



**Oral presentation**

**Exposé oral**

**Written submission from  
Paul Thompson**

**Mémoire de  
Paul Thompson**

In the Matter of the

À l'égard de la

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

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

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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**

# PAUL THOMPSON

Nerepis, NB  
E5K 3W3

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March 22, 2022

Canadian Nuclear Safety Commission  
Senior Tribunal Officer - Commission Registry  
Email: [interventions@cnsccsn.gc.ca](mailto:interventions@cnsccsn.gc.ca)  
280 Slater Street, P. O. Box 1046  
Ottawa, ON K1P 5S9

**SUBJECT:** Submission on the PLGS Power Reactor Operating Licence Renewal

Dear Senior Tribunal Officer- Commission Registry

I am providing this written submission in support of the renewal the Point Lepreau Generation Station (PLGS) Power Reactor Operating Licence and would like to participate in person for an oral intervention to the Part-2 hearing in support of the renewal

My name is Paul Thompson. I am a professional engineer with more than 42 years of experience working in the Canadian Nuclear Industry, many of them for NB Power at the Point Lepreau Generating Station. I am a Fellow of the Canadian Nuclear Society and have twice held the position of President of the society. My wife and I, along with my three children and one grandchild all reside in this beautiful province of New Brunswick we all call home.

I would like to start off by highlighting the importance of Point Lepreau to the Province of New Brunswick. PLGS provides about one third of the power generated in New Brunswick. It has had an excellent safety and environmental performance record. Because it is non-GHG emitting, it also plays an essential role in allowing NB Power's to meet its emission targets. PLGS employs about 850 highly skilled people. It provides a significant positive socio-economic impact for the province and supports the electricity generation base that allows New Brunswick to enjoy the lowest power rates in Atlantic Canada, which in turn provides benefits for industry and the public. In summary, PLGS produces clean, safe, reliable, and cost-effective power. It is hard to imagine the situation the province would be facing now, in light of the need to meet Canada's GHG emissions targets, had PLGS had not have been refurbished! A canoe, a creek and no paddle come to mind.

NB Power is a qualified and experienced nuclear operator. It has extensive process and programs in place. It has well trained, qualified, and engaged staff which operate and support a well designed and maintained nuclear facility. It produces low-cost electricity in a safe and reliable manner, all the while providing due protection to the health and welfare of the staff, public and environment.

I would like to highlight a few specific points:

Nuclear Plants such as Point Lepreau are designed to be able to cope with a wide variety of postulated events. These including external hazards that can be either natural or man-made, as well as internal failures of system or equipment. Both deterministic and probabilistic methods are used to demonstrate that the consequences of such events pose acceptably low risk to workers, the public and the environment. These analyses are backed up by extensive research and development. Work associated with the refurbishment and life extension of Point Lepreau increased the ability of the plant to respond to beyond design basis events.

The station follows a defense in depth concept, that includes as fundamental principles, redundance, diversity, and separation of systems and equipment all designed and constructed to very high standards. Station programs ensure that the plant is operated and maintained within the range of conditions assumed in these analyses. This includes programs such as testing, calibration, safe operating envelope, and environmental and seismic qualification programs. Engineering and maintenance programs including aging and obsolescence management ensure plant equipment continues meets fit for service guidelines and the likelihood of equipment failure is kept to very low levels.

Plant staff are well trained and qualified and are supported by programs such as initial and continuous training involving the use of real-time simulators, employee wellness, hours of work, fitness for duty, and continuous behaviour and observation programs. A comprehensive management system with rigorous operating procedures provide staff the necessary tools to safely operate and maintain the plant. An extensive corrective action, internal assessment, operating experience and benchmarking programs allows the station to have a culture of continuous improvement by learning from their own as well as others experiences and to share in industry best practices. Working closely with utility counterparts through the CANDU Owners Group, as well as the World Association of Nuclear Operators, allows Point Lepreau staff to benefit from the knowledge and experience of the industry as a whole. Station staff truly know what it means to be a nuclear professional and are proud of a strong safety culture.

