



Oral presentation

Exposé oral

**Written submission from
Generation Atomic**

**Mémoire de
Generation Atomic**

In the Matter of the

À l'égard de la

**New Brunswick Power Corporation,
Point Lepreau Nuclear Generating Station**

**Société d'Énergie du Nouveau-Brunswick,
centrale nucléaire de Point Lepreau**

Application for the renewal of NB Power's
licence for the Point Lepreau Nuclear
Generating Station

Demande de renouvellement du permis
d'Énergie NB pour la centrale nucléaire de
Point Lepreau

**Commission Public Hearing
Part 2**

**Audience publique de la Commission
Partie 2**

May 11 and 12, 2022

11 et 12 mai 2022



March 27th, 2022
1878 Pascal Street
Saint Paul, MN 55113

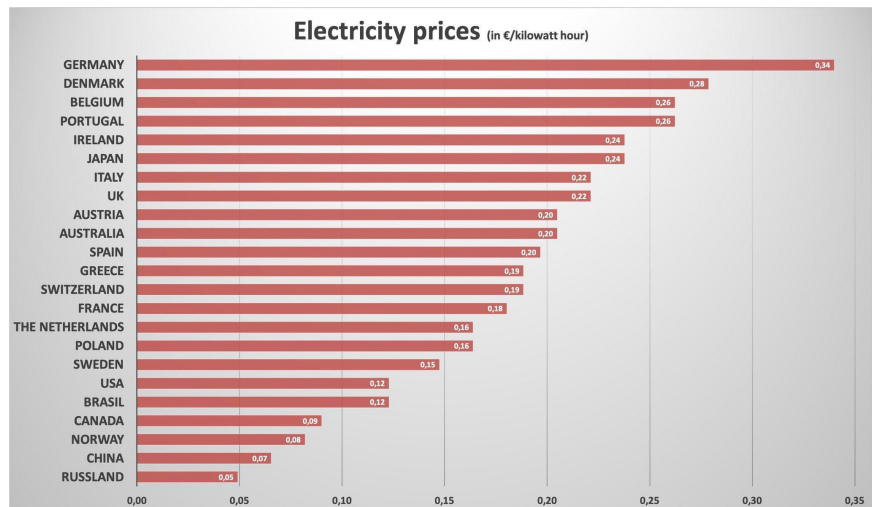
Executive Summary

Generation Atomic expresses our strong support for the Canadian Nuclear Safety Commission to grant the 25-year license extension for NB Power’s zero-carbon Point Lepreau Nuclear Generating Station .

Economics

Point Lepreau is the crown jewel of New Brunswick’s clean energy production, producing nearly half¹ of the province's carbon-free electricity, and is the single largest source of power for the entire province. Directly and indirectly providing over 2,700 jobs, with over 75% of spending going back to the province, it is also a vital part of the economy. The 25-year license extension will provide NB Power with the security to continue to make investments in reliability and safety, while keeping rates low.

Some organizations argue for the earlier closure of the nuclear plants, but we need to look no further than Germany to see the potential impacts of this decision. Germany decided to phase out nuclear ahead of fossil fuels, and as a result, their coal phaseout date has slipped to 2038, their electricity now ranks as most expensive in Europe², and their greenhouse gas emissions are around five times higher than their nuclear-powered neighbor France.³



Environmental and Societal Costs Concerning the Potential of an Early Shutdown

Without the power generated by Point Lepreau, just over 5 TWh of emissions-free generation would have to be replaced, every year. To put this in perspective, all of the province’s wind and hydro generated 3.42 TWh in 2018⁴. So, in effect, by closing PLNGS early is worse for the climate than destroying every wind turbine and hydroelectric dam we’ve built, and that’s not even considering how long it would take to site and build replacement clean energy

¹ <https://www.nbpower.com/media/1490323/2020-irp-en-2020-11-17.pdf>

² https://ec.europa.eu/eurostat/statistics-explained/index.php/Electricity_price_statistics

³ <https://www.electricitymap.org/map>

⁴ <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-new-brunswick.html#s1>

capacity. With a very generous 47% capacity factor, this is roughly equivalent to 400 offshore wind turbines in the 3MW class; which will have nowhere near the reliable and steady output of PLNGS, and will require a greater reliance on methane gas and other carbon fuels, and will increase emission of CO2 significantly.

