

2024 Environmental Dashboard: Peterborough (Beryllium)

At BWXT Nuclear Energy Canada'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: Wastewater 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 wastewater 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/m³, the Action Level is 0.03 µg/m³ at the stack exit, and the Licence Release Limit is 2.6 µg/m³ 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 [Environmental Monitoring](#) page of our website or refer to our Annual Compliance Reports, a thorough document submitted to the CNSC annually, which can be found on our website [here](#).

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

2024 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 1		26	
Jan 8	0.0002	26	0
Jan 15		26	
Jan 22		26	
Jan 29		26	
Feb 5	0.0006	26	0
Feb 12		26	
Feb 19		26	
Feb 26		26	
Mar 4	0.0005	26	0
Mar 11	0.0002	26	0
Mar 18		26	
Mar 25		26	
Apr 1	0.0001	26	0
Apr 8	0.0001	26	0
Apr 15		26	
Apr 22		26	
Apr 29		26	
May 6		26	
May 13		26	
May 20		26	
May 27		26	
Jun 3	0.0003	26	0
Jun 10		26	
Jun 17		26	
Jun 24		26	
Jul 1	0.0004	26	0
Jul 8	0.0001	26	0
Jul 15		26	
Jul 22	0.0049	26	0
Jul 29	0.0015	26	0
Aug 5		26	
Aug 12		26	
Aug 19		26	
Aug 26		26	
Sep 2		26	
Sep 9	0.0002	26	0
Sep 16		26	
Sep 23		26	
Sep 30		26	
Oct 7	0.0014	26	0
Oct 14		26	
Oct 21		26	
Oct 28		26	
Nov 4	0.0007	26	0
Nov 11		26	
Nov 18		26	
Nov 25		26	
Dec 2	0.0002	26	0
Dec 9		26	
Dec 16	0.0001	26	0
Dec 23		26	

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

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