellness, and psycho-social anxiety (Elliott 1992; Taylor et al. 1991).
- Increased family conflict/family quarrels (Brown (ed.) n.d.; Unger, Wandersman and Hallman 1992)
- Fear and uncertainty over the possible health effects of exposure (Arquette et al. 2002;Brown (ed.); Taylor et al. 1991, Elliott 1992)
- Feeling a loss of control over the present situation and the future (Brown (ed.) n.d.; Rich et al. 1995)
- Anger/anxiety over loss of security and sanctity at home and on the land (Brown (ed.) n.d.; Rich et al. 1995)
- Confusion brought on by trying to understand various government and Proponent documents/ Frustration of dealing with bureaucratic agencies (Brown (ed.) n.d.; Gil and Ritchie 2011)
- Feelings of being stigmatized and isolated (Brown (ed.) n.d.Taylor et al. 1991, Elliott 1992)
- Children inheriting their parents stress and worry (Unger, Wandersman and Hallman 1992; Luginaah, Smith, and Lockridge 2009)
    - Teen suicidal behavior
    - Parents restricting their children's time outside and on the land
- Loss of personal control leading to feelings of disempowerment at the level of individual and the community (Downey and Van Willigen 2011; Rich et al. 1995)

Taylor et al. 1991 further categorized these impacts by social levels:

Social Level	Type of Impacts
Individual	Emotional (e.g. Anger, fear, worry, helplessness, loss of control over environment) Behavioural (e.g. Sleep disorders, lower self efficacy) Somatic (headache, fatigue, depression)
Social Network	Family Disruption (e.g. increased family quarrels) Interpersonal Conflict Social Isolation
Community	Stigmatization Dislocation

Psycho-Social Impacts Specific to First Nations

Taylor et al. (1991) identify that different ethnographic groups will have different social and cultural responses to the stress associated with contaminate exposure (real and perceived). Hines et al. (1997) demonstrated that Aboriginal groups were likely more adverse to nuclear waste storage/repositories near their communities than non-aboriginal communities.[1] The Canadian Handbook of Health Impact Assessment warns that the threat of nuclear contamination poses a disproportionate effect on Aboriginals and that, "Whether or not there is such an occurrence, the stress caused by uncertainty in the minds of the members of the communities constitutes an adverse impact" (Health Canada 2004, p. 2-28). Cumulative impacts from a colonial history can also exacerbate the vulnerabilities of First Nation communities.

As already specified, a Sagkeeng First Nation specific study is required to identify impacts unique to Sagkeeng members. Psycho-Social impacts applicable to First Nations identified in the literature include:

- The perceived tainting of country foods – representative of substantial impacts on levels and enjoyment of traditional country food harvesting and potential decline in the consumption of country foods activity is critical to future retention of the social, economic and cultural way of life (Gil and Ritchie 2011).
- Perceived contamination of water limiting Aboriginal involvement in subsistence and traditional activities on the land (Health Canada 2004).
- Parents restricting children's access to the land due to safety concerns – impeding the transmission of traditional knowledge (Luginaah, Smith, and Lockridge 2009).
- First Nation exclusion from decision-making on their traditional territory leading to feelings of helplessness and disempowerment (Arquette et al. 2002; Gibson and Froese 2004; Gil and Ritchie 2011; Luginaah, Smith, and Lockridge 2009).

[1] Hines et al (1997) hypothesized that this was due to a greater perceived responsibility to future generations.

Recommendations

Several recommendations can be found within the literature for reducing the vulnerability of communities to Psycho-Social impacts. Measures include regional monitoring, Psycho-social monitoring programs, communication/data sharing, and empowering communities to be involved in decision-making[2]. How effective these measures are can depend on the support and resources available for individuals and at the community level (Elliott 2002; Rich et al. 1995).

Regional Monitoring programs, such as the Eastern Athabasca Regional Monitoring Program (EARMP), can address cumulative effects and identify the presence or absence of downstream contamination (EARMP.ca 2018). **A regional monitoring program with heavy Sagkeeng involvement is recommended as a condition to any approved decommissioning project for WR-1; current monitoring plans do not show signs of heavy Sagkeeng engagement.**

Monitoring for Psycho-Social impacts is necessary for assessing the effectiveness of other mitigations (Lima and Marques 2005; Tatz et al. 2006). Tatz et al. 2006 recommended to the Uranium Mining, Processing and Nuclear Energy Review Taskforce. In Australia inclusion of Psycho-social monitoring indicators such as alcohol intake, rates of suicide and attempted suicide, and sexually-transmitted diseases in their monitoring programs. Dedicated research on perceived risk and the outcomes associated with perceived ill health and country food, land and water contamination concerns, and how these factors contribute to negative health outcomes is essential. **The Proponent should provide capacity for Psycho-Social research and monitoring indicators to be developed for Sagkeeng's unique context.**

According to Gibson and Froese (2004), "communication efforts need to include and build on the ways that people know and understand the environment and their relationship to it"(p. 6). Effective and culturally appropriate risk communication has been shown to be essential in facilitating whether and where to harvest country foods in times of uncertainty. Information must be released in a user-friendly form (Gibson and Froese 2004). **The Proponent should provide capacity for a Sagkeeng Traditional Monitoring Program voluntarily, and if this is not forthcoming, CNSC should require this as a condition of any approvals.**

Information as a stand-alone measure, however, is often not effective. Gibson and Froese (2004) advise that communities have the right to be involved in the process of making decisions concerning their traditional territory. Communities require capacity for involvement in decision-making such as technical experts. Governments and companies need to respond to communities and involve them in decision-making (Rich et al 1995; Gibson and Froese 2004; Unger, Wandersman and Hallman 1992). **Proponent to provide capacity support for Sagkeeng to hire technical experts to interpret technical information on environmental risks and the viability of various mitigation strategies.** Emergency response plans and risk management plans developed in collaboration with communities can aide in answering the concerns of

[2] Interestingly, Hines et al (1997) found that financial compensation alone was not an adequate motivator to overcome dread associated with nuclear hazards.

potentially affected members (Gibson and Froese 2004). **Proponent to provide capacity and collaborate in developing Sagkeeng-specific emergency response plans and risk management plans.**

