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Radionuclide Background Campaign in Pabrade, Lithuania

Since March 2021, the Pacific Northwest National Laboratory (PNNL), in cooperation with Radiation Protection Center in Lithuania, has been supporting a radionuclide background measurement campaign in Pabrade, Lithuania. This measurement campaign aims to provide a better understanding of background detections in a previously unobserved region. Lithuania is a complex region for measuring background radioactivity. Multiple known sources affect the region, including multiple medical isotope production facilities in Northern Europe and two recently constructed nuclear power reactors in Astravets, Belarus. The nearest International Monitoring System station is in Stockholm, Sweden, approximately 670 km away. PNNL has installed several environmental radiation detectors onsite, including the Transportable Xenon Laboratory (TXL). We present the results of the measurement campaign and discuss detection events where multiple radioxenon isotopes were observed in the region.

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