

## OFFICE OF THE COMMISSIONER

New York State Department of Environmental Conservation

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May 14, 2020

Via Email

Dear Dr. David Bond and Ms. Judith Enck:

The New York State Department of Environmental Conservation (DEC) has a proven track record of working cooperatively with citizen scientists and communities to design and implement scientifically sound studies and address a range of environmental quality issues, with the goal of protecting public health and the environment. We welcome independent data and demonstrate a spirit of cooperation and good faith to address chronic issues, such as our work with area residents to successfully close the former Tonawanda Coke facility and the groundbreaking, community-driven Albany South End Community Air Quality Study, which we co-designed to address potential air emission sources.

New York continues to be a leader in responding to contamination from per- and polyfluoroalkyl substances (PFAS), including being the first state to declare PFOA and PFOS as hazardous substances, spending tens of millions of dollars on state superfund remediation projects, and working with the State Department of Health to set the most protective drinking water standard in the nation. Similarly, New York has banned aqueous film-forming foam (AFFF) that contains PFOA and PFOS, and has made it a priority to properly dispose of remaining stockpiles of AFFF. We have also secured a stand down of any incineration of AFFF at Norlite until the matter can be fully studied and understood. In taking regulatory action, it is critical that we rely on sound science to guide us in developing collaborative solutions that protect our communities.

In the pursuit of sound science, DEC takes this opportunity to provide our analysis of the study you released via press release and Zoom on April 27, 2020, regarding soil and surface water samples collected near the Norlite facility in Cohoes, NY (the study). Your study purports to have discovered a connection between allegedly ineffective burning of AFFF at Norlite and "elevated levels" of PFAS compounds "raining down" upon the community. However, we find your conclusions and the data on which they are based to be deeply flawed and incomplete. In fact, your conclusions are undercut by research conducted by other academic institutions, including the University of Vermont and your own 2018-2019 study of PFOA background levels in New York.<sup>1</sup>

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<sup>1</sup> Schroeder, Bond & Foley, "Report of PFAS Soil Sampling on NY-DEC Lands by the Bennington College "Understanding PFOA Project", Undated, Transmitted to DEC August 14, 2019

While it is prudent to share sampling data with the public, it is critical to scientific and professional integrity to present data in proper context, acknowledge limitations, ensure drawing supportable conclusions, and discuss study design and results with key professionals in the scientific and regulatory community *prior to release*. Rather than adhere to these basic principles, you rushed to judgement, drew erroneous conclusions, and irresponsibly released your data to the public. At a time when it is important for the public to have confidence in clear, science-based decision making, it is unfortunate that you made such a faulty public pronouncement. Doing so has the potential to needlessly alarm community residents and local leaders.

We present here a brief, expert review of your findings and conclusions. Please note that we would have been happy to discuss the study with you prior to its release and encourage you to schedule a call with DEC should you decide to share additional data in the future.

- **The study did not find a pattern suggestive of AFFF-related contamination.** There is currently no analytical information available for the patterns of PFAS expected in soil contaminated from the high temperature incineration of AFFF. DEC would expect the pattern to be similar to what has been observed at AFFF-contaminated sites if there was partial incineration of this product. The study results fail to make that connection and do not resemble contamination patterns found at AFFF-contaminated sites, which DEC has significant experience investigating.

The two most common contaminants found at AFFF release sites, PFHxS and PFHxA, were not detected in any of the soil samples taken near Norlite. In a study of 149 groundwater samples at AFFF release sites, PFHxS and PFHxA were found in 95 and 94 percent of samples, respectively. In New York State, PFHxS has been found to be the most common, and present, in the highest concentrations at AFFF sites, but not in the Cohoes samples. Your statements to the press and elected officials linking low levels of contamination in the soil to a pattern of PFAS compounds matching that of AFFF are not substantiated by the limited sampling in your study.

- **The study found no evidence of PFAS being higher than regional background in the Cohoes community.** The 2019 University of Vermont (UVM) study "PFAS Background in Vermont Shallow Soils,"<sup>2</sup> which sampled surficial soils primarily from state parks, state forests, and public schools, indicates PFOA and PFOS average soil concentrations were 0.52 and 1.1 ppb, respectively. Those findings are consistent with the average of your study's three Cohoes soil samples at 0.52 ppb for PFOA and 0.9 ppb for PFOS, suggesting

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<sup>2</sup> Zhu et. al., "PFAS Background in Vermont Shallow Soils", February 8, 2019.

that there is no connection to, nor credible impact from, partial thermal destruction of AFFF from Norlite's earlier incineration processes. Thus, you failed to place these results in context about what is known about the regional background concentrations of these chemicals in soil.

- **The study actually supports the notion that the observed levels are attributable to background contamination, consistent with your 2018-19 study of PFOS contamination.** To characterize the significance of your Cohoes sampling, DEC experts reviewed several studies, including your study from 2018-19 of PFOS samples taken from DEC-owned lands in remote areas of New York State.<sup>3</sup> In that 2018-2019 study, for example, one sample from a hiking trail in the eastern Adirondacks yielded PFOS levels of 1.4 ppb, higher than the 1.2 ppb detected in the 2020 sample at the Cohoes housing complex. Three other samples collected in 2018-2019 from undisturbed forest soils in the Northern Catskills contained PFOS ranging from 0.66 to 0.95 ppb. Your 2018-2019 report characterizes these findings as "generally consistent with northeastern North American 'background' soil PFAS levels compiled in scientific literature." During the release of your 2020 data, you claimed that the PFNA reading of 0.39 ppb in Cohoes—a level so low that the laboratory had to estimate its value since it could not reliably quantify it—is above expected background levels, yet your three samples from the 2018-2019 Northern Catskills study found concentrations of PFNA ranging from 0.36 to 0.42 ppb, and another from the Eastern Adirondacks at 0.45 ppb.
- **You incorrectly presented these results as showing "widespread" PFBA detection.** Your claim that the "widespread" detection of PFBA is an indicator of partial destruction of the AFFF previously treated at Norlite is not substantiated by your results. Out of the three soil and five water samples collected around Norlite, one soil and one water sample contained PFBA. PFBA was not found in the soil sample taken near the river (sample 4S) and was found in the housing area (sample 1S) at a barely detectable level of 1.5 ppb.