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Sagkeeng Priority Issues with Whiteshell WR-1 Decommissioning			Drafted by The Firelight Group for Sagkeeng First Nation - December 2017-January 2018	
SFN Comment #	**EIS Section, page #**	**Specific language or topic**	**Description of Sagkeeng FN issue or concern**	**Recommended Action**
1	1.1 Project Context; 1.4 Proponent	Ambiguity Regarding Responsibility for Long-Term Liabilities	It is our understanding that: 1. The Government of Canada has entered into a commercial partnership with Canadian National Energy Alliance (CNEA) to manage but not accept the environmental liabilities associated with the Whiteshell site. CNEA is a partnership of multi-national, for-profit corporations. 2. The contractual relationship between Canada and CNEA is focused on the management of environmental liabilities for a defined period of time and does not extend to the long-term / perpetual care of the site. 3. CNL and CNEA are both acting as agents of Canada and, in this regard, the application for the proposed project has been submitted on behalf of the Government of Canada, with the Government's full support. 4. Canada's contractual relationship with CNEA in no way absolves the Crown of its responsibilities for the Whiteshell site and its fiduciary duties to SFN. 5. Canada is and will continue to be responsible in perpetuity for any environmental liabilities at the Whiteshell site, regardless of any contractual relationships it may have entered into with CNEA or other parties.	We request that the Proponent confirm/refute the accuracy of our understandings. Further, we request that the Proponent describe in detail: a) The nature of the contractual relationship between Canada and CNEA. b) The financial terms between Canada and CNEA, with emphasis on any incentives/penalties related to the schedule and budget of the proposed undertaking. c) The respective responsibilities of Canada, CNL, CNEA and other parties for the environmental liabilities at the Whiteshell site, both now and in the future. d) The respective responsibilities of Canada, CNL, CNEA and other parties to fulfill the fiduciary obligations of Canada to SFN as they pertain to the proposed undertaking.
2	1.6.2, Relevant standards, codes and guidelines	Federal guidance under CEAA 2012 for the assessment of effects on Current Use of Lands and Resources for Traditional Purposes ("CULRTP")	This section sets out the relevant codes, standards and guidelines to be followed in the conduct of the federal environmental assessment ("EA"), and includes select Technical Guidance documents produced by the Canadian Environmental Assessment Agency ("the Agency") in relation to the *Canadian Environmental Assessment Act, 2012* ("CEAA 2012"). However, the proponent has omitted reference to the Draft Technical Guidance for assessing Current Use of Lands and Resources for Traditional Purposes ("CULRTP"), a gap particularly glaring in light of the inadequate assessment of same in the EIS (see Section 6.8 comments also).	Please provide explanation for the omission of this technical guidance, and if necessary, please provide additional information through a supplementary information in the assessment of CULRTP for Sagkeeng First Nation ("SFN").
3	1.7 Structure of the Document	EIS is missing section for the assessment of effects on Current Use of Lands and Resources for Traditional Purposes ("CULRTP")	This section does not include reference to the assessment of CULRTP as a stand-alone valued component. *Please also note that virtually all indigenous groups in Canada have rejected the language in CEAA, 2012, that the focus of assessment of effects under Section 5(1)(c) should be limited to "current use" of lands and resources for traditional purposes. Treaty and aboriginal rights and the resources and activities they are tied to, are not limited by current use, but should be assessed with reference to past, present and desired future use. Tying the assessment to merely current use is not in the interests of reconciliation, especially given that alienation effects (cutting indigenous peoples off from current access to lands and resources) have been enforced by prior Crown decisions. See also Comment #27.*	Provide a supplementary submission providing an assessment of CULRTP for Sagkeeng First Nation ("SFN"), including provision of information on desired future use of lands and resources by Sagkeeng.

4	2.0 Purpose of the Project and Alternatives to the Project; Section 2.5.4.2; also Section 3.4.2	Lack of adherence to ALARA principle	1. The "As Low as Reasonably Achievable" (ALARA) principle is an internationally accepted requirement for the management of potential risks from ionizing radiation. The proponent indicates it is committed to ALARA as it pertains to both people and the environment. Specifically, the principle is identified as a "strategic requirement" of the project (S.3.4.2 of the EIS). In this regard, the Proponent asserts that conformance with the ALARA principle was a fundamental requirement of the alternatives assessment. The evidence presented in the EIS suggests otherwise. 2. The original proposal which involved off-site disposal of radioactive wastes is clearly consistent with ALARA; by removing the wastes from the site and depositing them in a robust, purpose-built radioactive waste disposal facility, the residual risks at the WL the site would be reduced to the greatest degree possible, without incurring undue risks at another location. The original proposal and associated commitment to dispose of wastes off-site were made taking into consideration all relevant risks, including occupational exposures and the potential for transportation accidents. 3. In contrast, the revised proposal involves leaving the waste on-site. Under this approach, some effort would be taken to isolate the wastes in situ, but the residual risks would still be greater than those associated with the original proposal . To illustrate, the proposed ISD groundwater will not meet drinking water standards / guidelines during the period of institutional control and for thousands of years into the future. Specifically, the EIS concludes the in-situ "decommissioning alternative represents the highest risk to the environment at the WL site during the post closure phase because the majority of radioactive materials will be present on site, unlike the other alternatives where the radioactive materials are either completely or partially removed." (S.2.5.4.2) 4. Based on its inferior residual risk profile relative to the original proposal, the revised proposal cannot be classified as ALARA; the original proposal keeps risks lower and, based on its prior acceptance, is also "reasonably achievable". 5. Decommissioning WR-1 must comply with the ALARA principle and, as a result, the revised proposal is not acceptable. Notably, the revised proposal also fails to meet the Proponent's own criterion that the ALARA principle will be a "strategic requirement" of the project.	Prior to selecting a preferred alternative, the Proponent should conduct a detailed quantitative assessment demonstrating the performance of each alternative relative to the ALARA principle.
5	2.0 Purpose of the Project and Alternatives to the Project	Lack of a Facility Siting Process, including emphasis on "willing host" principle	1. Despite being referred to as "In Situ Decommissioning" the proposed undertaking involves constructing a permanent hazardous waste disposal facility for radioactive waste. Based on modern best practices, the decision to construct such a facility at a given location would be preceded by a rigorous, transparent and highly consultative siting process. The overall goal of such a process would be to select a preferred site which: a) has superior physical/technical attributes; and b) has a "willing host" for the facility. 2. The extensive efforts of Canada's Nuclear Waste Management Office (NWMO) to find a willing host for nuclear fuel wastes is a recent example of this practice. Ontario Power Generation (OPG) has also implemented a rigorous siting/design process over more than a decade for a radioactive waste deep geologic repository (DGR) that is both technically effective and publicly acceptable. Even non-hazardous waste disposal facilities are subjected to robust siting exercises. 3. With regard to the proposed ISD waste disposal project, a siting study has not been performed to confirm that the Whiteshell site is technically superior and publicly acceptable. As a result, virtually no evidence has been presented to support the conclusion that the site is the most appropriate location for such a facility. Instead, the site was selected primarily because that's where the wastes are currently located. Such an approach is inconsistent with best practices and is not defensible. 4. SFN did not consent to have the Whiteshell radioactive research laboratory constructed on its traditional lands in the first place. Nor does it agree to have the radioactive wastes from that laboratory permanently disposed of and leaking contaminants onto its lands when other viable alternatives exist. 5. On this basis, SFN is not a willing host for the proposed ISD hazardous waste disposal facility.	Prior to selecting a preferred alternative and site, the Proponent should conduct a comprehensive and transparent siting exercise to select a waste management site that is both: a) technically superior to other sites; and b) has a willing host. The rigor of this exercise should be similar to efforts taken for other disposal facilities that contain similar wastes.

