



# Community Newsletter

## 3RD ANNUAL COMMUNITY BARBEQUE JUNE 22ND FROM 2 P.M. TO 6 P.M.

BWXT Nuclear Energy Canada (BWXT NEC) is hosting its third annual community barbeque on Thursday, June 22nd from 2 p.m. to 6 p.m. in the parking lot of its facility at 1025 Lansdowne Avenue, Toronto.

Visitors can enjoy typical barbeque fare such as hamburgers and salads while they learn about BWXT NEC's operations at the Toronto facility. Senior leaders and subject matter experts will be available answer questions.

"We look forward to the barbeque each year," said John MacQuarrie, president of BWXT Canada. "It's a great way to connect with our neighbours, meet new people in the area and share information about our operations."



Anyone who is unable to make it to the barbeque and is interested in learning about the BWXT NEC operations are encouraged to call 1.855.969.9588 or email [questions@bwxt.com](mailto:questions@bwxt.com)

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## INDEPENDANT ENVIRONMENTAL MONITORING PROGRAM (IEMP) 2016 RESULTS AVAILABLE

The Canadian Nuclear safety Commission (CNSC) has made available the results of its Independent Environmental Monitoring Program (IEMP) sampling results from BWXT Nuclear Energy Canada Inc., in Toronto, ON. The IEMP was established to verify that the public and the environment around nuclear facilities are safe.

The IEMP results for 2016 confirm that there are no health impacts to the public and environment around the BWXT Toronto facility.

<http://nuclearsafety.gc.ca/eng/resources/maps-of-nuclear-facilities/iemp/bwxt-toronto.cfm>

# ANNUAL COMPLIANCE REPORT AVAILABLE

BWXT Nuclear Energy Canada's (BWXT NEC) 2016 Annual Compliance Report was submitted to Canada's nuclear regulator, the Canadian Nuclear Safety Commission (CNSC) on March 31, 2017. 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 1B 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 and 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). For any questions about the Annual Compliance Report please contact [questions@bwxt.com](mailto:questions@bwxt.com) or 1.855.696.9588.

## 2016 AIR RESULTS

Air and water emissions are routinely measured for the presence of uranium. The results show the Toronto facility has very low emissions.

BWXT NEC performs both continuous in-stack sampling and boundary air monitoring. Boundary samples are high volume air samples drawn at five positions around the Toronto facility perimeter.

| Toronto Air (Boundary Monitoring)                          | 2016  |       |       |
|--|-------|-------|-------|
|  | 2014  | 2015  | 2016  |
| Number of boundary samples taken                           | 260   | 265   | 260   |
| Number of samples > action level (0.08 µg/m <sup>3</sup> ) | 0     | 0     | 0     |
| Average concentration (µg/m <sup>3</sup> )                 | 0.001 | 0.001 | 0.001 |
| Highest value recorded (µg/m <sup>3</sup> )                | 0.003 | 0.002 | 0.039 |

The action level for uranium in air at the boundary is 0.08 µg/m<sup>3</sup>. Licence discharge limit (Toronto air): 760 g/year. Samples are sent to an external, independent lab for analysis.

## 2016 WATER RESULTS

Water is used in the production process and to clean protective clothing, walls, floors and other janitorial functions. The water is first held in storage tanks in the facility, treated to remove uranium dioxide, tested and only released in batches once the test results confirm it meets regulatory requirements to be released.

The release limit for uranium water emissions, which is set by the CNSC, is 9,000 kg/year. BWXT NEC releases just a small fraction of the limit.

