

August 16, 2017

From: Jennifer Jimmo

To: Nicole Frigault, Environmental Assessment Specialist
Canadian Nuclear Safety Commission

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

Attn: Nicole Frigault

CEAA Reference number: 80122

August 16, 2017

Ms. Nicole Frigault, Environmental Assessment Specialist
Canadian Nuclear Safety Commission
P.O. Box 1046 Station B
280 Slater Street
Ottawa, Ontario K1P 5S9

Via e-mail: cncs.ea-ee.ccsn@canada.ca

Dear Nicole Frigault,

Please find attached my public comments submitted in regards to CNL - NSDF Project #80122.
Also, please confirm this document has arrived and can be opened.

Thanks kindly,
Jennifer Jimmo
(Friends of the Ottawa River Valley)

Re: CNL-NSDF Project #80122

Intro:

As a member of the public invited to participate in this NSDF Project EA, I would like to first say thanks to the CNSC for the opportunity to do so, and then to introduce myself here as a total newcomer to this NSDF Project and issue, with little background knowledge of the proponent CNL or the regulating authority CNSC or the latest version of the CEAA, and that I am a complete Novice in the field of nuclear energy and nuclear waste management when it comes to commenting on the adequacy of the technical information presented in the proponent EIS.

However, what asset I can contribute to this endeavor is that I am a Reader, I have a Library Card and I use it. With this in mind, I have read as much information in most of the documents related as possible within the timeframe allowed before preparing the following comments regarding them.

I would first like to begin with addressing my comments to the adequacy of the information provided to the public on the CEAA Registry homepage regarding this NSDF Project #80122 and, in addition, to the adequacy of the information presented in The Guidelines as provided to the public on the Inviting Public Comments of the CEAA Registry.

The CEAA Registry

-NSDF Project main page

Reference number: 80122

Federal Responsible Authority: Canadian Nuclear Safety Commission

Proponent: Canadian Nuclear Laboratories

Environmental Assessment Commenced: 2016-05-05

Environmental Assessment Type: Environmental Assessment by Responsible Authority

Status: Environmental assessment in progress

- No further information posted for the public to learn or understand why it is the CNSC is the *Federal Responsible Authority* shown here and not the Minister of the Environment.
- No further information posted to explain why the Environmental Assessment Type is shown as *Environmental Assessment by Responsible Authority*, or what this means.

About the Proposal

- No description provided in this section for the public to learn this is a “designated project.”
- Only provides info about the plans for the NSDF.
- No subsection posted here such as: **About the EA.**

The public information posted on the Canadian Environmental Assessment Registry in regards to this NSDF Project fails to provide much information or direction for public newcomers such as myself to learn about *this* particular EA itself, such as the area and scope of what it covers and what it does not, who is overseeing this EA and who is not, etc.

Under the *Nuclear Safety and Control Act*, CNL’s proposal requires approval by the Canadian Nuclear Safety Commission (CNSC) and involves an amendment to the Chalk River Laboratories (CRL) Nuclear Research and Test Establishment Operating Licence. An environmental assessment (EA) conducted under the *Canadian Environmental Assessment Act, 2012* is required, and an EA decision affirming that the proposed activities will not cause significant adverse environmental effects, before

the CNSC can make a licensing decision on this proposal.

- The above highlighted **suggests** to the public:
 - This environmental assessment will be conducted **by** or **under** the Canadian Environmental Agency, or be under their watch in some capacity.
 - That a licensing decision will be in some way influenced by the findings of this EA.
 - This is not so.
- The above highlighted referring to an EA decision *affirming that the proposed activities will not cause significant environmental effects* **conveys** to the public:
 - That there is a possibility this project may **not** proceed if it is found to cause significant adverse environmental effects.
- Thereby, the above highlighted can easily mislead the public toward focusing their submissions on pointing out all the possible significant adverse environmental effects that could possibly occur as a result of this NSDF Project, in the great hopes that such will be found significant enough by the CNSC to put a stop to this runaway train in its tracks. Not so.
- Also, the very term “**designated project**” determines it is already a known and given this project's activities will likely cause significant adverse effects on the environment within a federal jurisdiction. This has never been in doubt or question, just as stopping or slowing this project in *any way* as a result of any significant adverse effects pointed out in the public comment submissions looks to have never been an option.
- *Designating a Project under the Canadian Environmental Assessment Act, 2012*, “That projects deemed to have the greatest potential for **significant adverse environmental effects** in areas of federal jurisdiction and are called “**designated projects**.”