6	2.0 Purpose of the Project and Alternatives to the Project	Lack of Rigor, Transparency, or Sagkeeng Values in Alternatives Assessment	SFN was not consulted on the design of the alternatives assessment methodology (criteria, weighting, etc.), nor were they allowed to participate in the assessment itself. The Proponent indicates it did all this alternatives assessment by itself. As a result, the EIS is frankly premature. 1. A variety of techniques are available to ensure that a diverse range of criteria and values are effectively integrated into complex decision-making processes. For example, Multiple Accounts Analysis (MAA) techniques are used extensively within the private sector to inform defensible mine closure decisions. The technique has also been used by INAC and other federal departments operating under the Federal Contaminated Sites Action Plan (FCSAP). 2. When implemented through a collaborative process with interested parties, MAA can serve as an effective tool to gain consensus on the preferred approach. Unfortunately, the process used to select the ISD alternative falls far short of the expectations of MAA or similar approaches. 3. Within the EIS, the proponent presented a high-level, conceptual assessment of alternatives to the project. The qualitative assessment was used to select the preferred ISD approach but insufficient information was presented to justify the selection. While each of the assessed alternatives were noted to have qualitative advantages relative to the other alternatives, it is impossible to discern the rationale for the final decision to select ISD as the preferred alternative. In the absence of a systematic, traceable and more rigorous assessment of alternatives, the decision to proceed with the ISD alternative cannot be justified.	The Proponent's alternative assessment should be revised, using a rigorous, systematic and traceable process. Working collaboratively with SFN and other interested parties, it is recommended that the revised assessment use a Multiple Accounts Analysis (or similar) approach.
7	2.0 Purpose of the Project and Alternatives to the Project	Incomplete Criteria Selection and Weighting Process	1. As noted above, SFN was not given an opportunity to contribute to the alternatives assessment process. Of particular note, SFN was not involved in the identification of the criteria that were used to conduct the assessment. The Proponent's failure to incorporate the value systems of the First Nation into the criteria that were used to select the preferred alternative constitutes a fatal flaw of the process. 2. An additional fatal flaw of the alternatives assessment is the use of criteria that are equally weighted, without giving recognition to their relative importance. This is a gross over simplification that skewed the selection process towards alternatives that perform well in areas that are arguably less important. 3. To illustrate, the ISD approach performed poorly relative to all other alternatives on the "protection of human and ecological health" which is clearly the primary driver for implementing the proposed project. Despite this, ISD was selected as the preferred alternative, reportedly because the approach has advantages in other areas (e.g., lower occupational risks and costs). 4. Without being given appropriate opportunities to contribute to key aspects of the alternatives assessment (e.g., selection of criteria and weighting), SFN cannot provide Free, Prior and Informed Consent (as required under UNDRIP) to the conclusions reached by that assessment, including the selection of ISD as the preferred alternative.	The proponent's revised alternatives assessment should be required to incorporate criteria and weightings that are selected in collaboration with SFN and other interested/affected/priority rights holding parties.

8	2.0 Purpose of the Project and Alternatives to the Project; also Section 12.9	Excessive Emphasis on Occupational Risks	1. The assessment methodology places excessive emphasis on the potential need for mitigation of occupational risks, even though precedent indicates all alternatives can be implemented safely. 2. To illustrate, the majority of "C" circuit was safely removed and placed in on-site interim storage during the first phase of WR-1 decommissioning. The successful decommissioning of "C" circuit serves as evidence that the remaining WR-1 systems can be safely dismantled and removed for disposal elsewhere. Further, hundreds of other sites with radiological and conventional hazards comparable to the WR-1 facility have been decommissioned safely. 3. The conclusion that the occupational risks of decommissioning can be effectively mitigated is supported by multiple statements in the EIS such as: " The likelihood of an occupational health and safety accident occurring, considering controls and mitigation, is unlikely and an accident resulting in a worker fatality is a rare occurrence. Management systems and safety culture already in effect at the WL site, where regular assessment of safety performance is conducted and lessons learned from experience will continue to be applied during the Project." (S.12.9) 4. The Proponent's prior decision to implement off-site disposal indicates that the occupational risks associated with that approach were deemed manageable and acceptable. Nonetheless, the Proponent repeatedly asserts that the partial reduction of those risks was a critically important factor in the selection of ISD as the preferred alternative. These assertions are not accompanied by an analysis that quantifies the residual occupational risks (i.e., after mitigation) associated with each alternative. Without such analysis, there is insufficient evidence to support the Proponent's conclusion that the residual occupational risks of ISD are materially lower than other alternatives. 5. We note that long-lived radioactivity represents a permanent hazard to the environment, as compared to the finite duration of occupational exposures. Within this context, the Proponent's unilateral decision to place a heavy emphasis on minimizing occupational risks resulted in less emphasis being placed on other critically important topics such as the long-term protection of the environment and public well-being. We question the appropriateness of giving priority to the elimination of temporary, manageable and fully regulated/controlled risks to informed workers at the expense of long-term, uncontrolled exposures to the environment and public.	The issues at left need to be integrated into the required multi-partiy reconsideration of alternatives.
9	2.0 Purpose of the Project and Alternatives to the Project; 2.5.1	Excessive Emphasis on Transportation Risks	1. The EIS concluded that that the radiological risks associated with off-site transportation of WR-1 wastes would not be significant. Specifically, S.2.5.1 states: "…the risk of public exposure during transport is extremely low.". 2. Nonetheless, the EIS also states: "….the transportation of waste may result in increased degradation of the existing transportation infrastructure." The Proponent deemed the degradation of roads to be sufficiently important that the alternatives assessment included a criterion preferring approaches that would involve less transportation. 3. The Proponent has not provided any evidence to support the specious argument that the relatively small quantities of waste generated during the decommissioning of WR-1 would have a material adverse impact on the regional road network. 4. In the absence of radiological risks and evidence that waste transportation would cause material impacts to the existing transportation infrastructure, it is inappropriate that the alternatives assessment penalized alternatives that involve off-site disposal. Doing so skewed the selection process towards the ISD alternative.	The issues at left need to be integrated into the required multi-partiy reconsideration of alternatives.

