The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

December 7, 2023

Representative Judy Aron, Chair
House Environment & Agriculture Committee
266 Forest Road
South Acworth, New Hampshire 03607

Subject: NCES Landfill Oversight

Dear Representative Aron,

Thank you for your November 21 email inquiry about recent detections of PFAS compounds in groundwater and surface water near the North Country Environmental Services (NCES) landfill in Bethlehem, as described in recent email communications from Mr. Jon Swan. The New Hampshire Department of Environmental Services (NHDES) understands that this topic has been of increasing interest to legislators and citizens, and we appreciate the opportunity to address it.

Regular, prescribed groundwater and surface water monitoring has been conducted at this landfill facility for four decades. The facility's permit, issued and overseen by NHDES, requires monitoring for landfill leachate indicator parameters at 47 points at and around the lined landfill facility. NHDES' team of licensed Professional Geologists and licensed Professional Engineers regularly reviews the monitoring data. Trend analysis of these analytical data do not indicate that there is a recent or ongoing release from the lined landfill. Additionally, as explained below, the PFAS detections in water from the seep do not constitute a Clean Water Act (CWA) violation.

The detected low-level concentrations of PFAS reported in Mr. Swan's email are consistent with recent sampling data on-file at NHDES from the facility and the seep location noted. These data are indicative of impacts from historic conditions at the facility, which included a former unlined landfill removed in the 1990s. In summary, Mr. Swan's data confirms the existing conceptual site model. More simply stated, the data are consistent with previously collected data and do not suggest a new, undiscovered release.

Landfill leachate is an aqueous mixture of contaminants and breakdown products from waste in the landfill that liquid has been in contact with over time. As a result, laboratory analysis of landfill leachate typically indicates the presence of high concentrations of various chemicals and compounds, including PFAS, metals, volatile organic compounds (VOCs), etc. Impacts to groundwater or surface water from a recent or active release of landfill leachate would result in the detection of a broad spectrum of landfill leachate indicator parameters at high concentrations at monitoring points adjacent to the landfill. Available information about site conditions at NCES in NHDES' files, which include a large volume of analytical data from a multitude of sampling locations, do not suggest a recent or active release of landfill leachate.

The "main seep" and the other seeps identified along the Ammonoosuc River near the facility are of natural origin and were not constructed or manufactured drainage features of the landfill. They are considered to be the outward expression of groundwater, where groundwater seeps to the surface,

NHDES has required these seeps to be monitored for landfill leachate indicator parameters for many years. Detections of landfill leachate indicator parameters in samples from the surface water seeps have been attributed to the unlined landfill that was removed from the facility in the 1990s and which predated the lined landfill. Since removal of the unlined landfill, concentrations of contaminants in groundwater and at the seeps have decreased significantly over time. PFAS, as an emerging contaminant, has only been sampled and analyzed for at the site in general since 2017; as such the historical record is limited in comparison to other landfill leachate indicator parameters which have been monitored at the site in some cases since the 1980's and early 1990s. PFAS compounds are exceptionally resistant to degradation and persist in the groundwater environment. They have been frequently detected at low concentrations in groundwater in many locations across the state; and due to their history of production and use, dating back over 70 years, they have been detected in groundwater at many closed unlined landfills.

NHDES has assessed the seeps relative to the Clean Water Act, and the PFAS concentrations detected do not constitute a CWA violation. Note also that recent sampling and analysis conducted of surface water at three sampling stations in the Ammonoosuc River channel near the landfill showed no detection of PFAS. At this time there are no surface water quality standards for PFAS. However, in the future, NHDES may adopt the four existing NH PFAS drinking water Maximum Contaminant Levels (MCLs) as surface water criteria. In that case, if approved by U.S. EPA, those criteria would become applicable, for CWA purposes, to surface water discharges located within 20-miles upstream of any active surface water intake used as a public drinking water supply. We note that the area of the seeps is approximately 30 miles upstream of any active surface water intake used as a drinking water supply and therefore the criteria would not be applicable.

NHDES formally responded to NCES' recent submittals of groundwater and surface water quality data in a letter dated November 7, 2023 (https://www4.des.state.nh.us/DocViewer/?ContentId=5130124). That letter included a request for further hydrogeological investigations in order to further our understanding of conditions in this area of the landfill. Our geologists and engineers will continue to monitor and evaluate the analytical data regularly collected at NCES under the facility's permit as well as data from these and other required investigations into residual impacts from historic incidents at the facility and the former unlined landfill. Under the existing rules and statutes, we have authority to require additional investigation and remediation if warranted.

Thank you again for your inquiry and interest in this important topic. If you have any questions regarding this letter, please do not hesitate to contact me.

Sincerely yours,

Michael J. Wimsatt, Director
Waste Management Division

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