(2) Inviting Public Comments:

This comment period gives members of the public, Indigenous groups, and government departments and agencies an opportunity to submit their views in writing to the CNSC on the adequacy of the information presented in the EIS, as measured against the [Generic Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act, 2012](#) (the Guidelines), and on the technical merit of the information presented. The Guidelines provide direction to the proponent and identify the information that is required in the EIS.

- No guidance or FAQs provided to assist the public regarding the above approach to preparing a Public Comments submission, such as:
 - who to direct such to
 - what to include and what not to;
 - what to focus on and what not to;
 - where to start, when to end;
 - what to do when its finished.
- For example: The public would have been much better guided to focus our review of the proponent EIS on such things as whether or not all Valued Components for each of the 4

Phases have been adequately identified, etc.

- No clear Purpose of Public Participation is provided to the public on why we are being asked to participate in this EA and what is going to come of our efforts.

“The draft EIS provides an analysis of the potential environmental effects of the project and measures to mitigate those impacts.”

- The above is overstated. Simply by not narrowing down the scope of this EA and its boundaries, it suggests to the public an analysis of **all** potential environment effects far and wide will be undertaken by the proponent and presented in this EIS along with measures to mitigate **all** such impacts. This is not so.
- As I understand, when the project is a “designated project” on federal lands, the proponent is required to provide the data and analysis and mitigation measures for really only the most **significant** of those **adverse environmental effects**.
 - That occur only **within** the site study and the local study area.

Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the *Canadian Environmental Assessment Act, 2012*

3.0 Relevant Provisions of CEAA 2012

“Section 19 also requires that the EA of a designated project take into account mitigation measures that are technically and economically feasible and that would **mitigate any significant adverse environmental effects.**”

The NSDF: A designated project?

- As mentioned above, there is no indication in the 2 pages of public information posted on the CEAA Registry regarding this NSDF Project that it is a “designated project.”
- This looks to me like an important thing that would be good to know for members of the public invited to participate in this EA.
 - What does a “designated project” mean?
 - What does it mean to the present EA study being undertaken?
 - What sets a “designated project” apart from other projects?
 - Is a “designated project” exempted from the CEAA (2012) in any way, shape or form?
 - Does a “designated project” have any sort of special clearance?
- For Example: is it possible a “designated project” means this major project has been deemed “vital to grow the Canadian economy” in some way? Thereby no matter the significant adverse environmental effects likely to occur as a result of the project activities, plans will still proceed?
- This information would be good for public reviewers to know.

CEAA Registry

Next steps

“Following receipt of public comments on the draft EIS, CNSC staff will consider all submissions received in making its determination on whether the EIS is satisfactory or whether further information is required from the proponent. Should further information be required, the proponent will be requested to submit the necessary information until CNSC staff are satisfied with a final EIS. In addition, CNSC staff will provide responses to all comments received from members of the public and Indigenous groups. Following receipt of a final EIS, CNSC staff will prepare a CEAA 2012 EA report (EA report), to inform the Commission's EA decision.”

- No action undertaken regarding any public comments.
- No EA decision shown to affirm that *“the proposed activities will not cause significant adverse environmental effects.”*
- Only decision indicated above will be whether or not the EIS is “satisfactory.”

The Generic Guidelines to Preparing an Environmental Impact Statement

– The Guidelines

- No supporting documentation or external links provided such as a Glossary of Terms or suggestions to see “Frequency Asked Questions” to assist the public in understanding the complex terms or the technical requirements in this document.
 - For Example: If I am not clear on the The Guidelines being set out for the proponent EIS to adequately meet, than how am I supposed to submit informed public comments on whether or not the proponent EIS has adequately met them?
- No helpful “For Example” scenarios provided to help clarify complex technical requirements being conveyed. Most other complex documents have such, especially guides and guidelines.
- Bibliography provided doesn't provide a complete list of all documents and records or related links to external websites mentioned in this document for cross-referencing purposes.
- Several other aspects found in this document review that are too lengthy to include in this submission.

Overall

- *The Guidelines fail to adequately guide the public reader or reviewer towards a clear understanding of the requirements being asked of in the proponent EIS.*

The Executive Summary

The Guidelines don't ask for much in the proponent's executive summary and, as a result, the summary accompanying the proponent EIS doesn't deliver much in return.