10	2.0 Purpose of the Project and Alternatives to the Project; 2.5.1	Alternatives Assessment - Inappropriate Emphasis on Potential Mitigation Requirements	1. The potential need for mitigation was used as a criterion in the alternatives assessment. Specifically, the EIS states that the alternatives assessment was based on the following: "Alternatives that minimize the need for mitigation the most were considered most favourable, while alternatives that minimize the need for mitigation the least were considered least favourable" (S.2.5.1). 2. Using the potential need for mitigation as an assessment criterion provided limited useful information. It also skewed the assessment towards approaches such as ISD that are fundamentally minimalist (i.e., alternatives that involve the least effort/intervention and cost). This was done at the expense of alternatives that are otherwise superior. 3. To illustrate, the EIS concluded that occupational exposures and transportation risks associated with all of the alternatives can be effectively controlled and mitigated to acceptable levels. Nonetheless, any alternatives requiring such mitigation were classified as "least favourable". 4. Basing the assessment on the potential need for mitigation is inappropriate; penalizing an otherwise superior alternative simply because it requires mitigation to reduce potential impacts to acceptable levels is inconsistent with standard environmental impact assessment practice. Instead, the assessment should be based on the nature of any residual risks after any mitigations have been implemented.	The issues at left need to be integrated into the required multi-partiy reconsideration of alternatives.
11	2.0 Purpose of the Project and Alternatives to the Project	Insufficient Emphasis on Impact Duration	1. Impact duration is typically used as a key determinant when evaluating impact significance. All other factors being equal, an impact that lasts longer is typically classified as being more significant. 2. Potential impacts from the proposed undertaking range from short duration impacts during the active remediation phase to long-lived impacts that will persist for thousands of years after the project has been implemented. 3. The alternatives assessment presented in the EIS did not consider the duration of potential impacts. As a result, the assessment failed to acknowledge impacts that are of lower magnitude but longer durations. Again, this approach skewed the assessment towards alternatives such as ISD.	The issues at left need to be integrated into the required multi-partiy reconsideration of alternatives.
12	2.0 Purpose of the Project and Alternatives to the Project	Failure to Assess the Impacts of all Alternatives	1. The Proponent is required under subsection 4.2 of the CNSC Guidelines to provide in the EIS and assessment of all potential environmental effects of the proposed in situ decommissioning approach and of each alternative mean of carrying out the project. This means that the four different alternatives should all have been subject to environmental effects assessment; they were not. 2. Instead, the EIS provides only a subjective, qualitative evaluation of each of the proposed alternatives. For example, no dose estimates to workers, public, or non-human biota are provided for each of the alternatives. 3. As a result, it is impossible to determine the relative environmental impacts and benefits of each alternative. This undermines the credibility of the assessment process and selected alternative (i.e., ISD). 4. When a proponent neither includes priority rights holding indigenous groups in the alternatives assessment itself, nor provides details behind the criteria assessment, the credibility of the alternatives assessment is very low.	The Proponent should conduct a revised Impact Assessment that quantitively evaluates the relative impacts of all alternatives.
13	2.0 Purpose of the Project and Alternatives to the Project	Inappropriateness of Retrofit Design	1. The WR-1 Facility was designed as a nuclear research reactor, not an in situ radioactive waste disposal facility. Retrofitting it to dispose of radioactive wastes in place more than 50 years after it was constructed without any planning for that potential end state is inappropriate. Fundamentally, such a "retrofit" approach will inevitably be less effective in containing the waste than a purpose-built repository .	The Proponent should present a detailed analysis and comparison of potential radiation exposure pathways from: a) the retrofit ISD concept; and b) a purpose-built, off-site disposal facility, as envisaged in the original CSR proposal.

14	2.0 Purpose of the Project and Alternatives to the Project	Lack of Alignment Between the Hazard Duration and the Design Life of the Proposed Undertaking	1. The 300-year design life of the ISD facility is not aligned with the duration of the hazard, which exceeds many thousands of years. The Proponent acknowledges that, over the long-term, grouting with cementatious materials will be relatively ineffective in preventing groundwater flow through the WR-1 structure (S.6.3.2). 2. Specifically, the EIS suggests that, with time, virtually all of the radionuclides from the WR-1 structure will be dispersed in the receiving environment. This "solution to pollution by dilution" approach is reported to reduce potential risks to acceptable levels. SFN cannot accept an approach that involves hazardous materials being dispersed on its lands, regardless of when it happens. 3. The ISD facility could not withstand the impacts of glaciation; under such a circumstance it is likely that the entire inventory of radioactivity would be widely dispersed. The Proponent's position that this would result in radiological doses below risk thresholds is credible but may not prove accurate. The timeline for such an event is many thousand years in the future. The grout will have fully failed prior to this point and prolonged release of residual radioactivity will have already started.	The current proposal will ultimately result in the dispersal of radioactivity on SFN's traditional lands. This is fundamentally unacceptable to Sagkeeng, as they have idnetified in the past and in the minimal amount of consultation record for this proposed Project. Only a reconsideration of viable alternatives can address this issue.
15	2.0 Purpose of the Project and Alternatives to the Project	Passing the Burden to Future Generations	1. In an attempt to address current liabilities in an expeditious and inexpensive way, the Proponent plans to pass the burden of the radioactive wastes to future generations of the SFN and the broader public. 2. SFN cultural laws and norms and stewardship values on the landscape are in vehement opposition to the "future loading" of impacts onto the generations to follow. SFN has survived in this landscape by taking a precautionary, forward looking approach to managing change; the CNL proposal is contrary to SFN values. 3. Based on the availability of other more permanent and effective approaches (including the previously approved proposal), the SFN cannot accept the ISD concept.	The current proposal would off-load today's problems to future generations. This is fundamentally unacceptable to Sagkeeng because it violates cultural laws and norms. Only a reconsideration of viable alternatives can address this issue.
16	2.0 Purpose of the Project and Alternatives to the Project	Requirements for Perpetual Institutional Control are Unacceptable	1. The proposed license amendment for shallow in situ disposal of WR-1 is likely to require an indefinite period of institutional care to monitor and maintain the infrastructure necessary to prevent potential impacts. Active institutional controls will continue after the stated 300-year institutional control period and will be maintained in perpetuity. These perpetual institutional controls would include, in general, physical barriers/fencing, signage, and other actions to prevent potential exposures to hazards. 2. Relying on perpetual active institutional controls is inconsistent with Canadian and international guidance. For instance, the CNSC has stated "Long term management options should not rely on long term institutional controls as a safety feature unless they are absolutely necessary" (CNSC 2006). In the current situation, institutional controls will be required indefinitely after closure solely because the Proponent is proposing to leave hazardous materials in situ. 3. SFN draws attention to the fact that active institutional controls cannot realistically be expected to remain in place in perpetuity. In this regard, SFN asserts that the decommissioned site must be sufficiently protective of people and the environment, even without long-term institutional control. As a project that involves the disposal of long-lived radioactive wastes, the ISD alternative cannot possibly meet this expectation.	The current proposal would require perpetual institutional controls. Such controls will ultimately fail, thereby resulting in environmental impacts that are fundamentally unacceptable to Sagkeeng. Only a reconsideration of viable alternatives can address this issue.

