News Release

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First in the Nation Testing Reveals Toxic Contamination in Soil and Water Near Norlite Incinerator

Data Indicates That Incineration Does not Destroy PFAS Chemicals and Should Be Halted

New soil and water testing near the Norlite incinerator in Cohoes New York, which has been burning toxic firefighting foam, provides strong indication that incineration of AFFF at Norlite is not effective at breaking down PFAS compounds. Far from destroying these toxins, the Norlite facility appears to be emitting them into the surrounding communities.

In February 2020, environmentalists informed the public and local elected officials that the Norlite hazardous waste incinerator burned large quantities of toxic firefighting foam, known as Aqueous Film-Forming Foam (AFFF) in 2018 and 2019. The fire suppressing foam contains a hodgepodge of per- and poly- fluoroalkyl (PFAS) chemicals, a class of highly persistent chemicals strongly linked to a host of cancers, liver disease, auto immune deficiencies and infertility.

New York State Dept. of Environmental Conservation (DEC) has known Norlite was burning AFFF since 2018 yet did not disclose this to the public. Moreover, DEC has allowed the burning of AFFF despite there being no evidence that incineration destroys these forever chemicals, a lack of any stack testing to determine if PFAS compounds are being emitted at Norlite, and technical guidance from the EPA that incineration may not be an effective method of destroying AFFF.

On March 3, 2020, a team of Bennington College professors and students took soil and surface water samples from relatively undisturbed sites in neighborhoods around the Norlite plant in Cohoes, NY. The samples were sent to EuroFins, a commercial laboratory that analyzed them for a wide array of perflouinated compounds (PFAS). EuroFins also conducted a TOP Assay analysis on one water sample and one soil sample.

The results of this preliminary research suggest the burning of AFFF at Norlite is not destroying these dangerous chemicals so much as redistributing them into nearby poor and working class neighborhoods. (The full results can be found at: www.bennington.edu/PFOA)

“As has become the dismal norm, citizens are lightyears ahead of New York State in protecting us from toxic PFAS compounds. It is beyond reprehensible that DEC allowed Norlite to burn

these toxic chemicals absent compelling evidence that incineration destroys them. With these new findings, DEC must step in and stop the quack science experiment they've allowed to unfold at Norlite. Does anyone really think spewing toxic chemicals into poor and working class neighborhoods is a scientifically sound solution to the dangers of perflourinated compounds? Incineration of AFFF must stop now," said David Bond, Associate Director of the Center for the Advancement of Public Action at Bennington College.

"These are very troubling test results since the toxic burning occurred in 2018 and 2019. The NYS Dept. of Environmental Conservation allowed the burning to start without the benefit of stack testing, which is typically required **before** incineration is allowed. It is not safe to burn PFAS chemicals and certainly not in a densely populated city, next to a public housing complex. The people of Cohoes, Troy and the region should not be guinea pigs for Norlite as they rake in money from burning toxic firefighting foam. New laws are needed to prohibit this risky practice, and protect the community's health," said Judith Enck, former EPA Regional Administrator and a Visiting Professor at Bennington College.

"Residents in the Capital District are concerned that attempts to burn AFFF might contaminate their neighborhoods with highly toxic PFAS compounds. These testing results at Norlite indicate that those fears are justified. Burning PFAS chemicals is inherently risky because these fire-fighting compounds, by design, resist thermal destruction. That's what makes them so good at extinguishing fires. Moreover, new, shorter chain PFAS compounds may actually be formed in the incineration process and emitted. As the Department of Defense and state agencies try to unload their immense stockpiles of AFFF, Norlite could very well become the preferred dumping ground for these dangerous 'forever chemicals.' There are no approved testing methodologies by the EPA to monitor emissions at Norlite and it is shocking that the State of New York allows this burning to happen. It must be stopped," said Jane Williams, a national expert on PFAS chemicals and executive director of California Communities Against Toxics.

Major findings of the study include:

- Elevated levels of PFAS compounds were detected in the soil and water near the Norlite facility. These levels decline with distance from the incinerator.
- The PFAS compounds that make-up of AFFF, including PFOS, are higher around the plant then what is considered a background level in our region.
- The pattern of PFAS contamination in the soil and water around Norlite bears strong resemblance to sites of known AFFF contamination, such as air force bases and firefighting training centers. Contamination at both Norlite and these legacy AFFF sites is marked by the prevalence of sulfonic and butanoic varieties of PFAS. This pattern differs from composition of PFAS contamination elsewhere in the region.
- AFFF contains approximately 250 different perflourinated compounds. There are only laboratory standards available for 50 of those compounds. Results from the TOP Assay analysis of soil and water near Norlite found evidence of significantly more PFAS compounds then we know how to detect. This finding is typical of sites with AFFF contamination.