The Guidelines

2. Executive Summary

The summary will include the following:

- a concise description of all key components of the project and related activities
- a summary of the consultation conducted with Aboriginal groups, the public, and government agencies, including a summary of the issues raised and the proponent's responses
- an overview of the key environmental effects of the project and proposed technically and economically feasible mitigation measures
- the proponent's conclusions on the residual environmental effects of the project after taking mitigation measures into account and the significance of those effects

The summary will be provided as a separate document and will have sufficient details for the reader to learn and understand the project, potential environmental effects, mitigation measures, the significance of the residual effects and follow-up program.

- I note there is no requirement mentioning or clear wording provided in clear context for the proponent to provide an overview or summarize the "significant adverse environmental effects" of this project and how such will be mitigated.
- No Glossary of Terms or FAQs provided for the public to learn about what such things as the "key components" are exactly or what "residual environmental effects" means or includes.
- Content and structure (subsections) are out of sync with main body text of the EIS which makes cross-referencing from the ES to the EIS too difficult and confusing.
- Content and structure (text) looks to be jumbled mix of a cut-and-paste job of EIS sections 7.0 SUMMARY OF CUMULATIVE EFFECTS & 8.0 SUMMARY OF SIGNIFICANCE OF RESIDUAL EFFECTS.
- ***No Hours of Operation are provided anywhere in this document (or the EIS).***

Overall:

- This executive summary misses the opportunity to present CNL as a strong and capable business leader in the field of nuclear energy and in my view certainly fails on all counts to present the problem at hand, or explain the urgency behind it or the timely need to fix that problem, or why it is CNL is the proponent best suited to do so.
- As a result, this subpar executive summary fails to build my public trust and confidence in the proponent CNL as a professional business leader, manager, or operator in the field of Nuclear Energy and Nuclear Waste Management.

Human Health

The following excerpts regarding Human Health were found ***buried deep*** within the Executive Summary:
(ES-xii)

- **Radiological dose to humans may result from waterborne or airborne emissions from the NSDF Project.**

- **Dose to humans from waterborne emissions** is calculated during the operations phase, as well as during the post-Institutional Control period for the NSDF Project.
- **Dose to humans from airborne emissions** is calculated only for the operations phase of the NSDF.
- **The maximum estimated dose to potential critical groups** during operations phase represents less than 0.01 percent of the regulatory dose limit of 1 millisieverts per year and licensing limit of 0.3 millisieverts per year.
- The Balmer Bay, Chalk River, Cottager, Deep River, and Mountain view potential critical groups **receive the majority of their dose through airborne emissions**, due to their closer proximity to the NSDF site.
- The Pembroke, Petawawa, and Laurentian Valley receptors **receive the majority of their dose from waterborne emissions.**
- **Monitoring and follow-up programs are not specifically identified for human health**

The above estimated airborne and waterborne emission doses expected to be received by the above listed potential critical groups has *not been made clear to the public* or to *those identified in the above "critical study groups"* by the proponent CNL or the CNSC in any of their Public Information Programs or publication materials distributed to the public that I have seen or read.

- The fact that no monitoring or follow-up programs specifically identified for human health will be provided leaves me to wonder how on earth both the proponent CNL or the Responsible Authority CNSC can possibly assert to the public these NSDF Project activities will be "safe" towards human or public health?

In addition, I note the **3 groups of receptors** identified in following tables provided in the proponent EIS section: **5.8 HUMAN HEALTH**

Table 5.8.6-7: Doses to Potential Critical Groups Due to Exposure to Waterborne Emissions during Operations

- Receptors
 - Dose to **Adult**
 - Dose to 10 year old **Child**
 - Dose to one year old **Infant**

Table 5.8.6-8: Doses to Potential Critical Groups Due to Exposure to Airborne Emissions during Operations

- Receptors
 - Dose to **Adult**
 - Dose to 10 year old **Child**
 - Dose to one year old **Infant**

Table 5.8.6-9: Total Doses to Potential Critical Groups during Operations

- Receptors
 - Dose to **Adult**
 - Dose to 10 year old **Child**
 - Dose to one year old **Infant**

Table 5.8.6-10: Total Doses to Hypothetical Groups Using Water from the Perch Creek Outfall during Operations

- Receptors
 - Dose to **Adult**
 - Dose to 10 year old **Child**
 - Dose to one year old **Infant**

Table 5.8.6-11: Doses to Potential Critical Groups Due to Exposure to Waterborne Emissions during the Post-Institutional Control “Leaching through Base Liner” Scenario

- Receptors
 - Dose to **Adult**
 - Dose to 10 year old **Child**
 - Dose to one year old **Infant**

(pg 772)

“The selected health-based guidelines are considered to be protective of members of the public (including sensitive receptors such as the very young, elderly, **women of child-bearing age**, and those with pre-existing conditions) that rely on surface water for drinking and bathing...”