We feel it should be noted that PLNGS has a substantial level of public support within the province, with 75% of respondents personally believing it is important that it is operational, and 64% believe that PLNGS is an important part of New Brunswick meeting its carbon emission targets. We believe that much of this support is thanks to NB Power and their commitment to open and honest communication with the province, and we note that NB Power themselves enjoy a 68% favorable opinion from provincial respondents.⁵

A Clear Commitment to Reliability, Operational Integrity, and Safety

NB Power has not come to the table today empty handed. They have completed the refurbishment of the reactor itself, and that financial commitment has resulted in PLNGS operating at record capacity levels. But of course it's not just about making power, but also doing so safely. In addition to upgrades to the facility itself, NB Power is more prepared than it has ever been to respond to a radiological event. With a new off-site Emergency Operation Center that puts all response agencies in one place, allowing for greater coordination and effective response to emergencies. NB Power, with the support of these agencies (and others), have conducted two Synergy Challenge events during which a beyond-design-basis accident was simulated. The lessons learned from these events ensure the response to any potential real event is more effective and prepared for any eventuality. We believe that these measures and best practices, when coupled to the strong safety record of the CANDU reactor design, effectively mitigates all foreseeable risks of harm to the public and the environment.

The "Waste" Question and Solutions

For all of the anxiety around the storage of spent nuclear fuel, the fact remains: used nuclear fuel has never killed or harmed anyone. This stands in sharp contrast to the waste products of coal and natural gas, which are responsible for over four million deaths annually, according to the World Health Organization.⁶ What is remarkable about nuclear power is just how little spent fuel waste it produces. The total spent fuel used in the entire life on operation of PLNGS is stored onsite is contained to an area several orders of magnitude smaller than the reactor area itself. We have reviewed NB Power's waste management policies and find them to be thoroughly satisfactory. We believe there is no risk of harm to the public and there is no impediment here concerning the 25-year license. While the future is undetermined concerning what we ultimately do with the spent fuel, there is no technological challenge to overcome in that regard, merely the decision that has not been made at the present time. In the future, this waste may not even need be moved off the site: Deep Isolation⁷, which uses a deep borehole horizontal drilling technique, would allow the

⁵ <https://www.nbpower.com/media/1489603/nbp001-1058-2019-point-lepreau-study-summary-sheet-final.pdf>

⁶ [https://www.who.int/en/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

⁷ <https://www.deepisolation.com/technology/>

waste to remain on site miles below the nuclear plant, encapsulated in geologic formations that have been stable and isolated for millennia.

The Future of Nuclear in New Brunswick

The future of our energy needs more nuclear power, not less. By granting the 25-year license, CNSC will signal that if an operator has demonstrated a commitment to safety and continued investment, the CNSC will grant a greater assurance as to their allowance concerning the long term operation of a reactor.

While mentioned very briefly, NB Power's application submission notes the future prospects for new nuclear builds on the current PLNGS site. While it is noted that such a new build would require a separate license to operate applications, we believe that the 25-license for PLNGS is a strong foundation for the future and will increase the likelihood that the planning for these new SMR reactors will go forward. After all, one day PLNGS will reach the end of this considered 25-year license, and should another refurbishment not be possible, it will need to be decommissioned. A problem will therefore present itself: where to obtain a vast quantity of reliable, clean power to avoid losing ground in decarbonizing. We believe that SMRs will be the solution to that problem. It is vital that CNSC work with NB Power, other operators, and the industry to provide a reasonable and timely regulatory framework to bring these new designs and technologies to the market.

Nuclear power is a vital source of energy for not only New Brunswick, but also the rest of Canada and the world. NB Power seeks to ensure that we continue to reap the benefits of carbon-free nuclear generation. They have demonstrated a strong and unbroken commitment to safe operation. We firmly believe that there is no safety or operational issue that should preclude this license extension from being granted.

Signed,

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About Generation Atomic

Generation Atomic is a volunteer-driven non-profit organization that is growing a movement to fight for the atomic energy of today and tomorrow. They've reached millions of people over social media and empowered thousands to contact their elected officials in support of protecting today's reactors from early shutdown and laying the groundwork for the next generation of low carbon, environmentally friendly energy. Learn more and take action at GenerationAtomic.Org.