

## 2022 Environmental Dashboard: Peterborough (Beryllium)

At BWXT Nuclear Energy Canada Inc.'s (BWXT NEC) Peterborough facility, air and water emissions are measured for the presence of beryllium. Beryllium is used as part of the fuel bundle manufacturing process.

Airborne and liquid effluent discharged from a fuel fabrication facility like BWXT NEC are regulated by concentration limits. Action Levels and our own internal limits are set at just a fraction of the Licence Release Limits, which are set by the Canadian Nuclear Safety Commission (CNSC), to keep public exposure to keep emissions as low as possible. Although Action Levels are set below Licence Release Limits, exceeding an Action Level is considered a CNSC reportable event in which BWXT NEC must notify the Commission within 24 hours of becoming aware that an Action Level has been exceeded. Accordingly, BWXT NEC has established Internal Control Levels for various radiological and environmental parameters that are set even lower than Action Levels to act as an early warning system. An Internal Control Level exceedance results in internal investigation and corrective and preventive action.

**Water:** Waste water is generated from equipment use and cleaning activities in the beryllium classified zones. Water passes through a weir settling system prior to release to the sanitary sewer. Regular sampling of the beryllium waste water is conducted via a 24-hour composite sample taken from the outflow lines which is sent for analysis externally by an independent laboratory. The minimum detectable concentration is 0.007 µg Be/L (0.000007 mg Be/L or parts per million (ppm)). The Internal Control Level is 4 µg/L, the Action Level is 40 µg/L, and the Licence Release Limit is 26 mg/L.

**Air:** The facility performs continuous in-stack monitoring of three beryllium air emission points, drawing a sample of air across a filter capable of trapping beryllium. The filter is analyzed for beryllium at an external laboratory. The Internal Control Level is 0.01 µg/m<sup>3</sup>, the Action Level is 0.03 µg/m<sup>3</sup> at the stack exit, and the Licence Release Limit is 2.6 µg/m<sup>3</sup> which are both very conservative.

To continue to demonstrate transparency and provide information to the public, BWXT NEC has developed this Environmental Dashboard to provide more detail on our low uranium emissions. This document will be updated throughout the year when new data becomes available.

For more information, please visit the Environment page of our website at [nec.bwxt.com/environmental-monitoring](https://nec.bwxt.com/environmental-monitoring) or refer to our Annual Compliance Reports, a thorough document submitted to the CNSC annually, which can be found at [nec.bwxt.com/safety/our-compliance-record](https://nec.bwxt.com/safety/our-compliance-record).

If you have any questions, please contact us at [questions@bwxt.com](mailto:questions@bwxt.com) or 1.855.696.9588 (toll-free).

## 2022 Environmental Dashboard: Peterborough (Beryllium)

| Water                               |                      |                              |                                    |
|-------------------------------------|----------------------|------------------------------|------------------------------------|
| Status: no action level exceedances |                      |                              |                                    |
| Week                                | Concentration (mg/L) | Licence Release Limit (mg/L) | Number of Action Level Exceedances |
| Jan 3                               |                      | 26                           |                                    |
| Jan 10                              | 0.0003               | 26                           | 0                                  |
| Jan 17                              |                      | 26                           |                                    |
| Jan 24                              |                      | 26                           |                                    |
| Jan 31                              |                      | 26                           |                                    |
| Feb 7                               | 0.0001               | 26                           | 0                                  |
| Feb 14                              | 0.0018               | 26                           | 0                                  |
| Feb 21                              |                      | 26                           |                                    |
| Feb 28                              |                      | 26                           |                                    |
| Mar 7                               | 0.0001               | 26                           | 0                                  |
| Mar 14                              |                      | 26                           |                                    |
| Mar 21                              | 0.0005               | 26                           | 0                                  |
| Mar 28                              |                      | 26                           |                                    |
| Apr 4                               | 0.0001               | 26                           | 0                                  |
| Apr 11                              |                      | 26                           |                                    |
| Apr 18                              |                      | 26                           |                                    |
| Apr 25                              |                      | 26                           |                                    |
| May 2                               |                      | 26                           |                                    |
| May 9                               | 0.0005               | 26                           | 0                                  |
| May 16                              | 0.0010               | 26                           | 0                                  |
| May 23                              |                      | 26                           |                                    |
| May 30                              |                      | 26                           |                                    |
| Jun 6                               |                      | 26                           |                                    |
| Jun 13                              |                      | 26                           |                                    |
| Jun 20                              |                      | 26                           |                                    |
| Jun 27                              |                      | 26                           |                                    |
| Jul 4                               |                      | 26                           |                                    |
| Jul 11                              |                      | 26                           |                                    |
| Jul 18                              |                      | 26                           |                                    |
| Jul 25                              |                      | 26                           |                                    |
| Aug 1                               |                      | 26                           |                                    |
| Aug 8                               |                      | 26                           |                                    |
| Aug 15                              |                      | 26                           |                                    |
| Aug 22                              |                      | 26                           |                                    |
| Aug 29                              |                      | 26                           |                                    |
| Sep 5                               |                      | 26                           |                                    |
| Sep 12                              |                      | 26                           |                                    |
| Sep 19                              |                      | 26                           |                                    |
| Sep 26                              |                      | 26                           |                                    |
| Oct 3                               |                      | 26                           |                                    |
| Oct 10                              |                      | 26                           |                                    |
| Oct 17                              |                      | 26                           |                                    |
| Oct 24                              |                      | 26                           |                                    |
| Oct 31                              |                      | 26                           |                                    |
| Nov 7                               |                      | 26                           |                                    |
| Nov 14                              |                      | 26                           |                                    |
| Nov 21                              |                      | 26                           |                                    |
| Nov 28                              |                      | 26                           |                                    |
| Dec 5                               |                      | 26                           |                                    |
| Dec 12                              |                      | 26                           |                                    |
| Dec 19                              |                      | 26                           |                                    |
| Dec 26                              |                      | 26                           |                                    |