- Note: The above “doses” are **not** predicted for **pregnant women**.
- The above health-based guidelines are **not** considered for **pregnant women**.
- That is to say the proponent CNL does not know for certain the dosage an unborn fetus is receiving, or whether or not this amount is safe or acceptable or damaging to the unborn fetus or to it's mother.
 - This is a summer recreational area where many women of child-bearing age, (who may already be pregnant) come to swim, paddle, bathe, etc. downstream from Chalk River!
 - Pregnant women **have a right to know** and as far as I'm concerned, **need to be informed** of this as to safeguard and protect the health of themselves and that of their unborn children!

Overall:

- In my view the proponent CNL or the regulating authority CNSC cannot in any way assure the public these predicted airborne and waterborne dosages are “safe” towards public or human health when it is not known for certain it is safe for the human health of *all* persons, pregnant and otherwise!

Air Quality & The Construction Phase

5.8 HUMAN HEALTH

(pg 777)

“Radiological dose to humans may result from waterborne or airborne emissions from the NSDF Project. Dose to humans from waterborne emissions is calculated during the operations phase, as well as during the post-Institutional Control period for the NSDF Project. Dose to humans from airborne emissions is calculated **only for the operations phase of the NSDF**. This represents the bounding case, since it is expected that doses to humans during the post-closure would be less than the operations phase with the installation of the final cover.”

- There will be airborne emissions and much disruption to the air quality during the Site Preparation and during the Construction Phase as a result of both the site preparation and

planned construction activities that I predict *will* have an adverse effect on the surrounding environment and potentially to public health both in proximity and beyond this NSDF site.

3.5 Construction Phase

The key surface structures are the ECM, WWTP, access roads and support facilities. Surface construction methods will be consistent with those used for existing waste management areas, infrastructure, and support facilities on the CRL property. Construction activities are expected to take approximately two years to complete, starting in April 2018 and completion in 2020.

3.4 Preparation of the Site

Site preparation involves the works and activities, which are essentially large-scale earth moving activities using conventional earth moving equipment, required for the preparation of the NSDF Project site for construction. This includes mobilization of the necessary construction equipment and those activities related to the removal of trees, excavation and hauling of soil, and grading. Radiological surveying and soil analysis will be carried out prior to site preparation in accordance with existing soil management procedures.

Specific activities associated with the NSDF Project site preparation include the following:

- clearing and grubbing of vegetation (e.g., brush and trees);
 - excavating, removing, and stockpiling of topsoil for later use for the ECM final cover system;
 - blasting and excavation for the ECM;
 - removal and/or stockpiling of waste rock;
 - excavating all ditches and the surface water management ponds;
 - grading the NSDF Project site including grading of access roads, WWTP, laydown and stockpile areas, and various other building locations; and,
 - establishing exclusion and buffer zones.
- The total land area to be cleared is up to 34 ha, most of which is treed. Where required, trees will be felled, skidded and piled in an area for removal from the NSDF Project site.
 - Rock blasting will be required to complete site preparation activities for the NSDF Project site. Blasting activities will be done by a qualified person and in accordance with the Blasting Plan to be developed indicating the type of explosives used and the method of detonation.

The proponent has evaluated the air quality based only on when the ECM is up and operating, and I say there will be other air quality and airborne emission environmental effects and concerns during this phase of operation that should be considered such as:

- Air Quality Disruption: There will be "fugitive" (contaminated) dust and debris all about the (contaminated) place, being picked up by the winds and blown off-site to re-settle along the river water surface, the sandy shores and beaches downstream.
- Ground & Noise Disturbance: There are also going to be old (radioactive?) AECL buildings torn down at the same time as the entire site is "decommissioned."
- Ground & Noise Disturbance: Approx 34h of (radioactive) trees are to be felled. Trees where the leaves are shown to hold a higher radioactive content than the soil around the trunk at the base...these are all coming down.