As an extra layer of defense, the station has a comprehensive Emergency Preparedness Program that plant staff are well trained on, drilled, and tested through extensive exercises involving the New Brunswick Emergency Measures Organization and other external agencies, every 3 years. A dedicated well trained Emergency Response Team provides 24-7 prompt response capability for any potential medical, chemical, radiation and fire events. Similarly, a well trained tactical Nuclear Response Force provides 24-7 coverage to ensure the security of the facility.

NB Power places a high value on employee safety. It has extensive programs for conventional and radiation safety. There is a strong commitment to safety by both the union, workers, and station management. Likewise, NB Power and staff at Point Lepreau feel strongly about protecting the environment. The station is compliant with the ISO-14001 environmental standard. The site has undergone multiple environmental assessments. There is a comprehensive monitoring program and the ecological risk assessment is updated every 5 years. The station also supports a monarch butterfly as well as migratory bird monitoring groups.

NB Power manages its wastes responsibly and follows a reduce, reuse, and recycle approach. With respect to radioactive waste, the station has programs aimed at limiting the material that is brought into areas of the plant where it might become contaminated. Non-radioactive waste is segregated. Radioactive waste is characterized and appropriately handled and safely stored on an interim basis. With respect to used fuel, it should be noted that as an energy intensive fuel, there is not a large amount of used fuel produced. The nuclear industry has done a tremendous amount of research and development into how it can be safely managed over the necessary time period. The funds needed for transportation and disposal in the deep geological repository being overseen by the Nuclear Waste Management Organization, has been put aside by NB Power as per the requirements in the Power Reactor Operating Licence. Similarly, the station has a preliminary decommissioning plan and the funds to cover the decommissioning have also been set aside.

NB Power also prides itself in being a good neighbour. It places a high value on its indigenous and community relations programs. The station reaches out through meetings, new letters, the website and open house events. Station staff are proud to be a part of the community they serve.

I believe it is important to point out that the Canadian Nuclear Safety Commission (CNSC) is an internationally well-respected nuclear regulator. It is arms length from government, has a strong policy and regulatory framework, is aligned with the International Atomic Energy Agency, and participates in international regulatory peer reviews. It has a sound management system, uses an open and transparent decision-making process and makes fact-based decisions assessing recommendations from its very capable staff.

The CNSC believes in publishing fact-based information to help assist the public better understand nuclear energy. An excellent website provides the public tremendous access to regulatory information. The use of webcasts for hearings and meetings increases the potential for public access and involvement. Day-2 hearings are normally held in the local area allowing for greater public involvement, and there is also a participant funding program available.

In addition to the Licensing hearings, there is:

- A yearly regulatory process involving a detailed report and meeting that provides the opportunity for public intervention on Power Reactor operations.
- A status report on Power Reactors that is provided at each of the commission meetings to keep the commission informed of any noteworthy developments that they might wish to explore further.
- A long-detailed list of events that require reporting
- Yearly reports to be produced on;
  - Environmental monitoring
  - Fuel performance
  - Reliability of special safety and safety support systems
  - Threat and risk assessment
- 5-year update of Probabilistic Safety Analyses
- 5-year update of Safety Report
- 10-year Periodic Safety Review

All of this points to a high regulated industry with significant opportunities for oversight and public engagement. In addition, the CNSC perform periodic environmental monitoring to validate the information being provided by the licensee. This information is also shared with the public.

I found CMD 22-H2 to be a very detailed, well documented review by CNSC staff of the NB Power request to renew the Operating Licence that was contained in CMD 22-H2-1, and I urge the Commission to accept the recommendations of the CNSC staff as outlined in CMD 22-H2.

Yours truly,

*P.D. Thompson*

Paul D Thompson P. Eng., FCNS

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