17	2.0 Purpose of the Project and Alternatives to the Project	Canadian Precedent	1. The proposed ISD concept has never been used in Canada and, despite the Proponent's assurances, there are few cases of it being implemented in other jurisdictions (e.g., the P and R reactors at the Savannah River Site (SRS) and fuel processing facilities at Idaho National Laboratory (INL)). 2. As noted below, international authorities on the management of radioactivity have indicated that ISD should be used only in exceptional circumstances. Using it at the Whiteshell site would set a dangerous precedent, and represent the rescinding of a promise made by the Government to SFN and the people of Manitoba. 3. The revised approach is inconsistent with radioactive waste management practices that are applied elsewhere in Canada. To illustrate, Ontario Power Generation (OPG) plans to develop a deep geologic repository in Tiverton where it will permanently dispose its low and intermediate-level radioactive wastes. Although other alternatives were considered (e.g., surface disposal in a concrete vault), OPG and the local willing host community of Kincardine selected the deep geological repository because it provides the highest level of safety of any option. Specifically, this deep, purpose built facility in competent bedrock will be far more effective at isolating radioactive waste than the shallow in situ disposal concept proposed by CNL / AECL. 4. In summary, no radioactive waste ISD facilities have been licensed in Canada. The current proposal therefore represents a potentially important precedent that could have far-reaching and lasting implications for sites elsewhere in Canada. SFN does not accept being a testing ground for this approach which has clearly been discouraged by leading authorities in the management of radioactivity.	ISD represents a significant deviation from standard best practices for the management of radioactive wastes in Canada. Prior to approving any projects involving ISD, Canadian regulatory authorities should undertake a comprehensive technology review to assess the potential advantages and risks associated with the approach.
18	2.0 Purpose of the Project and Alternatives to the Project	Reversibility	The ISD approach is not amenable to "reversibility" if in the future there is a desire/need to implement a different remedial approach at the site. This could be triggered by an unplanned release (e.g., leakage from the reactor core) and/or a change in public policy / regulation. Removing the radioactive waste from the grouted monolith would become a significant challenge.	The Proponent should provide a detailed description of the approaches that would need to be taken to mitigate any ISD failures that might occur in the future and/or implement any alternate remedial approaches after WR-1 has been grouted.

19	2.3 Purpose of the Project; also 1.1 Project Context	Insufficient Justification for Adopting a Revised Approach	1. The original decommissioning proposal for WR-1, as described in the 2001 Comprehensive Study Report (CSR), was based on the disposal of virtually all radioactive wastes at off-site radioactive waste facilities. 2. Despite this important commitment, AECL subsequently instructed CNL to accelerate the project timeframe such that the site is decommissioned by 2024 (S.1.1). This arbitrary timeline effectively precludes the use of off-site disposal facilities due to the fact that they won't become operational for multiple decades. As a consequence, on-site disposal options such as ISD became the pre-determined decommissioning solution. Significantly, the revised approach is anticipated to cost a fraction of the plan that Canada originally committed to implement. 3. In S.2.3 of the EIS, the Proponent states that a fundamental objective of the revised proposal is to ensure that it does not nullify obligations previously committed to in the CSR. However, it is the view of SFN that switching from off-site to on-site disposal constitutes a significant and fundamental difference between the original and revised proposals. Based on those differences, SFN asserts that the revised proposal is inconsistent with and nullifies AECL's prior CSR commitments. 4. The original (i.e., CSR) and revised alternative selection processes resulted in completely different outcomes: an original proposal with off-site disposal and a revised proposal disposing on site, in situ. The proponent's EIS for the revised proposal does not present an adequate rationale for this fundamental change. However, based on the criteria that were used for the alternatives assessment, it appears that cost and expediency were given increased emphasis by the latter evaluation. There has been no consultation process to confirm that these values, chosen by the Canadian Government and its agents in AECL and CNL, have been confirmed in a socialization process with affected First Nations and other Manitobans. 5. Importantly, Canada's original proposal indicated that low-level radioactive waste present in trenches and radiologically contaminated sediment in the Winnipeg River would be actively monitored for an extended period prior to determining the acceptability of those materials for in situ disposal. In contrast, the revised proposal involves disposing of relatively large quantities of hazardous radioactive waste from WR-1 in situ, without an extended period of monitoring to confirm its acceptability first. 6. In summary, failure to justify the diametrically opposed conclusions of the CSR and EIS undermines the	The Proponent should present a detailed description justifying all differences between the original (i.e., CSR) and revised proposal. The description should clearly demonstrate how the revised proposal does not nullify any of AECL's obligations from the original proposal.

20	2.4.2 Fundamental Flaws of the Preferred Alternative	Lack of Alignment with International Practices	1. The proponent asserts that the ISD approach has been implemented successfully or is planned to be used at a variety of sites in the United States (e.g., Savannah River Site). These projects are very recent and there is insufficient monitoring data to validate their long-term performance. Further, it is critical to note that the vast majority of sites where radioactive wastes have been decommissioned have used conventional off-site disposal approaches. 2. In the vast majority of circumstances, ISD (also referred to as entombment) has not been the preferred method and regulatory / advisory agencies have indicated that it is generally not considered to be an appropriate approach for the management of radioactive wastes. 3. S. 2.4.2 of the EIS states that the Proponent has relied heavily on guidance of international radioactivity authorities, including the International Atomic Energy Association (IAEA). However, based on the following guidance from the IAEA (2014) we question the extent to which the Proponent has followed international best practices: “Entombment, in which all or part of the facility is encased in a structurally long-lived material is not considered a decommissioning strategy, and is not an option in the case of planned permanent shutdown. It may be considered a solution only under exceptional circumstances (e.g., following an accident)”. 4. Further, the US Nuclear Regulatory Commission (NRC 2017) states: “The NRC staff position is that entombment should be used as a last resort for the decommissioning of power reactor facilities, with the expectation that this method would be selected only under unique decommissioning circumstances”, and that “Entombment should be used only if this option provides more benefit than harm to public health and safety and the environment and does not create a legacy situation to be managed by future generations.” IAEA (International Atomic Energy Agency). 2014. Decommissioning of Facilities: General Safety Requirements. IAEA Safety Standards, General Safety Requirements Part 6, No. GSR Part 6. US Nuclear Regulatory Commission, Regulatory Improvements for Power Reactors Transitioning to Decommissioning, Regulatory Basis Document, NRC-2015-0070, 3150-AJ59,2017 November. US Nuclear Regulatory Commission, Regulatory Improvements for Power Reactors Transitioning to Decommissioning, Regulatory Basis Document, NRC-2015-0070, 3150-AJ59, 2017 November.	The remedial strategy for WR-1 should be based only on techniques that are consistent with internationally recognized best practices for the management of radioactive wastes. Such techniques must have a proven track record of effectively containing radioactive wastes for extended timeframes. ISD currently fails to meet this requirement and it therefore cannot be supported.