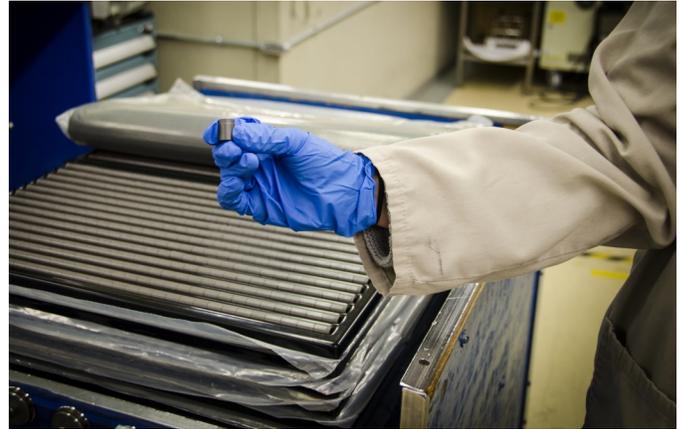
| Toronto Water  | 2016 |
|--|------|
| Number of samples exceeding 6 ppm batch release action level | 0    |
| Average uranium concentration in undiluted water (ppm)       | 0.83 |
| Highest uranium concentration in undiluted water (ppm)       | 3.65 |
| Total discharge to sewer (kg uranium)                        | 0.65 |

The action level for a batch is 6 ppm. Licence discharge limit (Toronto sewer): 9,000 kg/year.

# WHAT WE DO: THE MAKING OF NATURAL URANIUM CERAMIC PELLETS

BWXT Nuclear Energy Canada's (BWXT NEC) Toronto facility is where we make ceramic pellets produced from natural uranium powder. The pellets are 0.85 cm to 1.25 cm (1/3 inch to 1/2 inch) in diameter, and 0.85 cm to 1.7 cm (1/3 inch to 2/3 inch) in length.

1. Uranium dioxide (UO<sub>2</sub>) powder is delivered to BWXT Nuclear Energy Canada (BWXT NEC) by truck.
2. The material is put into processing containers and then blended to condition the powder.
3. The UO<sub>2</sub> powder is compressed in a die to produce cylindrical pellets.
4. The pellets are then sintered in a high-temperature furnace with a hydrogen atmosphere to harden them into a ceramic and finished to precise dimensions. Sintering is a process that turns powder into a solid form.
5. The pellets are inspected to ensure they meet stringent quality criteria.
6. The pellets are then loaded onto trays, assembled into a skid and package. These skids are then shipped to BWXT NEC's Peterborough facility where they are inserted into tubes, welded, and assembled into a fuel bundle.



**BWXT NEC's Toronto facility produces the natural uranium ceramic pellets needed for CANDU® fuel bundles.**

**The pellets made at BWXT NEC's Toronto facility ultimately provide approximately 30 per cent of Ontario's electricity.**

**To provide the same amount of electricity as one 20 gram uranium pellet, one would have to burn 400 kilograms of coal or 410 litres of oil or 350 cubic metres of natural gas**  
Source: Canadian Nuclear Association [www.cna.ca](http://www.cna.ca)

## FUEL REQUIRED TO PRODUCE THE SAME AMOUNT OF ELECTRICITY





## MEET MARK, MANAGER OF SHOP OPERATIONS

I'm Mark Beaudon and I have recently assumed the role of Manager of Shop Operations for BWXT Nuclear Energy Canada's (BWXT NEC) Toronto facility.

I started with company in 2008 at our Arnprior location where we manufacture zirconium tubing which is a component of the nuclear fuel bundle. I've held roles as a Quality Specialist and Quality Leader before moving to Toronto in 2016 to work at the Toronto facility as the Quality Manager. In March, I became the Manager of Shop Operations which oversees every aspect of the production of natural uranium pellets at the Toronto facility. I'm heavily involved in health and safety programs, emergency preparedness and planning, as well as the technical aspects of producing a product that meets stringent requirements.

I hope you can join us for our third annual community barbeque on June 22nd from 2 p.m. to 6 p.m. I would enjoy the opportunity to meet our neighbours and answer any questions you may have about our facility. If you cannot make it, we would still like to hear from you—our email and phone number is just below in the Talk to Us box.

Hope to see you, or hear from you soon.

Mark Beaudon

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## TALK TO US

WE WANT TO HEAR FROM YOU!

*You can contact us via the following methods:*

Phone: 855-696-9588

Email: [questions@bwxt.com](mailto:questions@bwxt.com)

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