Once again, the level found in the housing area sample was so low, 1.5 ppb, that the laboratory estimated its value without reliably quantifying it. If PFBA were the dominant byproduct of the partial incineration of AFFF foam and if there were widespread PFBA contamination in the area from the partial destruction of AFFF, it would have been observed consistently in all Cohoes-area soil and water samples, with concentrations well above the limit of laboratory quantification. Also, in your May 1 correspondence to DEC<sup>4</sup>, you noted that PFBA was not included in UVM's background soil study. That is incorrect. The detection limits for PFBA in the UVM study were high in comparison to almost all

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<sup>3</sup> Schroeder et. al., 2019

<sup>4</sup> David Bond, letter to Basil Seggos, May 1, 2020

the other tested PFAS compounds and was why the frequency of detections for PFBA was zero. If the method detection limit and reporting limit were lower in UVM's study, it may have been detected more frequently.

- **The study did not establish downwind PFAS impacts and likely confused the predominant wind directions.** The study noted that levels of PFOA, PFDcA, and PFPeA are higher in the sample collected near the river than in the sample collected in the housing area. An equal number of results are higher in the riverbank sample and are higher in the housing sample. Of these, PFOS levels are nearly identical (1.0 ppb versus 1.2 ppb). Sample site 2 appears to be a soil sample collected in the Mohawk and Hudson River floodplain, which is known to be impacted by PFAS wastewater and industrial discharges and may explain why you detected PFOS above the limit of quantification. Not acknowledging nor fully exploring this potential factor in your study's assessment is a significant flaw.

In addition, your study wrongly identified sampling site 1 as an upwind site, but given that winds predominately flow from the south to the north along the Hudson River Valley, this site should be considered a downwind site.<sup>5,6</sup> DEC meteorologists' working knowledge of the local wind patterns and evaluation of annual meteorological data from Albany Airport and the Port of Albany indicate that you have mischaracterized the upwind designation in your press release and you have not provided any analysis of local meteorology to support the upwind/downwind designations of your sampling sites. To be clear, your "upwind" water sample is actually a downwind sample and it registered at non-detectable levels. If AFFF incinerated at the facility was not effectively destroyed by the high kiln combustion temperatures, DEC's air dispersion experts would expect this area to have higher soil and water PFAS concentrations.

- **The study utilized highly questionable quality control measures for sample collection.** New York State has high standards for samples collected for public health analysis<sup>7</sup>, and for good reason. Accuracy is key. Unfortunately, there are significant issues with the quality control and sample handling procedures for your study that further undermine its credibility. The Cohoes samples were collected on March 7, 2020, but were not delivered to the laboratory until nearly a week later, on March 13, 2020. These samples were also merged with

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<sup>5</sup> New York State Department of Environmental Conservation (NYSDEC). Albany South End Community Air Quality Study: October 2019. On-Line: [https://www.dec.ny.gov/docs/air\\_pdf/albanysouthendreport.pdf](https://www.dec.ny.gov/docs/air_pdf/albanysouthendreport.pdf)

<sup>6</sup> NOAA/NCEI, 2014-2018: Data Access. National Climatic Data Center, Integrated Surface Data, accessed 4 May 2020, [www.ncdc.noaa.gov/isd/data-access](http://www.ncdc.noaa.gov/isd/data-access).

<sup>7</sup> NYSDEC, "Guidelines for Sampling and Analysis of PFAS", January 2020

unspecified samples containing much higher levels of contamination (up to 2100 ng/l PFOA) not reported as connected to this study or the Cohoes community when delivered to the laboratory. These highly contaminated samples were collected the day before the Cohoes samples and provide the potential for cross-contamination of sampling devices, coolers, field notebooks, clothing and other sampling equipment. In addition, a sample assumed to be a trip blank ("FTB") was collected on March 11, 2020, four days after the Cohoes samples were taken, and which may not be representative of conditions during the main sampling event. More significantly, it does not appear that an equipment blank was prepared to help indicate whether equipment decontamination was thorough and whether the potential for cross contamination exists. Together, the lack of timely delivery to the laboratory, consolidation of sampling containers over the course of a week, and the lack of equipment blanks raises concerns about the quality of the data.

Incineration of AFFF is not currently occurring in New York State because DEC has determined that more research is needed to better understand its potential impacts. DEC is collaborating with partners, including U.S. EPA emission measurement experts and the State Department of Health, to explore the options available to study and analyze the safe disposal of AFFF. Until these options are identified and evaluated and we are certain incineration is a safe disposal method, DEC has directed this facility to conduct no incineration of AFFF.

DEC will continue to work closely with the Cohoes community and other partners to address environmental and public health concerns. We are always prepared to work with credible partners on the community, local, state, federal, and academic levels to educate the public and collaborate in good faith, but we will not work with individuals who disregard principles of scientific and professional integrity. DEC will remain rigorously focused on science and the community's best interests and will continue our commitment to our nation-leading efforts to address PFAS contamination across New York State.

Sincerely,



Martin Brand  
Deputy Commissioner  
Remediation & Materials Management



Jared Snyder  
Deputy Commissioner  
Climate, Air & Energy