



**Written submission from the
Power Workers' Union**

**Mémoire du Syndicat des travailleurs et
travailleuses du secteur énergétique**

In the Matter of

À l'égard de

**Application to allow the production of
lutetium-177(Lu-177) at the Bruce Nuclear
Generating Station (NGS)**

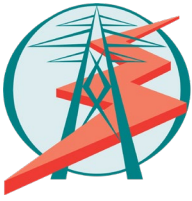
**Demande de modification de permis visant à
permettre la production de lutécium 177 à la
centrale nucléaire de Bruce**

Public Hearing - Hearing in writing based on
written submissions

Audience Publique - Audience fondée sur des
mémoires

June 2021

Juin 2021



**POWER
WORKERS'
UNION**

May 27, 2021

Louise Levert - Senior Tribunal Officer, Commission Secretariat
Canadian Nuclear Safety Commission

interventions@cnsccsn.gc.ca

Request to intervene in CNSC Hearing June 25, 2021

The Power Workers' Union (PWU) requests to participate in writing in the CNSC hearing on the application by Bruce Power for an amendment to their PROL to allow for the production of Lu-177. The hearing is scheduled to proceed on June 25, 2021. The PWU's written submission is attached.

We hope you will find the PWU's comments useful.

Yours very truly,

Jeff Parnell
President

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List of PWU Employers

Alectra Utilities (formerly PowerStream)
Algoma Power
AMEC Nuclear Safety Solutions
Aptum (formerly Cogeco Peer 1)
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Atlantic Power Corporation - Kapuskasing Power Plant
Atlantic Power Corporation - Nipigon Power Plant
Bracebridge Generation
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Quality Tree Service
Rogers Communications (Kincardine Cable TV Ltd.)
Sioux Lookout Hydro Inc.
SouthWestern Energy
Tillsonburg Hydro Inc.
The Electrical Safety Authority
Toronto Hydro
TransAlta Generation Partnership O.H.S.C.
Westario Power

Power Workers' Union submission to the Canadian Nuclear Safety Commission regarding Bruce Power's application for the amendment of their Power Reactor Operating Licence, PROL 18.01/2028, to allow for the production of Lutetium-177 (Lu-177) and Cobalt-60 (Co-60) at Bruce Nuclear Generating Station (BNGS).

The Power Workers' Union (PWU) requests to intervene at the Canadian Nuclear Safety Commission (CNSC) public hearing, 25 June 2021, in respect of Bruce Power's application to amend PROL 18.01/2028 to allow for the production of Lu-177 and Co-60 at BNGS.

The PWU requests to intervene by way of this written submission.

The PWU supports Bruce Power's application, dated 25 November 2020, and the assessment, conclusions and recommendations of CNSC Staff as set out in CMD: 21-H100, dated 09 April 2021. Specifically, the PWU supports the recommendation that the Commission accept Bruce Power's request for an amendment to allow for the production of Lu-177 with CNSC Staff's proposed changes to the PROL and its associated Licence Condition Handbook (LCH).

1. The Power Workers' Union

The PWU represents approximately 18,000 Members. PWU Members are employed throughout Ontario's electricity sector including the Bruce Nuclear Generating Station (BNGS). The PWU has been the bargaining agent for the majority of employees at the BNGS since Bruce Power was formed 20 years ago and Ontario Power Generation /Ontario Hydro before that. The majority of PWU represented employees at Bruce Power live with their families in the surrounding communities.

The employees represented by the PWU at Bruce Power work in all facets of the facility, including operations, maintenance, emergency response, security, radiation protection, planning, administration, projects and modifications, and first line supervision. PWU members are the nuclear professionals on the "front line" of the day-to-day operations.

The PWU has been an active participant in the regulatory oversight process for nuclear facilities in the province of Ontario for decades. The PWU regularly participates in CNSC public hearings and meetings for all of Ontario's nuclear generating sites as well as Canadian Nuclear Laboratories facilities.

2. Bruce Power's Application

Bruce Power operates 8 CANDU Reactors at the Bruce A and B Nuclear Generating Stations. The Site is located on the shores of Lake Huron between Kincardine and Port Elgin. Bruce Power generates enough electricity to reliably supply more than 30% of Ontario's electricity demands. Bruce Power's Major Component Replacement (MCR) Program is well underway and will enable the Units to continue supplying clean, emissions free electricity well into the 2060s.

In addition to generating electricity, the Bruce Reactors are used to produce Co-60. Co-60 is a long-lived isotope that is harvested when the Unit is off-line.

In November 2020 Bruce Power submitted an application to amend their PROL to allow for the production of Lu-177, CMD: 21-H100.1.

Lu-177 is a short-lived isotope is produced and harvested while the reactor is operating. To enable this Bruce Power will install an Isotope Production System (IPS) on Unit 7. This will give Bruce Power the capacity to produce new medical isotopes starting with Lu-177. These new isotopes are used for the diagnosis and treatment of cancers in hospitals in Canada and around the world.

The IPS design is not an overly complex system, there is operating experience with this type of system and it is considered a low risk activity. The proposed IPS will not materially change the overall safety for the Bruce site.

3. CNSC Staff's Assessment on Bruce Power's application

The PWU supports the assessment of CNSC Staff as set out in CMD: 21-H100. The PWU believes that CNSC Staff considered the appropriate information and reached the appropriate conclusions and recommendations. Specifically:

- a. CNSC Staff determined that Bruce Power has adequate provisions in place to ensure the safe production of Lu-177. The installation and operation of the IPS will not result in significant doses to workers or members of the public, and will not result in significant releases to the environment.
- b. CNSC Staff concluded that Bruce Power is qualified to carry on the activity authorized by the licence and in carrying out that activity will make adequate provisions for the protection of the environment, the health and safety of persons and the maintenance of national security,
- c. CNSC Staff recommended accepting Bruce Power's request for an amendment to allow for the production of Lu-177 and proposed changes to the PROL and its associated Licence Conditions Handbook.

4. Conclusion

Bruce Power has very strong community support, they are a good community partner. For more than 20 years Bruce Power has worked with the PWU to operate BNGS safely. The continued efforts towards health, safety and labour relations have maintained and

enhanced the commitment to safety. They have an exemplary record of safe, reliable operations with mature, successful programs in all Safety and Control Areas. Bruce Power generates 30% of Ontario's electricity and provides many socio-economic benefits for the local community, the province and the country.

The production of medical isotopes is one of the many benefits of nuclear technology for Canadians. Hospitals around the world use medical isotopes for equipment sterilization, diagnostics and treatments. A number of these applications were proudly pioneered in Canada. The supply of medical isotopes has been unreliable and the demand for medical isotopes is expected to continue growing with an urgent need to find new sources of supply. Bruce Power currently produces a longer-lived isotope, Co-60, and CANDU Reactors can also be used to produce shorter-lived isotopes. When the Isotope Production System is installed it will first be used to produce Lu-177 but it will have the capacity to produce a variety of isotopes. These isotopes can save thousands of lives. Securing our future supply of medical isotopes, discovering new possibilities with additional research and new opportunities for further development will benefit all of us.

In conclusion, the PWU fully supports Bruce Power's application for an amendment to the PROL to allow for the production of Lu-177 and CNSC Staff's recommendation that the Commission accept Bruce Power's application with appropriate hold points.

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