Together, these findings suggest incineration of AFFF at Norlite is not destroying toxic PFAS compounds. More research is needed to better understand the local and regional fallout of PFAS from the Norlite hazardous waste incinerator. Until there is clear evidence that proper incineration destroys PFAS toxins, AFFF should not be burned.

Sample Sites: **(Norlite*: 628 Saratoga Avenue, Cohoes, NY 12047*)**

1. Wooded area 800 meters upwind of Norlite. Soil and Water Sample.
2. Wooded area 800 meters downwind of Norlite. Soil and Water Sample.
3. Saltkill Creek 250 meters from Norlite. Water Sample.
4. Marshy area 200 meters adjacent Norlite. Soil and Water Sample. (Top Assay Analysis)

Specific Soil Results:

PFOS in soil: twice as high adjacent the plant and just downwind then upwind (and further away, including values we think are a background level of PFOS in region).

Upwind of Plant (*800m*):	PFOS 0.5 ng/g (ppb)	PFOA 0.44 ng/g
Downwind of Plant (*800m*):	PFOS 1.0 ng/g	PFOA 0.73 ng/g (+ 3 other PFAS)
Adjacent Plant (*250m*):	PFOS 1.2 ng/g	PFOA 0.39 ng/g (+ 3 other PFAS)

Specific Water Results

Water outside Norlite *(distance from Norlite, in meters)*	Pond @ NL *(200m)*	Saltkill @ NL *(250m)*	Stream upwind *(800m)*	Pond downwind *(800m)*
Perfluorobutanesulfonic acid (PFBS)	44 ng/l (ppt)			
Perfluoropentanoic acid (PFPeA)	17 ng/l			
Perfluorohexanoic acid (PFHxA)	12 ng/l	10 ng/l	0	2.3 ng/l
Perfluorobutanoic acid (PFBA)	11 ng/l			
Perfluoroheptanoic acid (PFHpA)	10 ng/l	4.6 ng/l	0	
Perfluorooctanoic acid (PFOA)	5.9 ng/l	4.5 ng/l	0	4.1 ng/l
Perfluorooctanesulfonic acid (PFOS)	3.6 ng/l	5.4 ng/l	0	5 ng/l
Perfluorohexanesulfonic acid (PFHxS)	2.2 ng/l			2.1 ng/l
Perfluorononanoic acid (PFNA)	2.0 ng/l			10 ng/l
Perfluorooctanesulfonamide (PFOSA)	1.8 ng/l			
	Total: 109.5 ng/l [10 compounds]			

[9 of these compounds are the most prevalent PFAS in other sites of known AFFF contamination]

TOP Assay: Specific Results (Soil)

Soil outside Norlite (*250m*)

Pre oxidation		*Post oxidation*	
Perfluorobutanoic acid (PFBA)	1.5 ng/g (ppb)	Perfluorobutanoic acid (PFBA)	4.8 ng/g (ppb)
Perfluorooctanesulfonic acid (PFOS)	1.2 ng/g	Perfluorooctanesulfonic acid (PFOS)	0.94 ng/g
Perfluorooctanoic acid (PFOA)	0.45 ng/g	Perfluorooctanoic acid (PFOA)	0.57 ng/g
Perfluorononanoic acid (PFNA)	0.39 ng/g	Perfluorononanoic acid (PFNA)	0.34 ng/g
Perfluoropentanoic acid (PFPeA)	0.28 ng/g		
Total: 3.82 ng/g [4 compounds]		Total: 6.65 ng/g [5 compounds]	

[*Total mass of PFAS doubled post-oxidation*]

TOP Assay: Specific Results (Water)

Water outside Norlite (200m)

Pre oxidation		*Post oxidation*	
Perfluorobutanesulfonic acid (PFBS)	44 ng/l (ppt)	Perfluorobutanesulfonic acid (PFBS)	47 ng/l (ppt)
Perfluoropentanoic acid (PFPeA)	17 ng/l	Perfluoropentanoic acid (PFPeA)	24 ng/l
Perfluorohexanoic acid (PFHxA)	12 ng/l	Perfluorobutanoic acid (PFBA)	22 ng/l
Perfluorobutanoic acid (PFBA)	11 ng/l	Perfluorohexanoic acid (PFHxA)	13 ng/l
Perfluoroheptanoic acid (PFHpA)	10 ng/l	Perfluoroheptanoic acid (PFHpA)	11 ng/l
Perfluorooctanoic acid (PFOA)	5.9 ng/l	Perfluorooctanoic acid (PFOA)	7.7 ng/l
Perfluorooctanesulfonic acid (PFOS)	3.6 ng/l	Perfluorooctanesulfonic acid (PFOS)	4.5 ng/l
Perfluorohexanesulfonic acid (PFHxS)	2.2 ng/l		
Perfluorononanoic acid (PFNA)	2.0 ng/l		
Perfluorooctanesulfonamide (PFOSA)	1.8 ng/l		
Total: 109.5 ng/l [10 compounds]		Total: 129.2 ng/l [7 compounds]	