21	4.0 Aboriginal Engagement; also Proponent-provided Consultation Report	General Comment on Lack of Sagkeng Engagment/Participation	The SFN was not invited to be a participant in the impact assessment, nor the design of the methodology. This is completely inappropriate given the impact the decision will have on the First Nation. 1. The proposed disposal site is within the traditional territory of SFN. The land and waterways surrounding the site have historically been an important part of the economic well-being and transportation system for SFN. "A strongly held conviction among members is that the lands and waterways are the sustaining factors for all life. To members, the land and waters are indivisible and anything that is done to either will have far reaching effects for all life" (SFN 2015). The Project's location in very close proximity to the Winnipeg River, which drains north to Lake Winnipeg and the SFN reserve lands in between, creates a very high level of concern about cumulative effects over the long term on water quality along the lifeblood of SFN. 2. SFN has been in this area and will remain in this area, feeling any adverse effect from the Whiteshell Laboratories, long after the Proponent has planned to actively manage risks at the site. The EIS states that the area was used beginning in the Paleo Indian Period (ca. 11,000 – 7,000 years ago), following the retreat of the last ice age. In contrast, the proposed hazardous waste management facility has a design life of only 300 years. 3. There are several examples of remediation projects led by government agencies where meaningful efforts were taken to ensure interested parties, particularly indigenous residents, were engaged and consulted throughout the decision-making / assessment processes. The Canada Deline Uranium Table (CDUT) to address contamination (including radioactivity) at the historic Port Radium Uranium Mine in the NWT is an example of a progressive and collaborative approach between Canada and the locally affected indigenous population. The process involved numerous workshops, extensive community consultation, community liaison positions, a demonstrated willingness to adjust project plans….and was not rushed to meet a government timeline. 4. Unfortunately, in the case of the current proposal, the proponent has given insufficient attention to engaging and consulting with SFN. While the proponent has made some effort to communicate its plans to SFN leadership and membership, very little attention has been given to the following critically important aspects of engagement and consultation: o a) selection of closure objectives/priorities;	Given the alternatives assessment has not been handled properly, and Sagkeeng has not been engaged in the alternatives assessment process, it is strongly recommended that CNSC find the EIS premature and require a proper engagement process for an alternatives assessment be conducted, with all the parameters identified throughout this submission, prior to the finalization of the EIS.

22	4.0 Aboriginal Engagement	Assessment of potential impacts on Aboriginal rights and treaty rights	Subsection 2.4 related to Aboriginal Engagement, of the CNSC's *Generic Guidelines for the Preparation of an Environmental Impact Statement* ("the Guidelines") refers to information requirements related to understanding potential adverse impacts of the Project on Aboriginal and Treaty rights: "Information gathered through the EA process and associated engagement by the proponent with Aboriginal groups will be used to inform decisions under the CEAA 2012...This information will also contribute to the Crown's understanding of any potential adverse impacts of the project on potential or established Aboriginal or Treaty rights and the effectiveness of measures proposed to avoid or minimize those impacts, and will assist the Crown in meeting its duty to consult obligations." Section 7.0, related to Aboriginal Engagement, of the Guidelines, states that: "The EIS will include...the potential adverse impacts of the project on potential or established Aboriginal or treaty rights...[and] measures identified to mitigate or accommodate potential adverse impacts of the project on the potential or established Aboriginal or treaty rights." Further, Section 3.2, paragraph 14 of the CNSC's *Record of Decision for Canadian Nuclear Laboratories (CNL) on the Scope of Enviromental Assessments for Three Proposed Projects at Existing Canadian Nuclear Laboratories* (March 8, 2017) states, "...CNL has committed to notifying CNSC staff of any concerns raised by Indigenous groups with respect to any impact on potential or established Aboriginal and/or treaty rights, as well as any proposed measures to address concerns raised." (p. 3) However, the EIS appears to be completely lacking any information that characterizes and assesses potential project effects on SFN's **aboriginal and treaty rights**. At minimum, the EIS must include an assessment of potential impacts to SFN aboriginal and treaty rights, including but not limited to the following: 1. Description of SFN rights-based activities and interests in proximity to the project; 2. Potential project impacts on SFN rights-based based acitvities and interests; 3. Identification of potential mitigation measures;	Provide a supplementary submission providing an assessment of potential project impacts on the Aboriginal and treaty rights of the Sagkeeng First Nation. For an overview of essential steps of a treaty/aboriginal rights-impact assessment, please see the Appendix A tab in this spreadsheet.
23	4.0 Aboriginal Engagement	Indigenous involvement in VC Selection	Section 7.0, related to Aboriginal Engagement, of the CNSC Guidelines, states that: "The EIS will include..VCs suggested by Aboriginal groups for inclusion in the EIS, whether they were included, and the rationale for any exclusions" The EIS does not contain information relevant to this requirement.	Please provide a supplementary submission outlining the process conducted by the Proponent for consulting with SFN to identify VCs for inclusion in the EIS, a summary of that consultation process including SFN's final list of candidate VCs, and the Proponent's rationale for the exclusion of any of the VCs.

24	4.0 Aboriginal Engagement	Inadequate depth of consultation	Deep consultation with SFN is required given the context of proposed, permanent impacts to SFN's established treaty rights. The Crown's duty is further deepened by the ongoing Treaty Land Entitlement negotiation process that involves the resolution of outstanding treaty land commitments, a factor that could potentially be negatively impacted by the Project. In spite of this context, it appears that only one meeting has been held with SFN specifically related to impacts to SFN's opportunity to exercise their aboriginal and treaty rights within the vicinity of the project area. It would appear, from this section, that the Proponent and Crown have not undertaken sufficient substantial discussion of potential interactions between the project and SFN rights, severity of potential impacts, or mitigation and avoidance measures to address these potential impacts.	Provide a supplementary submission that provides detailed characterization of the past, current and future rights-based practices of the Sagkeeng First Nation within the vicinity of the Project, providing a project-rights interaction matrix. Potential project impacts include, but are not limited to the following: - improper use of non-native re-seeding stock during reclamation - noise, air emissions during decommissioning/reclamation activities - additional traffic along project access road with potential wildlife collisions, hunting pressures - influx of workers, increased hunting, fishing competition - perception of risk - to water, wildlife (perceived linkage to cancer rates in community) - permanent loss of use and access to treaty use lands
25	4.0 Aboriginal Engagement	Omission of description of previous consultation and related key concerns, recommendations and commitments	We located a conference paper, co-written by Robert A. Helbrecht (a former Director of Decommissioning at the Atomic Energy of Canada Limited, Whiteshell Laboratories) and Daniel J.M. Grondin in 2002, that records SFN's significant interest and involvement in the 2001-2002 federal comprehensive study review (CSR) process, and a range of recommendations and agreements that resulted from the process between SFN and the the Atomic Energy of Canada Limited ("AECL") at that time. (Grondin, D.J.M. and R. A. Helbrecht, "Decommissioning of a Nuclear Research Facility in Canada: Application of the Federal EA Process", WM'02 Conference, February 24-28, 2002, Tucson, Arizona.) A key public concern at that the time the CSR was conducted is noted in the paper as, "Removal of Waste from the Site and the Need for Disposal Facilities", and described as follows: "This issue relates to the **local community reluctance to have waste remain at the site in the absence of on-going research activity with related community benefits**." (p. 15) One of the key commitments to Sagkeeng made by AECL in 2002 and recorded in this paper including AECL's agreement. "to involve the Sagkeeng in the monitoring program to acquire samples and to be trained in analysis. The timing proposed was to initiate involvemet shortly after project implementation." (p. 17) However, this section of the EIS does not refer to any of the consultation processes undertaken with SFN and other local communities at this time, key concerns that were raised, or to the conclusions or recommendations stemming directly from those consultations or to any resulting agreements between SFN and AECL in regards to mitigation/restoration measures and monitoring activities. **This omission is a serious deficiency in the consultation record.**	Please provide a supplementary submission that describes the consultation process that took place in 2001/2002, including description of all key issues and concerns raised by local communities, including SFN, as well as commitments, recommendations, or conclusions that resulted from this process.