- Air Quality: There will be a number of construction vehicles all operating at the same time with GHG emissions and loud noise that will carry off-site.
- Heavy Ground & Noise Disturbance: There will be heavy rock-blasting into both soil and bedrock, and to depths undisclosed in the proponent EIS. Even aside from the mega-mound of engineered waste to be built, massive in size in itself, there are going to be buildings built, including a wastewater treatment plant, as well as two new roads, and many drains and ditches, plus, plus.
- The proponent has predicted this construction activity will be far enough away from the closest residents so as to say this “ground disturbance” won't have a negative affect on them; but what do you think? If you can hear the emergency test drill sirens chances are you are going to hear and/or feel the construction activities, especially the rock blasting, possibly without even a weekend break in between, and definitely for at least 26 solid months following.
- I note the Hours of Operation for construction activities are not provided anywhere in the EIS or Executive Summary that I could find.
 - For Example: Will this be a 5 day work week or a 7 day work week? Will the construction of this NSDF Project be following a 9-5 work day schedule or will this be a 24/7 operation to meet the deadline?
 - The closest indicator I could find was in the calculation tables used to measure the amount of greenhouse gas emissions predicted as a result of all the construction vehicles in operation on the site. It is noted the vehicles were calculated at a “continual basis of operation” of such I understand this could very well indicate this will be a 24/7 construction schedule and all-season.
- This is important to know. Why? Because the environmental *impact* on the living things in the surrounding environment from all this intense construction activity (noise/vibration/exhaust/) crammed into a relatively short time frame, in my view at least, is absolutely going to have a very significant adverse environmental effect on all habitat surrounding, both human and non-human, and will for a good distance stretching well beyond the CRL Property fence line simply because sound and vibration travels, especially so by the wind and especially so across water, and especially so beneath the water surface.

Overall:

- The Site Prep and Construction Phase has potential to become a very significant adverse environmental effect on humans and the habitat who place a high value on the peace and quiet in their natural surroundings, and have been enjoying such for the past 10,500 years or so.

Aboriginal Engagement

- The Aboriginal Engagement activities appear not to have been conducted accordingly as stated in the proponent EIS and Executive Summary, as per an overview of the First Nation/Metis Public Comments submitted.
- This NSDF Project site is located in the heart of ancestral Algonquin Territory, on the banks of the once Kichissippi (Great River), now known as the Ottawa River.
- The inevitable decay and erosion of the NSDF Engineered Containment Mound after 500 years, tops if everything holds and the climate doesn't change too drastically, will amount to an inevitable contamination of the surrounding environment.
- This in my view, puts a 500 year, tops, shelf-life on the future health and vitality of this once Great River. This is way out of sync with Algonquin Traditional Teachings of the Seven Generations, where all choices made into the future are first considered as to how such actions will impact the next seven generations ahead.
- Also, the destruction of the Blanding's Turtle nesting grounds is also another strike upon the heart of this ancestral Algonquin Territory in that the turtle itself has long been considered a great “manitou” (spirit) to the Algonquin and other First Nations, and revered often as their greatest (most powerful) spirit in ceremonial traditions and medicinal knowledge and teachings.

-Ref: Public Comments: #119019E / #114851E

Blanding's Turtles

Terrestrial Biodiversity Assessment Results (ES-x)

- **The NSDF Project footprint would permanently remove 22 hectares of proposed Blanding's turtle critical habitat during construction. This includes habitat with the potential to be used for nesting, thermoregulation and summer inactivity.**
- This NSDF Project will wipe out a significant (22h) size critical nesting territory of the Blanding's Turtle, right here in a federal jurisdiction of Canada, a supposedly “environmentally friendly” nation.
- Blanding's Turtles are one of this planet's most unique creatures, and are considered a rare and threatened species here in Canada. These turtles do not reproduce offspring until they are well into their teen years and early twenties. Many die or are killed on roads before they reach that age.

Overall:

- *We should feel privileged to have such a rare species here in this region, province, country and doing more to protect this awesome creature instead of totally destroying it's critical habitat nesting grounds for good. Shame, shame!*

Closing Summary

In closing I would like to address the CNSC on behalf of Shka-ki-mi-kwe (Mother Earth) in that this NSDF Project is out of compliance with the Laws of Nature in all respects. There are too many moving parts involved in this undertaking, going against too many unknowns of nature and, by the looks of things as presented here in this NSDF Project EIS, not enough skill demonstrated in the ability to manage them **and** all the significantly adverse environmental effects that I can certainly foresee happening as a result.

My bags and belongings are already packed.