



Nuclear Energy Canada Inc.

# COMMUNITY NEWSLETTER

PROUDLY SUPPORTING OUR COMMUNITY

SPRING 2020

1160 Monaghan Road, Peterborough, ON

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Due to the COVID-19 pandemic, we are canceling our annual summer Community BBQ.

We look forward to reinstating this event in 2021.



## BWXT NEC Licence Renewal Hearing

BWXT Nuclear Energy Canada Inc. (BWXT NEC) holds a Class IB Nuclear Fuel Facility Operating License issued by the Canadian Nuclear Safety Commission (CNSC). The current licence, issued on January 1, 2011, is valid until December 31, 2020. BWXT NEC submitted an application to the CNSC on Nov. 12, 2018 to renew its licence for a period of 10 years.

The CNSC considers licence applications for nuclear facilities via a public hearing process which takes into account the views, concerns and opinions of interested parties and intervenors. From March 2-3 in Toronto, Ontario, and March 4-6 in Peterborough, Ontario, BWXT NEC representatives participated in the CNSC Public Hearing. Throughout the week-long process, BWXT NEC representatives, CNSC Staff and the Commission heard from intervenors in Toronto and Peterborough. BWXT NEC and CNSC Staff were given the opportunity to answer questions from the Commission after hearing from intervenors.

The Commission will deliberate on BWXT NEC's licence renewal request after obtaining the results of further soil testing to be conducted in Peterborough as outlined in the Notice of Continuation of Public Hearing which was issued on April 6th: <http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/Notice-Continuation-BWXT-20-H2-e.pdf>.

## A Message from BWXT NEC President, John MacQuarrie



I am John MacQuarrie, president of BWXT NEC and I am pleased to re-introduce myself in this Community Newsletter.

I want to first highlight the licence renewal hearing I participated in during the first week of March and thank the public for participating in this process. Over the course of the hearing week, I learned a lot about the communities in Peterborough and Toronto. I saw firsthand just how passionate our neighbours are about their communities and I want to reassure you that safety is always my top priority. I hear your concerns and hope

that information shared during the hearing provided insight into our safety and operations. We always look for new ways to improve the business and I hope you will be pleased with the new changes that are coming. We are planning to survey residents in the Fall to help us gather valuable insight and determine areas for improvement.

If you have a suggestion or question, please contact us at [questions@bwxt.com](mailto:questions@bwxt.com).

John MacQuarrie  
President, BWXT Nuclear Energy Canada Inc.



## 2019 Annual Compliance Report Available

BWXT NEC's 2019 Annual Compliance Report was submitted to Canada's nuclear regulator, the Canadian Nuclear Safety Commission (CNSC), on March 30, 2020. The purpose of this report is to demonstrate that BWXT NEC has successfully met the requirements of the Nuclear Safety and Control Act and its Class IB Nuclear Fuel Facility Operating Licence. BWXT NEC holds a 10-year licence, which expires December 31, 2020.

The report, which is reviewed by CNSC staff, provides the CNSC with information related to BWXT NEC's performance in 14 Safety and Control Areas (SCAs). The 14 SCAs are management system, human performance management, operating performance, safety analysis, physical design, fitness for service, radiation protection, conventional health and safety, environmental protection, emergency management and fire protection, waste management, security, safeguards and non-proliferation, packaging and transport. The report is available to members of the public on BWXT NEC's website at [nec.bwxt.com/safety](http://nec.bwxt.com/safety).

### 2019 Stack Results

Air emissions are continuously monitored for the presence of uranium.

The results show that the BWXT NEC Peterborough facility is a near-zero emissions plant. The release limit for uranium air emissions, which is set by the CNSC, is 550 g/year. BWXT NEC releases just a small fraction of the limit.

The 2019 stack sampling results are as follows:

Peterborough Stack	2018	2019
Number of samples taken	47	47
Number of samples > action level (1.0µg/m <sup>3</sup> )	0	0
Highest value recorded (µg/m <sup>3</sup> )	0.006	0.014
Total discharge to air (grams U)	0.002	0.004

### 2019 Water Results

Water at BWXT NEC is used to clean floors and other janitorial functions in the uranium pellet loading and end closure weld areas.

At the BWXT NEC facility in Peterborough, all potentially uranium-contaminated waste water is held in storage tanks, filtered and then samples are sent to an external lab for analysis. This waste water is only released once the test results confirm it meets release requirements.

The 2019 water effluent sampling results are as follows:

Peterborough Water	2018	2019
Number of samples exceeding 6 ppm batch release action level	0	0
Average uranium concentration at point of release (ppm)	0.02	0.04
Highest uranium concentration at point of release (ppm)	0.03	0.07
Total discharge to sewer (kg uranium)	0.00001	0.00002

## CNSC Publishes 2019 Independent Environmental Monitoring Results

In addition to BWXT NEC's environmental program that demonstrates the public and the environment are protected from emissions related to the facility's activities, the CNSC has also implemented its Independent Environmental Monitoring Program (IEMP) to verify that the public and the environment around licensed nuclear facilities are safe.

The IEMP involves taking samples from public areas around the facilities, and measuring and analyzing the amount of radiological and hazardous substances in those samples. CNSC staff then collect the samples and send them to the CNSC's laboratory for testing and analysis.

