

September 14, 2019

Aimee Rupert, Environmental Assessment Officer  
Canadian Nuclear Safety Commission  
P.O. Box 1046 Station B  
280 Slater Street  
Ottawa ON K1P 5S9

Dear Mme. Rupert,

**Re: Comments regarding in Global First Power's (GFP) Project Description (PD)  
for a Micro Modular Reactor (MMR) Project at Chalk River, Ontario  
CEAA Reference number 80182**

I am writing to express my dismay at the lack of specificity and the danger of the entire concept in Global First Power's (GFP) Project Description (PD) for a Micro Modular Reactor (MMR) Project at Chalk River, Ontario. Thanks to the CNSC for this opportunity to comment and I appreciate that the comment period was extended until September 14th.

More generally, I have grave concerns about the utility and safety of Small Modular (should read **Nuclear**) Reactors and their proposed use across northern Canada. There are many unanswered questions around the cost of their development, the safety of their installation, the shortness of their lifespan and the details around their decommissioning, disposal of their radioactive waste and their site abandonment. The issues of ongoing security, monitoring and disposal of SMRs throughout the north has not been addressed. SMRs are described as being a source of 'clean' energy when, in fact, they are filthy with the radioactive legacy that they will leave behind. ("The MMR technology will replace their current reliance on costly and greenhouse emitting fossil fuels with a clean and reliable nuclear-powered energy source." p.16)

Have SMRs been exempted from a full Environmental Review in Bill 69? If so, this is a travesty.

Global First Power's (GFP) Project Description (PD) for a Micro Modular Reactor (MMR) Project at Chalk River is a beginning proposal that leaves many unanswered questions:

1. The project proposes the use of **enriched** uranium. This uranium will be 'developed off-site'. Does this mean that it will be trucked in from wherever it is developed? Canada lacks the capacity to enrich this uranium so will it come in from the United States through unsuspecting communities? If these MMRs are deployed across northern Canada, how will communities be protected from sabotage or terrorist infiltration?
2. The nuclear reactor has a short lifespan of 20 years and after that, then what? The entire plant to be decommissioned? What enormous expense for such a short period of function.
3. GFP indicates that the radioactive waste will be kept onsite then trucked offsite, but details are lacking, there are no adequate proposals here. Regarding decommissioning, GDP states "all radioactive

material above a specified level will be identified and removed". What is that specified level? Why is this not explicit? Will this radioactive waste contribute to the radioactive waste stored in the Near Surface Disposal Facility that CNL has proposed for Chalk River? ("Low and Intermediate Level Waste will be packaged and stored on the Project's site and/or periodically transported off-site to be managed at an appropriately licensed facility and, where required, would be transferred for long-term management and storage".

P 24)

4. The buildings that are proposed for this project are **not small**. The proposed plant measures 650 feet X 590 feet X a stack of 100 feet and a building of 21 to 30 feet in height. The adjacent plant stands 55 feet high. The reactor itself will be underground. If deployed across Canada's north, these plants will be large installations, not the garage-sized plants that have been suggested.

5. All three sites being considered are within ½ KM of the Ottawa River which experienced record levels of flooding in 2017 and 2019. The construction of the plants will be of modular precast concrete, which is not impervious to rising water. In the flooding of 2019, many basements were infiltrated with rising ground water.

6. There will be a stack rising to a height of 100 feet. What will exit the stack? Why is it deemed necessary to have it so high? The proposal is silent on this question.

7. The temperature of molten salt is 1475 degrees F. What will the system of pipes be constructed of to hold these high heats for 20 years without breaking down? Proposal does not explain this.

10. GFP states that the used fuel will be ultimately deposited in a Deep Geological Repository. However, the location and design of such a facility has not been developed yet and will take many years to build once these challenging decisions have been taken. So, this is an undertaking that is not valid at the present time.

11. Will GFP pay rent for use of the land or is it being offered gratis by CNL? If so, CNL is supported by the Federal Government and so the comment that "Federal authorities are not providing financial support to the Project" is untrue.

In conclusion, it is apparent that this proposal is inadequate. It does not provide sufficient detail around important issues, some of which are noted above. I urge CNSC to subject Global First Power's Proposal for the development of a Micro Modular Reactor at Chalk River to a rigorous review process that includes a full environmental review, a public hearing with independent panel members, funding for participants and a timeline that permits public participation.

Yours truly,

Valerie Needham