| Stack (Air)                         |                               |                               |                                    |
|-------------------------------------|-------------------------------|-------------------------------|------------------------------------|
| Status: no action level exceedances |                               |                               |                                    |
| Week                                | Average Concentration (µg/m³) | Licence Release Limit (µg/m³) | Number of Action Level Exceedances |
| Jan 3                               | 0.0001                        | 2.6                           | 0                                  |
| Jan 10                              | 0.0003                        | 2.6                           | 0                                  |
| Jan 17                              | 0.0003                        | 2.6                           | 0                                  |
| Jan 24                              | 0.0002                        | 2.6                           | 0                                  |
| Jan 31                              | 0.0001                        | 2.6                           | 0                                  |
| Feb 7                               | 0.0004                        | 2.6                           | 0                                  |
| Feb 14                              | 0.0001                        | 2.6                           | 0                                  |
| Feb 21                              | 0.0000                        | 2.6                           | 0                                  |
| Feb 28                              | 0.0001                        | 2.6                           | 0                                  |
| Mar 7                               | 0.0001                        | 2.6                           | 0                                  |
| Mar 14                              | 0.0002                        | 2.6                           | 0                                  |
| Mar 21                              | 0.0001                        | 2.6                           | 0                                  |
| Mar 28                              | 0.0001                        | 2.6                           | 0                                  |
| Apr 4                               | 0.0002                        | 2.6                           | 0                                  |
| Apr 11                              | 0.0002                        | 2.6                           | 0                                  |
| Apr 18                              | 0.0002                        | 2.6                           | 0                                  |
| Apr 25                              | 0.0003                        | 2.6                           | 0                                  |
| May 2                               | 0.0002                        | 2.6                           | 0                                  |
| May 9                               | 0.0001                        | 2.6                           | 0                                  |
| May 16                              | 0.0003                        | 2.6                           | 0                                  |
| May 23                              | 0.0001                        | 2.6                           | 0                                  |
| May 30                              |                               | 2.6                           |                                    |
| Jun 6                               |                               | 2.6                           |                                    |
| Jun 13                              |                               | 2.6                           |                                    |
| Jun 20                              |                               | 2.6                           |                                    |
| Jun 27                              |                               | 2.6                           |                                    |
| Jul 4                               |                               | 2.6                           |                                    |
| Jul 11                              |                               | 2.6                           |                                    |
| Jul 18                              |                               | 2.6                           |                                    |
| Jul 25                              |                               | 2.6                           |                                    |
| Aug 1                               |                               | 2.6                           |                                    |
| Aug 8                               |                               | 2.6                           |                                    |
| Aug 15                              |                               | 2.6                           |                                    |
| Aug 22                              |                               | 2.6                           |                                    |
| Aug 29                              |                               | 2.6                           |                                    |
| Sep 5                               |                               | 2.6                           |                                    |
| Sep 12                              |                               | 2.6                           |                                    |
| Sep 19                              |                               | 2.6                           |                                    |
| Sep 26                              |                               | 2.6                           |                                    |
| Oct 3                               |                               | 2.6                           |                                    |
| Oct 10                              |                               | 2.6                           |                                    |
| Oct 17                              |                               | 2.6                           |                                    |
| Oct 24                              |                               | 2.6                           |                                    |
| Oct 31                              |                               | 2.6                           |                                    |
| Nov 7                               |                               | 2.6                           |                                    |
| Nov 14                              |                               | 2.6                           |                                    |
| Nov 21                              |                               | 2.6                           |                                    |
| Nov 28                              |                               | 2.6                           |                                    |
| Dec 5                               |                               | 2.6                           |                                    |
| Dec 12                              |                               | 2.6                           |                                    |
| Dec 19                              |                               | 2.6                           |                                    |
| Dec 26                              |                               | 2.6                           |                                    |

**Note:** if you would like the Dashboard table in .xls format (Excel), please email us at [questions@bwxt.com](mailto:questions@bwxt.com).