26	4.0 Aboriginal Engagement	Omission of analysis of potential impact of proposal for strategic decision to significantly alter the decommissioning strategy as proposed by the AECL in 2001	The current proposal to significantly *alter* the **decommissioning strategy** as proposed by the AECL in 2001, and reviewed under a federal CSR and approved in 2002 CNSC licencing decision, constitutes a "strategic, higher level decisions" that will have a serious impact on SFN's Aboriginal rights and treaty rights. The causal relationship between the current proposed project and SFN's rights is that, if approved, lands that under the 2002 decommissioning plan would be returned to use by SAFN members for exercise of treaty rights with 60 years, would instead be placed off-limits and subject to ongoing restrictions and monitoring for a 300-year period, or essentially, permanently. **The assessment of the impact of this proposed change to the decommissioning strategy on SFN's aboriginal and treaty rights has not been provided in this section.**	Provide supplementary assessment of the effects of proposed revision to the decommissioning strategy on SFN's future opportunity to conduct rights-based activities within and adjacent to the project area. Utilize a scenario analysis that compares potential opportunities for use of the area under the 2002 strategy and the newly proposed strategy.
27	4.0 Aboriginal Engagement	Future use	CEAA 2012 CULRTP guidance indicates that "current use" means "includes "uses by Aboriginal peoples that are actively being carried out at the time of the assessment and uses that are likely to occur in a reasonably foreseeable future provided that they have continuity with traditional practices, traditions or customs….[and] uses that may have ceased due to external factors should also be considered if they can reasonably be expected to resume once conditions change." (p. 4) The proposed project, if approved, would greatly diminish **future opportunities** for SFN to exercise Aboriginal and Treaty rights (and CULRTP) within the vicinity of the project area. The assessment of potential impacts of Crown conduct on the ability to exercise rights **in the future** is required both to meet the Crown's common-law duty to consult, as well as to meaningfully assess potential effects on CULRTP.	Provide supplementary assessment of the effects of proposed project on future use by SFN for rights-based activities within and adjacent to the project area.
28	6.7 Psycho-social Impacts	Psycho-social Impacts are not assessed in any meaningful fashion	1. There are multiple examples in Canada where the mere presence of hazardous waste has exerted an adverse psychological impact on indigenous peoples (e.g., the abandoned Port Radium and Giant Mines). This includes affecting traditional practices, collection of traditional foods, general land use, etc. Depending on the approach to waste management that is taken, such impacts can persist even after remediation. The risk of long to permanent term psycho-social adverse effects and territorial alienation are highest in instances where hazardous materials are maintained in situ, rather than moved to a purpose built facility, because the radiation will stay in place (despite prior promises) and be released for literally thousands of years. 2. The current EIS has placed virtually no emphasis on this aspect that is critically important to the SFN. For example, no consideration is given to the psycho-social impacts and chronic stress that the continued presence of hazardous materials will have on SFN members. 3. The construction of a radioactive waste disposal facility requiring perpetual care within SFN traditional territories will be a major source of long-term anxiety for SFN members. No efforts have been made by the proponent to identify, evaluate and mitigate these impacts.	Proponent to be required to include psycho-social impacts of nuclear waste disposal (never originally envisioned for this site) in a reassessment of effects on SFN and other receptors in relation to human health and well-being VCs, including reference to the plethora of existing literature on this subject. See Appendix 2 (attached to the written submission), which identifies key factors and issues to consider, and identifies some critical actions that may be required for a proper assessment of effects, and for management of psycho-social effects during decommissioning and long-term institutional control.
29	6.8 Land and Resource Use, 6.8.3.3 Assessment Boundaries	Incorrect spatial boundaries for assessment of CULRTP	The spatial boundaries of the assessment are inappropriate for assessing potential impacts to CULRTP. The LSA must include the access road, due to potential increased traffic during decommissioning activities. The RSA must be expanded to include the full scope of SFN's traditional territory (including provincial parks, ecological reserves, wildlife management areas, and regional municipalities, all of which place restrictions on the exercise of SFN's harvesting rights and CULRTP).	Please revise RSA and LSA for CULRTP accordingly and re-submit assessment of potential effects based on these revisions.
30	6.8 Land and Resource Use, 6.8.4.1 Methods	Omission of projects inclusion list for consideration in cumulative effect assessment	A projects inclusion list has not been provided for assessing cumulative effects on CULRTP. However, it is clear that there are numerous past and present projects/activities (e.g., paper mill at Pinefalls-Powerview, hydro-electric dams on the Winnipage River, provincial parks, etc.) that continue to present adverse effects on CULRTP within SFN's traditional territory.	Please provide a supplementary submission that provides a listing of all past and present projects and activities that pose legacy and current cumulative effects with SFN territory (including but not limited to the Winnipeg River).

