2024 Environmental Dashboard: Peterborough (Uranium)

At BWXT Nuclear Energy Canada's (BWXT NEC) Peterborough facility, air and water emissions are measured for the presence of uranium and results show the 1160 Monaghan Road facility is a near-zero emissions plant.

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 any radiation 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 routine cleaning activities in the fuel bundle assembly area. The water is held in a drum, filtered and agitated prior to sampling, then sent for independent analysis at an accredited external laboratory. After the waste water sample result is verified to be below the Internal Control Level of 3 ppm (per batch) and the Action Level of 3 ppm (annual average), the water is discharged to the sanitary sewer. The Action Level is 0.003 g/L (3 ppm (annual average)) and the Licence Release Limit is 0.14 g/L (weekly composite).

Air: The facility performs continuous in-stack monitoring of the single process uranium air emission point, drawing a sample of air across a filter capable of trapping uranium dust. The samples are analyzed by an independent laboratory. The minimum detection limit is 0.01 µg uranium. The Action Level is 1.0 µg/m^3 and the Licence Release Limit is 410 µg/m^3.

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).

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Water			
Status: no action level exceedances			
Week	Concentration (mg/L)	Licence Release Limit (mg/L)	Number of Action Level Exceedances
Jan 1		140	
Jan 8		140	
Jan 15		140	
Jan 22		140	
Jan 29		140	
Feb 5		140	
Feb 12		140	
Feb 19	0.01	140	0
Feb 26		140	
Mar 4		140	
Mar 11		140	
Mar 18		140	
Mar 25		140	
Apr 1		140	
Apr 8		140	
Apr 15		140	
Apr 22		140	
Apr 29		140	
May 6		140	
May 13		140	
May 20		140	
May 27		140	
Jun 3		140	
Jun 10		140	
Jun 17		140	
Jun 24	0.01	140	0
Jul 1		140	
Jul 8		140	
Jul 15		140	
Jul 22		140	
Jul 29		140	
Aug 5		140	
Aug 12		140	
Aug 19		140	
Aug 26		140	
Sep 2	0.01	140	0
Sep 9		140	
Sep 16		140	
Sep 23		140	
Sep 30		140	
Oct 7		140	
Oct 14		140	
Oct 21		140	
Oct 28		140	
Nov 4		140	
Nov 11		140	
Nov 18		140	
Nov 25		140	
Dec 2		140	
Dec 9		140	
Dec 16		140	

Stack (Air)			
Status: no action level exceedances			
Week	Concentration ($\mu g/m^3$)	Licence Release Limit ($\mu g/m^3$)	Number of Action Level Exceedances
Jan 1	0.0006	410	0
Jan 8	0.0016	410	0
Jan 15	0.0014	410	0
Jan 22	0.0010	410	0
Jan 29	0.0013	410	0
Feb 5	0.0013	410	0
Feb 12	0.0008	410	0
Feb 19	0.0007	410	0
Feb 26	0.0025	410	0
Mar 4	0.0026	410	0
Mar 11	0.0013	410	0
Mar 18	0.0013	410	0
Mar 25	0.0010	410	0
Apr 1	0.0011	410	0
Apr 8	0.0024	410	0
Apr 15	0.0049	410	0
Apr 22	0.0020	410	0
Apr 29	0.0036	410	0
May 6	0.0021	410	0
May 13	0.0014	410	0
May 20	0.0008	410	0
May 27	0.0010	410	0
Jun 3	0.0006	410	0
Jun 10	0.0008	410	0
Jun 17	0.0004	410	0
Jun 24	0.0007	410	0
Jul 1	0.0008	410	0
Jul 8	0.0005	410	0
Jul 15	0.0016	410	0
Jul 22	0.0002	410	0
Jul 29	0.0004	410	0
Aug 5	0.0006	410	0
Aug 12	0.0014	410	0
Aug 19	0.0013	410	0
Aug 26	0.0004	410	0
Sep 2	0.0002	410	0
Sep 9	0.0001	410	0
Sep 16	0.0005	410	0
Sep 23	0.0002	410	0
Sep 30	0.0005	410	0
Oct 7	0.0001	410	0
Oct 14	0.0001	410	0
Oct 21	0.0000	410	0
Oct 28	0.0000	410	0
Nov 4	0.0000	410	0
Nov 11	0.0001	410	0
Nov 18	0.0001	410	0
Nov 25	0.0001	410	0
Dec 2	0.0001	410	0
Dec 9	0.0000	410	0
Dec 16	0.0000	410	0

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

Please be aware that a minor adjustment was applied to the calculation used for air monitoring to account for variations in sampling time from Jan 1 – Mar 25.