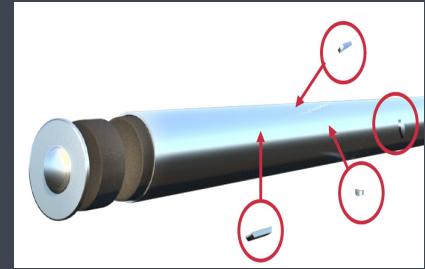
The IEMP 2014, 2018 and 2019 results indicate that the public and the environment in the vicinity of the BWXT NEC Peterborough facility are protected and that there are no expected health impacts. These results are consistent with the results submitted by BWXT NEC – demonstrating that the licensee's environmental protection program protects the health and safety of people and the environment. For more information about the CNSC IEMP or to see the CNSC IEMP full report, visit: [www.nuclearsafety.gc.ca](http://www.nuclearsafety.gc.ca).

# Beryllium

## What does BWXT NEC use Beryllium for? What are the health concerns?

Beryllium is deposited onto small sheets of zirconium which are converted to appendages. These appendages are brazed onto tubes that make up our fuel bundles. BWXT NEC utilizes about 20 kilograms of beryllium per year at the Peterborough facility.

Beryllium is known to be carcinogenic and the primary concern is inhalation. The highest risk area is the vapour deposition process which is contained in its own small room with ventilation.



*Above image: Beryllium-coated appendages will be brazed on to the tube.*

## How does BWXT NEC control Beryllium emissions?

Our beryllium emissions are carefully controlled using a defence-in-depth approach:

The beryllium coating area is in a secure part of our facility that is approximately 500 square feet. There is limited access to this area and only highly trained employees may enter while wearing a respirator.

The facility has a specialized ventilation system and air inside our facility is frequently sampled. The ventilation system contains two stages of filtration with the final stage being a High Efficiency Particulate Air filter which is capable of trapping 99.97% of particles. Our filtered exhausts are monitored continuously and emissions from our facility are exceptionally low, approximately 15 mg to air per year. The concentrations in the stack are typically 50 times lower than the MoECP limit at the fence line.

## Beryllium in Soil:

The CNSC IEMP measurements of beryllium in soil at Prince of Wales Public School increased from 1.27 to 2.34 mg/kg from 2018 to 2019.

It is important to note that all of these results are within the Ministry of the Environment, Conservation and Parks (MoECP) background concentration for beryllium in soil, which is 2.5 mg/kg and the Canadian Council of Ministers of the Environment (CCME) guidelines to protect environmental health, which is 4 mg/kg and human health, which is 75 mg/kg. There is no risk to the public as a result of these measurements of concentration.

While the increased results are inconsistent with BWXT NEC's effluent monitoring and recent roof samples, which confirm that its system is operating as designed and that emissions from the BWXT NEC Peterborough facility could not account for this apparent increase, BWXT NEC has committed to conduct soil monitoring using a third-party in the summer of 2020. BWXT will also be making these results available for the public on [www.nec.bwxt.com](http://www.nec.bwxt.com).

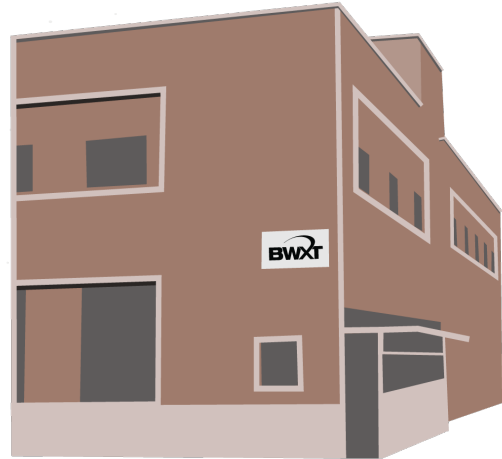
The CNSC recently directed CNSC staff to complete soil resampling for beryllium in the surrounding area of the BWXT NEC Peterborough facility as part of their IEMP. This sampling must be completed by the CNSC staff by August 31, 2020 and information will be made publicly available. The Commission notes that once they receive this information, they will deliberate on BWXT NEC's licence renewal request.

The notice from the CNSC can be found on our public information website here:

<http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/Notice-Continuation-BWXT-20-H2-e.pdf>.

## Did You Know?

One 30 kilogram bag of soil  
contains on average  
**0.060 grams of uranium**



In 2019, BWXT NEC in Peterborough released  
**0.004 grams of uranium** into the air

Learn more facts about uranium on our website at [nec.bwxt.com](http://nec.bwxt.com)

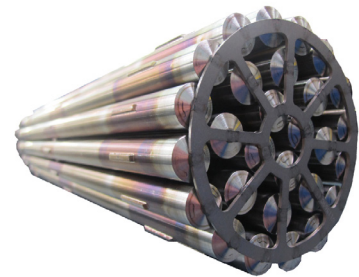
## Recent Website Changes

In an effort to keep the community informed, we have listed below the recent changes to our website since the last Community Newsletter was mailed in December 2019. Past copies of our newsletters can be found on BWXT NEC's website at [www.nec.bwxt.com](http://www.nec.bwxt.com).

If you would like to receive email updates, you can let us know by emailing [questions@bwxt.com](mailto:questions@bwxt.com).

### Website Updates:

- Frequently Asked Questions (FAQ's)
- Safety Assessment Report (SAR) summaries
- Preliminary Decommissioning Plan (PDP) summaries
- Commission Member Document (CMD) from licence hearing
- BWXT NEC's licence hearing presentation
- 2019 Annual Compliance Report (ACR)
- Fire Protection Program summaries
- Emergency Plan summaries



## TALK TO US

We Want to Hear From You!

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