31	6.8 Land and Resource Use, 6.8.4.1 Methods	Inadequate assessment methodology, re: Current Use of Lands and Resources for Traditional Purposes ("CULRTP")	This section indicates that the assessment CULRTP was entirely conducted through desktop research and non-research "engagement processes" with Aboriginal groups. This is approach is highly deficient and does not meet the current standard of assessment of potential project effects on CULRTP (and rights-based practices) within Canada.	Provide supplementary assessment of the effects of proposed project on SFN CULRTP within and adjacent to the project area, including documentation of pre-industrial baseline, "current conditions baseline" that includes past and current projects/activities within the region that continue to affect CULTRP, project-activities interaction matrix, and use of current best practices relating to community-led traditional knowledge and land use studies.
32	6.8 Land and Resource Use, 6.8.4.2.4 Archaeological and Cultural Sites	Omission of assessment of SFN cultural heritage, including intangible cultural heritage	The EIS (in Subsection 1.6.2) claims adhere to CEAA's *Technical guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the Canadian Environmental Assessment Act, 2012* . This guidance states that changes to cultural landscapes and geographic locations that are linked to Indigenous spiritual and cultural practices must be assessed. However, this section and the EIS as a whole) entirely omits any consideration or assessment of project effects on SFN intangible cultural heritage.	Provide supplementary assessment of the effects of proposed project on SFN's intangible cultural heritage, including effects on SFN cultural landscapes or locations linked to community legacy, spiritual and cultural practices.
33	6.8 Land and Resource Use, 6.8.5 Project Interactions and Mitigation, 6.8.5.2. Results	Interactions analysis results for CULRTP are invalid	The results of the analysis for interactions between the Project and CULRTP VC are invalid for the following reasons: 1. Lack of baseline information for SFN CULRTP; 2. Lack of consideration of SFN future CULTRP within proximity of research; 3. Inappropriate exclusion of wide range of project effects with potential to interact with SFN CULRTP, including exclusion of "restricted access" from consideration as a residual effect; 4. Lack of community consultations/research to validate assumtions of interactions and potential success of mitigation measures in addressing potential impacts on CULRTP.	Provide supplementary assessment of the effects of proposed project on SFN CULRTP within and adjacent to the project area, including documentation of pre-industrial baseline, "current conditions baseline" that includes past and current projects/activities within the region that continue to affect CULTRP, project-activities interaction matrix, and use of current best practices relating to community-led traditional knowledge and land use studies.
34	6.8 Land and Resource Use, 6.8.5 Project Interactions and Mitigation, 6.8.5.2.1 No Linkage Pathway	Conclusion of "No Linkage Pathway" between the Project and cultural heritage; Dust and Noise effects on Land and Resource Use VC	This section has concluded that there is no "linkage pathway" between the Project and cultural heritage; and between Dust and Noise effects and CULRTP. As noted above, due to deficiencies in the characterization of CULRTP, flaws in identification of impact pathways and omissions of potential effects, this conclusion is not supportable and should be revisited. The discussion, on page 6-381, excerpted below provides an example of the flawed conclusions in this section: Land and resources use are restricted on site, although continue to persist in locations adjacent to the WL site. "Project activities, including site preparation, WR-1 Building demolition and operation of the batch mixing plant, are expected to increase the level of nuisance factors (dust and noise) in the LSA; however they are not expected to have a substantial effect on an individual's land and resource use experience or on harvested species because of mitigation and management practices put in place for the Project." (emphasis added) This conclusion is not based on any baseline of current conditions of use, or on any input from SFN in regards to intangible cultural heritage and/or effects of project noise/dust on preferred use of the vicinity of the project for harvesting.	Based on a supplementary community-based study of project-CULTP interactions and mitigations, provide a revised assessment of potential project impacts on CULRTP, taking into consideration cumulative effects.

35	6.8 Land and Resource Use, 6.8.5 Project Interactions and Mitigation, 6.8.5.2.2 Secondary Pathways - Conclusion	The use of ISD as the decommissioning method for the WR-1 Building will change the proportion of the site that can be released for unrestricted use.	The assessment has minimized the impact of the Project in its effect of reducing the overall percentage of the Whiteshell Laboratories footprint that would be returned to potential use by SFN for CULRTP and other activities. On p. 6-384 it is noted, "Under the original decommissioning plan, a smaller percentage of the site (the waste management area) would have had restricted access than with the Project; however, the area with anticipated restricted access under the Project is still small when compared with the remainder of the WL site....Although a smaller proportion of the WL site will be available for unrestricted use as was previously anticipated because of the Project, it is still anticipated that the majority of the site would be safe and appropriate for other use. Overall, this will result in an increase in the amount available for future use in the LSA. As such, these pathways are categorized as secondary." This characterization is incorrect and should be revised to reflect the concerns of SFN and other regional communities to have all waste removed from the site, and how this Project has the potential to adversely impact future use of the area - in perpetuity - as well as heighten community perception of risk related to use and harvesting of country foods from the Winnipeg River and adjacent area.	Conclusions should be revisited in light of supplementary community-based study of project-CULTP interactions and mitigations.
36	6.8 Land and Resource Use, 6.8.5 Project Interactions and Mitigation, 6.8.5.2.2 Secondary Pathways - Conclusion	The Project may change the perceived suitability of the LSA for outdoor recreation and tourism and traditional land and resource uses.	Although the assessment has acknowledged that the Project may have the effect of heightening a perception of risk regarding use of the project footprint and adjacent area and downstream portions of the Winnipeg River, overall the assessment has dismissed community concerns as being attributable to "a small number of users" (p. 6-385) that can be mitigated through "robust communication of environmental monitoring results to confirm the safety of the WL site and help address concerns about future uses." (p. 6-386). Further, although the Proponent notes that currently no communication model exists for the Project to disseminate information to Indigenous communities, it concludes that with "mitigation in place (i.e., communication measures to mitigate perceptions), Project effects on land and resource use are expected to be negligible. The EIS's outright dismissal of community concerns and as illegitimate perceptions that simply require "correction" through the communication of monitoring results serves to underline the failure of the Proponent, through its very limited consultation efforts with SFN and other indigenous communities, to apprehend and appreciate community concerns related to the Project, and in particular why communites in the region want the waste to be completely removed from the facility.	A supplementary process is required by the Crown to address the failure of the Proponent's consultation/engagement process to date, which has not adequately addressed impacts of the Project on aboriginal and treaty rights, as well as community interests and concerns.
37	11.0 Summary of Monitoring and Follow-up Programs	Short and Long-term Management and Monitoring	1. The application for the proposed undertaking was submitted on behalf of Canada, is being reviewed/approved by multiple federal agencies and, if approved, will be regulated by some of those agencies. On this basis, the Project will be “self-regulated”. 2. Taking into consideration the multiple and sometimes conflicting priorities of the federal government, this situation could result in actions/decisions being taken that are not in the best interest of environmental protection. Further, the situation may result in perceived and/or real conflicts that would undermine public confidence. 3. To mitigate similar concerns that have arisen at other federally-funded clean-ups of contaminated sites, Environmental Assessment decisions have included provisions to establish independent oversight bodies to serve as “watch-dogs”. For example, the Federal Minister of INAC accepted the recommendation of the Mackenzie Valley Environmental Impact Review Board (MVEIRB) to establish the multi-party Giant Mine Oversight Board (GMOB) that was created to verify that the remediation and long-term institutional care of the Giant Mine is implemented in a responsible fashion that instills public confidence. This is particularly important in situations where there are long-lived residual risks, as is the case for the proposed undertaking.	That CNSC require the establishment of an independent body to oversee the remedial design, implementation and long-term institutional care of the Whiteshell Laboratories site.

APPENDIX 1: Steps in the Assessment of Impacts to Rights